

## Students' perceptions of elementary schoolteacher education on online learning

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### Abstract

Facial expression teaching has been replaced by virtual due to the coronavirus (COVID-19) epidemic. The government's policy of homeschooling has led to the practice of virtual learning. Teachers' low readiness in planning, designing, and developing has shaped learners' perceptions of virtual education. This study explores how students perceive online education as a result of attending classes at home during the COVID-19 epidemic. There are 57 students involved in this case study, which uses a qualitative approach. Data was gathered using online surveys and semi-structured interviews. Thematic analysis in NVIVO 12 Plus was used for data analysis. This research reveals that teachers, students, learning resources, instruction, and technology have all impacted how students perceive online learning. As a consequence, teachers must improve their abilities. This research is meaningful in developing teaching and learning in the study program.

Keywords: Students perception, online learning, COVID-19, SFH, NVIVO 12.

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## 1. Introduction

### 1.1. Conceptual and theoretical framework

The world is now changing because of the coronavirus. The globe faces serious problems affecting all aspects of life, including health, the economy, and education. COVID-19's impact on education has quickly changed the educational system (Palvia et al., 2018), especially after governments in various countries implemented school-from-home (SFH) policies. Indonesia's government has announced several initiatives to limit the growth of COVID-19, including Large-scale Social Restrictions, Enactment of Restrictions on Community Activities in Java and Bali, Enactment of Restrictions on Community Activities in Micro, Enactment of Restrictions on Community Activities in Thickening of Micro, Emergency of Enactment of Restrictions on Community Activities and level 4 of Enactment of Restrictions on Community Activities. This policy is regulated in the Ministry of Home Affairs No. 27 of 2021 on the Enactment of Restrictions on Community Activities Levels 4, 3, and 2 of COVID 2019 in Java and Bali (Menteri Dalam Negeri, 2021). Facial expression teaching has been related to online instruction due to this policy.

Online learning is an alternative option for determining the chain of the spread of COVID-19. As a result of the educational crisis brought on by the COVID-19 outbreak, virtual learning has been implemented by several nations using various methods of learning. A study released by UNESCO, UNICEF, The World Bank, and the OECD found that most countries offer distance learning via internet media (91%) and television (85%), along with paper-based take-home materials (82%) and mobile phones (70%). The multimodal online learning project was embraced by 93% of governments in Europe and Central Asia, 80% of governments in the Middle East and North Africa, and 97% in Latin America and the Caribbean. Others, like Mali and Lebanon, focused on novel approaches, making distinct novel approaches their top priority (UNESCO et al., 2020). According to Conto et al. (2020), by the end of March 2020, schools had been shut down in more than 190 nations, displacing almost 1.6 billion students and 90% of all enrolled students. In Indonesia, the impact of school closures was felt by more than 60 million students (Karana, 2021). The health and well-being of learners, teachers, education personnel, and people are considered when deciding whether to close a school.

Virtual learning has two leading communication methods widely used in distance education: synchronous and asynchronous learning. Synchronous learning is often assisted by video conferencing, web conferencing, whiteboarding, audio conferencing, chat, and instant messaging. Meanwhile, Media like email, electronic books, blogs, forums, internet links, databases, streaming audio and video, narrated slide shows, and online bulletin boards are often used to help asynchronous learning (Dada et al., 2019; Stefan Hrastinski, 2008). People can communicate across great distances with synchronized and asynchronous learning (Ohlund et al., 2000).

The COVID-19 outbreak caused some online courses to be ineffective. Various obstacles faced by students also include an unstable Internet network. Some areas lose their networks, so students have to leave the house to find an Internet network to follow online learning. In addition, the high price of data packages makes students miss lessons due to the inability to buy data packages. Furthermore, the lack of readiness for online learning planning, design, and instructional development is questionable (Adedoyin & Soykan, 2020).

Moreover, it is still a problem that teachers have trouble using technology effectively. The secret to success in online learning is for teachers to adjust to technology. On the other hand, economic problems also cause students not to follow online learning. Students must help parents meet their needs in life because not all parents of students have a stable economic level. With family economic instability, the high cost of Internet packages also increases the burden on students and parents. This condition affects students' perceptions of online learning because it incriminates them and their parents. Thus, teachers must overcome problems that occur responsively to achieve the learning goals formulated.

### 1.2. Related research

Several previous studies have examined students' perceptions of online learning from various countries, including the United States (Al-Mawee et al., 2021), Saudi Arabia (Almekhlafy, 2020; Khalil, 2020; Shawaqfeh et al., 2020), India (Agarwal & Kaushik, 2020; Khan et al., 2021) and Vietnam (Le et al., 2021). On the other hand, Indonesia has conducted a couple of studies (Purwadi et al., 2021; Setiyono et al., 2021). Numerous disciplines have explored how students feel about online learning, including biological education (Nurdiyanti et al., 2021), health (Laili & Nashir, 2021), vocational education (Erliana et al., 2021), and creative industries (Retno Wulan et al., 2021). Researchers have gathered data on elementary schoolteacher education in the current study. This research in elementary schoolteacher education has not been carried out previously.

### 1.3. Purpose of the research

The purpose of this study is to explore students' perception of online learning during SFH through a research question: Considering the COVID-19 pandemic, how do students perceive online education? Therefore, This study is crucial because it provides information on how learners perceive online education, which will be used to improve the program's quality based on the formulated graduate profile.

## 2. Method and materials

### 2.1. Research method

This study applies a qualitative case study methodology. It is an in-depth analysis of bounded systems (such as activities, events, processes, or people) based on a significant amount of data. (Creswell, 2012; Stoecker, 1991). An investigation of occurrences or phenomena in their natural contexts can also be done through a case study (Yin, 2018). This study explores the perceptions of elementary schoolteacher education students on online learning during SFH.

### 2.2. Participants

The study participants were 57 fourth-semester students in the Elementary Schoolteacher Education Program of Universitas Muhammadiyah Sumatera Utara. The students become research participants by filling out an online survey distributed by the researchers through Google Forms. The characteristics of the participants in the study consisted of gender and age (Table 1).

**Table 1**

*Profile of the Participants*

Aspect	Total	Percent
Sexual Identity		
Female	53	92.9
Male	4	7.1
Age of the respondents		
<20 years	16	28
20 years	35	61.4
21 years	4	7.1
22 years	2	3.5

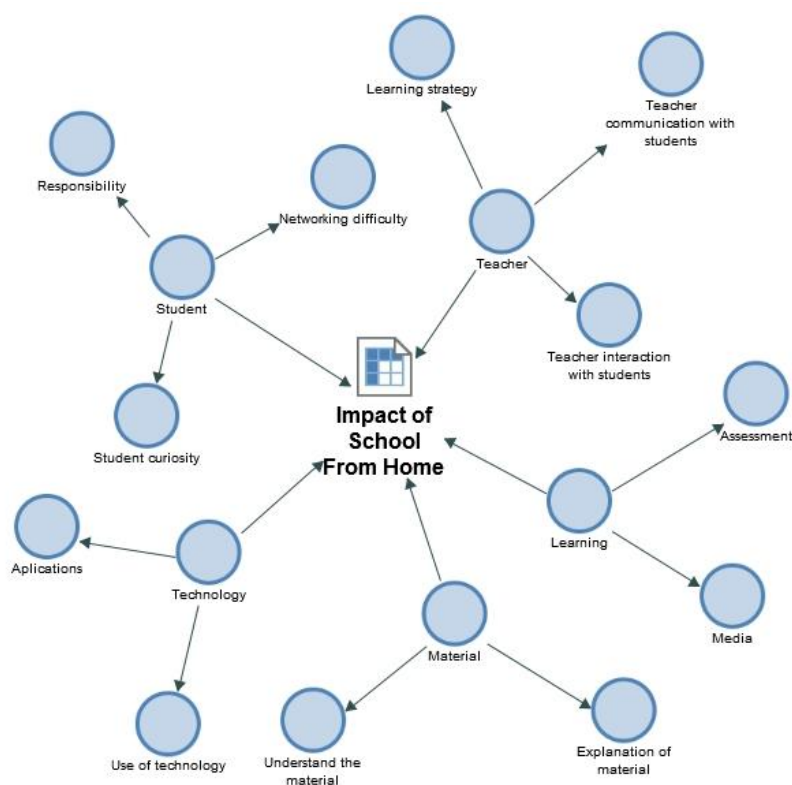
### 2.3. Data collection tools

Tools for collecting information from participants are known as research tools. In this study, researchers use two instruments: online surveys and interviews. The online survey used by researchers contained 15 open-ended questions that required short answers from respondents. Through the online surveys, researchers would determine the themes and sub-themes of this study. After that, the researchers would conduct semi-structured interviews through WhatsApp. The researchers conducted the interviews to obtain more in-depth data on the sub-themes from data

collection using online surveys. Interviews were conducted with 7 out of 57 students who were survey respondents. The researchers interviewed two to three respondents daily for 3–4 hours per respondent through WhatsApp. The length of the interview process is due to the poor signals and the condition of students who are working part-time.

#### 2.4. Data analysis

Data analysis is the process of processing data obtained by researchers using research instruments. The data obtained in this study are qualitative. Data obtained by the researchers from surveys and interviews were codified using NVIVO 12 Plus to make it easier for them to process data. Coding is entering information into nodes and cases by providing codes in NVIVO 12 Plus. Researchers used thematic coding because they could understand the data obtained by categorizing the main topics of the study. Next, the researchers reduced the data to produce the main themes of the study. Bandur (2019) calls this process integration and disintegration, which combines nodes with the same information and removes nodes less relevant to research topics and problems. The data reduced were visualized. Qualitative research is research that uses inductive processes. Creswell (2012) states that inductive approaches narrow data into specific themes. See Figure 1.



**Figure 1**

#### *Results of the Themes in Online Learning*

Researchers considered credibility and dependability tests during the study. In this study, the credibility test used a member check to double-check the suitability of the data presented by researchers with data provided by seven respondents in interviews. If the data submitted by the researcher follows the data provided by seven respondents, then the data presented is declared credible. The implementation of the member check was conducted online via zoom meeting with seven respondents involving all researchers. Students were also allowed to review interview transcripts and modify the contents of the interviews (Lincoln & Guba, 2000). All of this was carried out to eliminate bias and increase data confidence.

### 3. Results

#### 3.1. Teacher

A key factor that determines the success of online learning is the teacher. Online education tests the pedagogical skills of teachers. The findings in this study include teacher interaction with students, teacher communication with students, and learning strategies. Figure 2 shows the study results of instructors who provide online instruction, i.e., SFH.



**Figure 2**

*The Results of Teaching Analysis in Online Learning*

Interaction has an essential role in building teacher-student relationships. Previous research has widely studied teacher interaction with students (Humberstone & Stan, 2011; Kuo et al., 2014; Wallace, 2003). The educational experience will be more successful if teachers and students collaborate harmoniously. Teacher interaction with students most often occurs through Q&A. Some students state that the teacher's interaction occurs through two-way communication and online learning applications. Some of the students' opinions are as follows:

*The way teachers build interaction with students during online learning is to teach through two-way communication. Teachers always ask students, and there is always a question and answer between teachers and students. (Student 6)*

*How teachers build interaction with students during online learning is by using applications such as zoom, Google meet, WhatsApp, etc. (Student 7)*

In addition to doing Q&A and using applications, discussions, explanations, and assignments, there are still students who are afraid and lack the confidence to interact with their teachers. This condition certainly limits students from developing their ability in online learning. Effective communication provided by teachers directly affects how teachers and students interact. Through active communication, students will feel comfortable studying online. Teachers use polite language and respect every student's opinion in online learning. Students also never feel like ending the meeting soon because of the communication built by friendly teachers. Some of the student's views are as follows:

*There was no feeling in my heart to end the meeting because all the teachers I entered in manners respected and respected each other. I just wanted to meet face-to-face with my teacher because I longed to do face-to-face learning. (Student 7)*

*There is a sir, but not because of the unpleasant words of the teachers. It's just that I am dizzy, hungry, and bored, sir, (Student 50)*

During online learning, the communication time between teachers and students face to face virtually is minimal. Teachers usually use 1.5–2.5 hours before the pandemic in one meeting. But during the pandemic, the time available to study online is shorter due to quota issues and frequently disrupted Internet networks. Limited time use affects the learning process, so teachers must think about how the learning process can be developed. Learning strategies have become one of the alternatives to streamline the learning process quickly.

In this study, the use of discussions by grouping students into small groups can be done by teachers. Meetings allow students to express their opinions and train students to appreciate the point of view of others. However, students recognize that any teacher strategy does not necessarily make them active. The following are a few of the students' opinions:

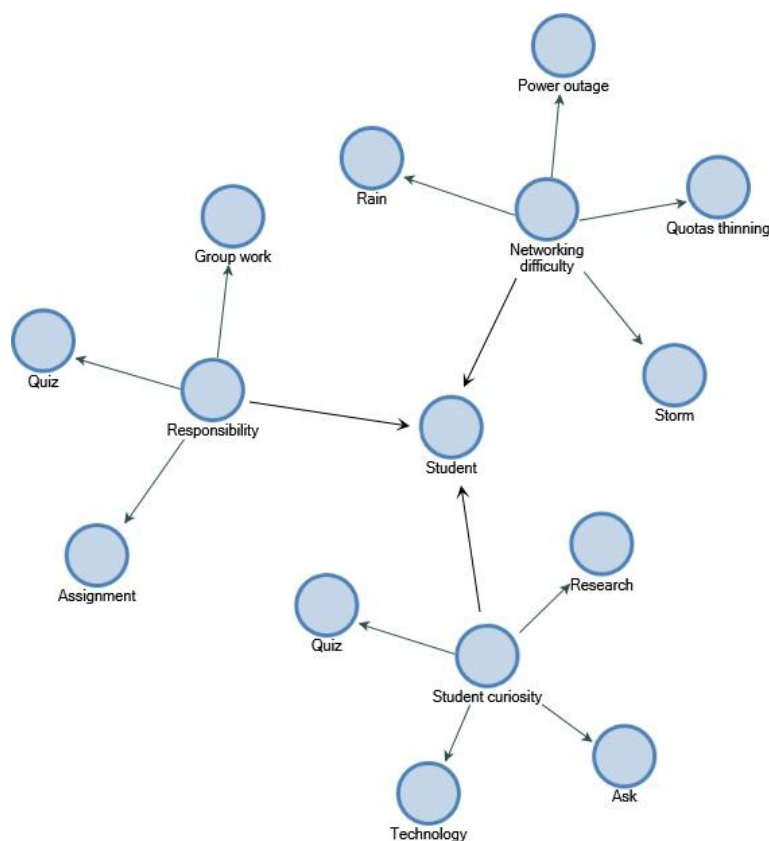
*In my opinion, sir, I am not very involved in learning. My inactivity is not a factor in the teacher's strategy; it comes from internal factors. Even so, I must always be able to understand the learning. (Student 51)*

Using learning strategies during online learning has affected the quality of education (Rasmitadila et al., 2020). However, in addition, various negative impacts of online learning also need to be considered by teachers. These negative impacts include physical, mental, and social health (Alawamleh et al., 2020; Chakraborty et al., 2020; Colao et al., 2020; Coman et al., 2020; Ellis et al., 2009) and to reach the learning goals. Teachers need to be more creative and clever in planning their lessons.

### 3.2. Student

Changes in the learning environment have impacted students' knowledge during online learning. Three things affect students' understanding during online learning: curiosity, responsibility, and signals. These three things are related to online learning success (Figure 3).





**Figure 3**

*Results of Students' Analyses as Online Learners*

Their curiosity greatly aids the performance of students' academic achievement. Students who have an intense curiosity will have better learning outcomes than students who lack interest. The learning design would determine the curiosity of students during online learning. Some of the students' opinions are as follows:

*Yes, learning online builds my curiosity because learning online a lot uses technology, so I also know more about applications I did not know before when face to face. (Student 44)*

*While doing online learning still builds my curiosity about learning. (Student 33)*

Students' curiosity supports them in carrying out their responsibilities. Responsibility will shape the students' disciplinary attitude shown in task collection, carrying out group work, and filling out quizzes. Numerous studies have examined the issue of responsibility for maintaining academic integrity (Nesterova et al., 2019). Some of the students' opinions are as follows:

*Exactly not the student collects the task. (Student 53)*

*By giving assignments quickly, students will be responsible for the task given. Giving quizzes and group work. (Student 50)*

The main problem in online learning is that students always experience a lousy Internet signal. An inadequate Internet signal makes online learning difficult. When the call is terrible, students' curiosity turns into boredom, sleepiness, and fatigue with online learning. Some of the students' opinions are as follows:

*I think personally, sir, just a little bit of building my curiosity. Because I do not understand and am comfortable with implementing this online learning, I tend not to feel curious, sir. (Student 51)*

Various causes of signal interference arise due to rain, storms, quotas, and power outages. Due to the difficulties, students cannot engage in the inadequate online learning setting. Students must study on their own until the Internet signal is powerful. Some of the students' opinions are as follows:

*Alhamdulillah is good, but sometimes the network limps if there is rain or thinning packages.* (Student 7)

*Power outages cause signal difficulty.* (Student 44)

The core element of the effectiveness of online learning is a high-speed internet connection. If the Internet network is lost or inadequate, online learning will be constrained, and students cannot learn. Conversely, if the Internet network is good, teachers can attract curiosity and train students' sense of responsibility as online learners.

### 3.3. Material

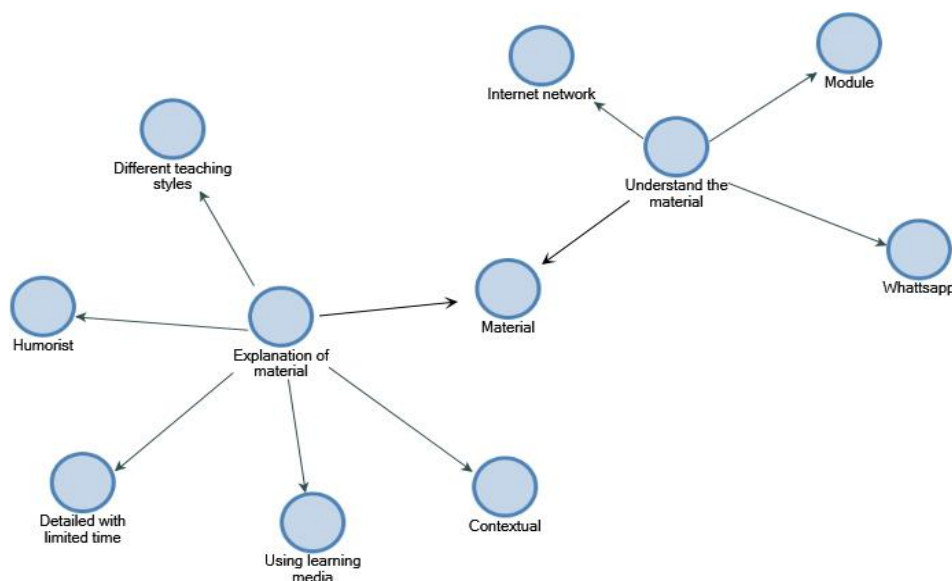
This study has two sub-themes: explanation of matter and understanding the material (Figure 4). Facial expression and online education will be successful if teachers use learning media. The support of teaching media will provide interesting meaning to online learning. This situation is explained by the students as follows:

*Yes, the explanation given by teachers is interesting because in explaining, teachers often provide understanding with media such as ppt or explain by associating in future life such as elementary school education, teachers associate it into the scope of elementary school* (Student 6)

The length of time available also influences how well teachers can explain the subject when using online learning during the pandemic. Despite time-limited, teachers can thoroughly and meaningfully explain the content. To respond to students' requirements, a schoolteacher must consider time allocation. Some of the students' opinions are as follows:

*Interesting because the explanation is delivered in detail in a short time so as not to make students bored.* (Student 44)

*Sometimes exciting and sometimes not, sir, because it depends on how the teacher delivers his material.* (Student 50)



**Figure 4**

*Results of the Material Analysis in Online Learning*



Teachers' style of teaching also affects the explanation to students. Students will more like teachers who are humorous in teaching than teachers who teach only to transfer knowledge, as students will better understand the material described by those teachers.

Understanding the material is not only obtained from the explanation of teachers when online learning takes place. Teachers also provide students with teaching materials that can be used to understand the material. The modules are methodically designed and optimized for students to learn the material by providing activities that enable them to assess their knowledge of the content studied. However, if students have obstacles in understanding the material, some teachers allow students to ask questions outside of online lecture hours through WhatsApp groups. Some of the students' opinions are as follows:

*Teachers provide opportunities to ask questions outside of online lecture hours through WhatsApp groups. (Student 7)*

*Some teachers seem to want to answer student questions outside of online lesson hours. (Student 53)*

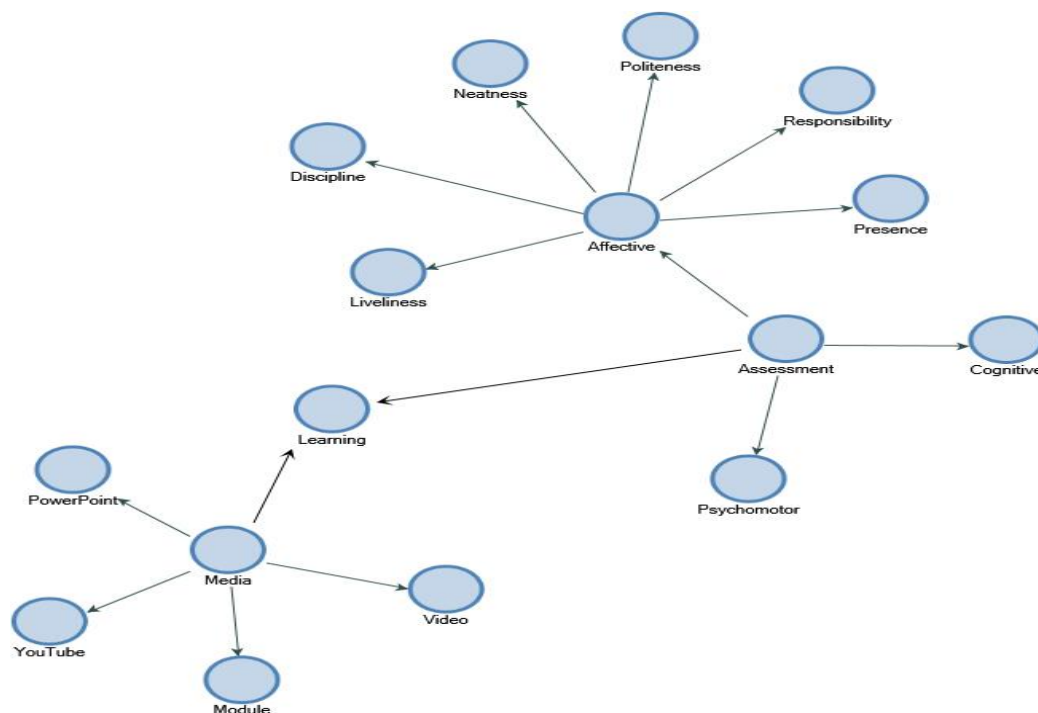
The support of teachers in providing explanations to students outside lecture hours is significant in this pandemic period. The spirit and enthusiasm of students in online learning need to be maintained and not feel broken.

### 3.4. Learning

Teaching students in a classroom is the process of learning. Learning consists of media and judgment (Figure 5). The most frequently used learning media of teachers is PowerPoint presentations. Some students state that teachers often use PowerPoint because it is easy to use as a learning medium. Some of the students' opinions are as follows:

*Because the Media is easiest to make, sir, if the video sometimes has no sound, if through zoom. (Student 50)*

*Because the Media is suitable for use in this online learning, sir. (Student 7)*



**Figure 5**

*Results of the Learning Analysis in Online Learning*

In addition to PowerPoint presentations and modules, YouTube and videos are also used as media in delivering learning materials. Teachers use media to help students understand the learning material. In online learning, the assessment is carried out by teachers on affective, cognitive, and psychomotor aspects. The cognitive aspects of students cannot be assessed in-depth because the answers of the students are copied and pasted from the Internet. Some of the students' opinions are as follows:

*Depending on the teacher, sir, if fierce, do not copy-paste. (Student 50)*

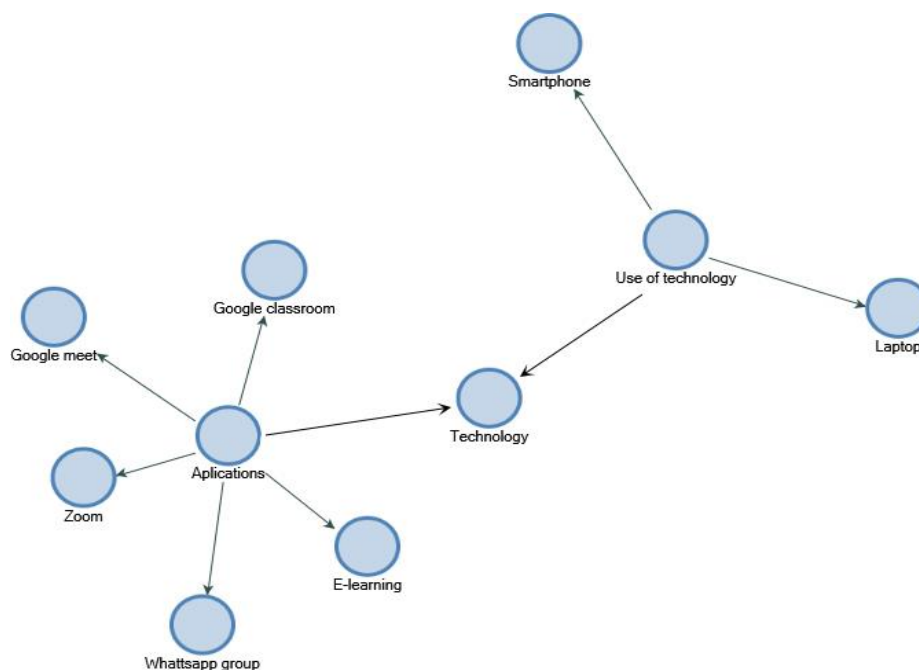
*Ever sir, but I did not take it around, sir. I changed it with my own words; usually, I only see the understanding or intent of words that I do not understand, then I answer with my own words, sir, accept the opinion of experts, sir, if that I never change, sir. (Student 53)*

Assessment of the cognitive aspects of students should be assessed based on their knowledge. Therefore, Students' activeness dominated other aspects of the cognitive assessment, but occasionally the evaluation of psychomotor factors is advantageous. Teachers provide assignments to students such as research, journal criticism, and book reviews because students can study in groups and work together to complete these tasks. Meanwhile, effective assessment refers to the attitude of students. Based on this study's findings, the students' discipline and neatness are more dominantly assessed by teachers in the affective aspect.

### 3.5. Technology

Using technology and online learning are both necessary during the pandemic. Technology use becomes a talent that every educator must possess to increase the effectiveness of online learning. The technology in this research is related to teachers' learning devices and applications in online learning. Students' most commonly used learning devices are laptops and smartphones (Figure 6). Some of the students' opinions are as follows:

*I usually use a laptop to open e-learning, mobile phones for the following zoom, and notebooks to record essential things teachers deliver during lectures. (Student 53)*



**Figure 6**

*Results of the Technology Analysis in Online Learning*

In addition, one barrier to activities involving online learning is teachers' knowledge of using technology in the classroom. The teachers' technology competence is still limited. In this research, there are still teachers who are not yet proficient in using technology to help smooth online learning. Technology's ability would significantly help teachers' success in online learning. Some of the students' opinions are as follows:

*There is, but the teacher replaces it by explaining the learning material from the Whatsapp group. (Student 7)*

In SFH, teachers use many online learning applications. The use of online learning applications aimed to reduce the growth of COVID-19, which can endanger the health and safety of school residents. Teachers' most commonly used online learning applications are zoom, Google Meet, eLearning, Whatsapp group, and Google Classroom. Online learning implemented by teachers during SFH has impacted the quality of student learning. For online learning to be successful, the learning system must transition from face-to-face to virtual instruction. Readiness also needs to be considered because teachers must design meaningful learning goals.

#### **4. Discussion**

COVID-19 has transformed education systems around the world. Most countries in the world have implemented online learning. In Indonesia, SFH has become a policy issued by the Ministry of Education, Culture, Research, and Technology to reduce the spread of COVID-19 in schools and universities. The teaching and learning process and the standard of education in colleges have been reformed through SFH.

The recent study explores how students perceive online instruction during the COVID-19 outbreak. The results of this study show that five aspects shape students' perception of online learning, namely teachers (interaction, communication, and learning strategies); students (curiosity, responsibility, and Internet network), learning materials (explanation of the material and understanding of the learning material), learning (media and assessment) and technology (use of technology and applications). The findings of this study show that students' perceptions of online learning vary. Students assess that online learning has positive and negative values (Keller & Karau, 2013; Loh et al., 2016; Nurdiyanti et al., 2021).

The research findings show that intense interaction and communication between teachers and students is needed to support online learning success, even though interactions occur in two directions. But there are still students who are afraid and lack confidence in learning online. Intense interaction and communication will bring a long distance between students and teachers due to the COVID-19 pandemic. During online learning, interaction and communication are limited by time and sometimes constrained by the Internet network, so it is not yet effective, and students miss face-to-face learning. The findings of this study, following Bali and Liu's (2018) study, state that the perception of face-to-face learning is higher than online learning related to social presence, social interaction, and satisfaction. The lack of interaction between teachers and students will create a distance that can impact online learning.

Student engagement and participation also need to be improved because students seem tired of the online learning teachers have carried out. The need for variety in learning will encourage enthusiastic students to learn. Students do not need the length of online learning, but a systematic learning design and quality learning resources will help students to learn more enthusiastically. Martin et al. (2020) state that students should be encouraged to reflect on their attributes as online learners, time management, communication, and technical skills. Students need to be prepared in these four areas.

Meanwhile, the importance of quality learning resources will reduce the time available. The availability of e-modules alone has not been able to support online learning. Students need to find various learning resources that can help them learn online. The ease of finding various learning

resources today also needs close supervision from teachers because not all learning resources are suitable for use by students.

Furthermore, the findings of this study show that students do not acquire explicit knowledge during online learning, so students have difficulty answering questions given by teachers. Participants reported that copying/pasting from the Internet often occurs if the teacher is less attentive to online learning. This condition, of course, hurts the prevailing scoring system. The findings of this study follow the results of the study by Rasmitadila et al. (2020), which states that cognitive assessments during online learning cannot be carried out because there is parental intervention. On the contrary, in this study, environmental interventions encourage students to commit plagiarism.

This study's findings align with Kolb's (2015) view of learning. Based on Kolb's experiential learning theory, learning is a process of transforming experience to produce knowledge. If the teacher does not present students with meaningful learning, they will not have a positive learning experience. They will develop a negative perception of the learning presented by the teacher. McIntyre and Sellnow (2014) state that the philosophy of experiential learning is based on the concept that learning is sustainable when knowledge (understanding), deeds (performance and experience), reasoning (synthesis), and reflection (analysis) are all present and continuous. This theory is suitable for use in this study because perceptions are built based on the experience that students have with online learning. This theory was also used by Sellnow-Richmond et al. (2020) in their research.

Furthermore, research shows that students face curiosity and poor Internet networking challenges. The participants said that studying online only builds curiosity because they understand less and feel less comfortable with online learning. Even they tend to feel let down. This challenge gets more challenging when the Internet network is terrible, so online learning is constrained. Ihsan et al. (2020) state that poor Internet network is a significant challenge in online learning. So, teachers must design engaging, systematic, and measurable learning that can be used when the Internet network is good and also when it is terrible. Studying online should attract students' curiosity to learn (Orcutt & Dringus, 2017).

The Collaboration of numerous academic elements is the key to online learning's success. Naseer and Rafique (2021) state that to determine that students require the best possible support in a digital learning environment, the assistance of school administrators, policymakers, course designers, and curriculum creators is essential. In related learning, more emphasis should be on assessment systems, while technology related to learning devices and online learning applications is needed to support online learning. In addition, there is a need for more profound training to equip teachers with more advanced technological capabilities and the ability to demonstrate resource quality. Kulal and Nayak (2020) state that teachers and students need training and support related to online learning that can increase their convenience in online learning.

Thus, with online learning during SFH, several sustainable factors need to be considered. First, communication and interaction will shape perceptions or distance between teachers and students (Armstrong, 2011; Choi et al., 2021; Ke & Kwak, 2013). Second, technology support includes a good Internet network while learning and the availability of devices (Hamid et al., 2020; Wei & Chou, 2020). Third, teachers' ability to use technology, including programs and applications (Winter et al., 2021). Fourth is quality learning resources to reduce student fatigue and boredom (Harsasi, 2015; Kalman, 2017). Fifth, Collaboration between educational leaders, decision-makers, curriculum creators, and course designers enhances learning (Naseer & Rafique, 2021).

## 5. Conclusion and Limitation

This study explores students' perceptions of online learning during the COVID-19 pandemic and has contributed to previous research that has examined students' perceptions of online learning. Kolb (2015) emphasizes that experience plays an essential role in learning and distinguishes it from other learning theories. The findings of this study are that five aspects shape students' perception of

online learning, namely teacher (interaction, communication, and learning strategies), student (curiosity, responsibility, and internet network), learning material (explanation of the material and understanding the learning material), learning (media and assessment) and technology (use of technology and applications). At the same time, online learning is faced with a lack of curiosity and poor Internet network students, which are the main factors that affect the sustainability of online learning. Lastly, online learning has shifted from academic to catalyst learning (Volery, 2001). So, teachers must transform by changing the old learning paradigm and accelerating 21st-century education, focusing on learning output.

This study has several limitations that present opportunities for other researchers. This study contains a small sample of SFH students who studied online. It has not been applied to other online learning environments because the study involved a relatively small number of students and cannot be assumed to represent the views of all students. In addition, this study has not involved parents in obtaining in-depth data and institutional regulations, human resource management, and technology implementation related to online learning.

## 6. Recommendation

Based on the limitations mentioned above, future studies can comprehensively examine students' perceptions of online learning with mixed methods using a larger number of respondents and involving parents. This study also could be expanded based on institutional regulations, human resource management, and technology implementation related to online learning.

## References

- Adedoyin, O. B., & Soykan, E. (2020). COVID-19 pandemic and online learning: The challenges and opportunities. *Interactive Learning Environments*. <https://doi.org/10.1080/10494820.2020.1813180>
- Agarwal, S., & Kaushik, J. S. (2020). Student's perception of online learning during COVID pandemic. *Indian Journal of Pediatrics*, 87(7), 554. <https://doi.org/10.1007/s12098-020-03327-7>
- Al-Mawee, W., Kwayu, K. M., & Gharaibeh, T. (2021). Student's perspective on distance learning during COVID-19 pandemic: A case study of Western Michigan University, United States. *International Journal of Educational Research Open*, 2(2), 100080. <https://doi.org/10.1016/j.ijedro.2021.100080>
- Alawamleh, M., Al-Twait, L. M., & Al-Saht, G. R. (2020). The effect of online learning on communication between instructors and students during COVID-19 pandemic. *Asian Education and Development Studies*. <https://doi.org/10.1108/AEDS-06-2020-0131>
- Almekhlafy, S. S. A. (2020). Online learning of English language courses via blackboard at Saudi universities in the era of COVID-19: Perception and use. *PSU Research Review*, 5(1), 16–32. <https://doi.org/10.1108/prr-08-2020-0026>
- Armstrong, D. A. (2011). Students' perceptions of online learning and instructional tools: A qualitative study of undergraduate students use of online tools. *Turkish Online Journal of Educational Technology*, 10(3), 222–226. <http://www.tojet.net/articles/v10i3/10325.pdf>
- Bali, S., & Liu, M. C. (2018). Students' perceptions toward online learning and face-to-face learning courses. *Journal of Physics: Conference Series*, 1108(1), 0–7. <https://doi.org/10.1088/1742-6596/1108/1/012094>
- Bandur, A. (2019). *Penelitian Kualitatif Studi Multi-Disiplin Keilmuan dengan Nvivo 12 Plus (Pertama)*. Mitra Wacana Media.
- Chakraborty, P., Mittal, P., Gupta, M. S., Yadav, S., & Arora, A. (2020). Opinion of students on online education during the COVID-19 pandemic. *Human Behavior and Emerging Technologies*, 1–9. <https://doi.org/10.1002/hbe2.240>
- Choi, J. J., Robb, C. A., Mifli, M., & Zainuddin, Z. (2021). University students' perception to online class delivery methods during the COVID-19 pandemic: A focus on hospitality education in Korea and Malaysia. *Journal of Hospitality, Leisure, Sport and Tourism Education*, 29, 100336.

Lubis, B. S., Siregar, E. F. S., Sari, S. P., & Batubara, I. H. (2022). Students' perceptions of elementary schoolteacher education on online learning. *Cypriot Journal of Educational Science*, 17(10), 3588-3603 <https://doi.org/10.18844/cjes.v17i10.7022>

<https://doi.org/10.1016/j.jhlste.2021.100336>

Colao, A., Piscitelli, P., Pulimeno, M., Colazzo, S., Miani, A., & Giannini, S. (2020). Rethinking the role of the school after COVID-19. *The Lancet Public Health*, 5(7), e370. [https://doi.org/10.1016/S2468-2667\(20\)30124-9](https://doi.org/10.1016/S2468-2667(20)30124-9)

Coman, C., Țîru, L. G., Meseșan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online teaching and learning in higher education during the coronavirus pandemic: Students' perspective. *Sustainability*, 12(24), 1–24. <https://doi.org/10.3390/su122410367>

Conto, C. A., Akseer, S., & Dreesen, T. (2020). COVID-19 : Effects of school closures on foundational skills and promising practices for monitoring and mitigating learning loss. *UNICEF-Innocenti Working Paper, WP 2020-13*(October), 1–30. <https://www.unicef-irc.org/publications/1144-covid19-effects-of-school-closures-on-foundational-skills-and-promising-practices.html>

Creswell, J. W. (2012). *Educational research : Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson.

Dada, E. G., H. Alkali, A., & O. Oyewola, D. (2019). An investigation into the effectiveness of asynchronous and synchronous e-learning mode on students' academic performance in National Open University (NOUN), Maiduguri Centre. *International Journal of Modern Education and Computer Science*, 11(5), 54–64. <https://doi.org/10.5815/ijmeecs.2019.05.06>

Ellis, R. A., Ginns, P., & Piggott, L. (2009). E-learning in higher education: Some key aspects and their relationship to approaches to study. *Higher Education Research and Development*, 28(3), 303–318. <https://doi.org/10.1080/07294360902839909>

Erliana, H., Safrizal, S., Nuthihar, R., Luthfi, L., Wahdaniah, W., Jaya, I., & Herman, R. (2021). Vocational students' perception of online learning during the COVID-19 pandemic. *Jurnal Pendidikan Teknologi Dan Kejuruan*, 27(1), 57–65. <https://doi.org/10.21831/jptk.v27i1.34283>

Hamid, R., Sentryo, I., & Hasan, S. (2020). Online learning and its problems in the COVID-19 emergency period. *Jurnal Prima Edukasia*, 8(1), 86–95. <https://doi.org/10.21831/jpe.v8i1.32165>

Harsasi, M. (2015). The use of open educational resources in online learning: A study of students' perception. *Turkish Online Journal of Distance Education*, 16(3), 74–87. <https://doi.org/10.17718/tojde.46469>

Humberstone, B., & Stan, I. (2011). Outdoor learning: Primary pupils' experiences and teachers' interaction in outdoor learning. *Education 3-13: International Journal of Primary, Elementary and Early Years Education*, 39(5), 529–540. <https://doi.org/10.1080/03004279.2010.487837>

Ichsan, I. Z., Rahmayanti, H., Purwanto, A., Sigit, D. V., Irwandani, I., Ali, A., Susilo, S., Kurniawan, E., & Rahman, M. (2020). COVID-19 outbreak on environment: Profile of Islamic University Students in HOTS-AEP-COVID-19 and PEB-COVID-19. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, 5(1), 167–178. <https://doi.org/10.24042/tadris.v5i1.6283>

Kalman, Y. M. (2017). Open educational resources: Policy, costs, and transformation. *The International Review of Research in Open and Distributed Learning*, 18(3). <https://doi.org/10.19173/irrodl.v18i3.3108>

Karana, K. P. (2021). *Indonesia: 18 bulan setelah sekolah ditutup, kini waktunya anak-anak kembali ke sekolah dengan aman sesegera mungkin – UNICEF/WHO*. UNICEF. <https://www.unicef.org/indonesia/id/press-releases/indonesia-18-bulan-setelah-sekolah-ditutup-kini-waktunya-anak-anak-kembali-ke>

Ke, F., & Kwak, D. (2013). Online learning across ethnicity and age: A study on learning interaction participation, perception, and learning satisfaction. *Computers and Education*, 61(1), 43–51. <https://doi.org/10.1016/j.compedu.2012.09.003>

Keller, H., & Karau, S. J. (2013). The importance of personality in students' perceptions of the online learning experience. *Computers in Human Behavior*, 29(6), 2494–2500. <https://doi.org/10.1016/j.chb.2013.06.007>

Khalil, R. (2020). The sudden transition to synchronized online learning during the COVID-19 pandemic in Saudi Arabia: A qualitative study exploring medical students' perspectives. *BMC Medical Education*, 20(1). <https://doi.org/10.1186/s12909-020-02208-z>

Khan, M. A., Vivek, Nabi, M. K., Khojah, M., & Tahir, M. (2021). Students' perception towards e-learning during COVID-19 pandemic in India: An empirical study. *Sustainability (Switzerland)*, 13(1), 1–14.



- Lubis, B. S., Siregar, E. F. S., Sari, S. P., & Batubara, I. H. (2022). Students' perceptions of elementary schoolteacher education on online learning. *Cypriot Journal of Educational Science*, 17(10), 3588-3603 <https://doi.org/10.18844/cjes.v17i10.7022>
- <https://doi.org/10.3390/su13010057>
- Kolb, D. A. (2015). *Experiential learning: Experience as the source of learning and development*. Pearson Education, Inc.
- Kulal, A., & Nayak, A. (2020). A study on perception of teachers and students toward online classes in Dakshina Kannada and Udupi District. *Asian Association of Open Universities Journal*, 15(3), 285–296. <https://doi.org/10.1108/aaouj-07-2020-0047>
- Kuo, Y. C., Belland, B. R., Schroder, K. E. E., & Walker, A. E. (2014). K-12 teachers' perceptions of and their satisfaction with interaction type in blended learning environments. *Distance Education*, 35(3), 360–381. <https://doi.org/10.1080/01587919.2015.955265>
- Laili, R. N., & Nashir, M. (2021). Higher education students' perception on online learning during COVID-19 pandemic. *Edukatif : Jurnal Ilmu Pendidikan*, 3(3), 689–697. <https://doi.org/10.31004/edukatif.v3i3.422>
- Le, D.-L., Giang, T.-V., & Ho, D.-K. (2021). The Impact of the COVID-19 pandemic on online learning in higher education: A Vietnamese case. *European Journal of Educational Research*, 10(3), 1199–1213. [https://www.researchgate.net/profile/Ebru-Eren/publication/348382981\\_Education\\_Policies\\_in\\_the\\_Context\\_of\\_Political\\_Communication\\_in\\_Turkey/links/5ffc2aeba6fdcccb846cc03/Education-Policies-in-the-Context-of-Political-Communication-in-Turkey.pdf](https://www.researchgate.net/profile/Ebru-Eren/publication/348382981_Education_Policies_in_the_Context_of_Political_Communication_in_Turkey/links/5ffc2aeba6fdcccb846cc03/Education-Policies-in-the-Context-of-Political-Communication-in-Turkey.pdf)
- Lincoln, Y. S., & Guba, E. G. (2000). *Naturalistic inquiry*. Sage.
- Loh, C., Wong, D. H., Quazi, A., Philip, R., Loh, C., Wong, D. H., Quazi, A., Philip, R., Alonderiene, R., Majauskaite, M., Rasheed, M. I., Humayon, A. A., Awan, U., Li, L., Hallinger, P., & Ko, J. (2016). Re-examining students' perception of e-learning: An Australian perspective. *International Journal of Educational Management*, 30(1), 129–139. <https://doi.org/10.1108/IJEM-08-2014-0114>
- Martin, F., Stamper, B., & Flowers, C. (2020). Examining student perception of readiness for online learning: Importance and confidence. *Online Learning Journal*, 24(2), 38–58. <https://doi.org/10.24059/olj.v24i2.2053>
- McIntyre, K. A., & Sellnow, D. D. (2014). A little bit can go a long way: An examination of required service in the basic communication course. *Communication Teacher*, 28(1), 57–73. <https://doi.org/10.1080/17404622.2013.843012>
- Menteri Dalam Negeri. (2021). *Pemberlakuan Pembatasan Kegiatan Masyarakat Level 4, Level 3, Dan Level 2 Corona Virus Disease 2019 di Wilayah Jawa dan Bali*. <https://ditjenbinaadwil.kemendagri.go.id/halaman/detail/inmendagri-tahun-2022>
- Naseer, S., & Rafique, S. (2021). Moderating role of teachers' academic support between students' satisfaction with online learning and academic motivation in undergraduate students during COVID-19. *Education Research International*, 2021, 1–9. <https://doi.org/https://doi.org/10.1155/2021/7345579>
- Nesterova, O., Nakaznyi, M., Berdnyk, L., Sorokina, N., Cherkashchenko, O., & Medvedovskaya, T. (2019). Responsibility development as academic integrity tool for translation and public administration students. *Cypriot Journal of Educational Sciences*, 14(3), 436–444. <https://doi.org/10.18844/cjes.v14i3.4289>
- Nurdiyanti, N., Wajidi, M., Magfirah, N., & Fadhilah, N. (2021). University students' perception towards online learning in biology. *Jurnal Pendidikan Biologi Indonesia*, 7(3), 240–247. <https://doi.org/https://doi.org/10.22219/jpbi.v7i3.16369>
- Ohlund, B., Yu, C. H., Jannasch-Pennell, A., & Digangi, S. A. (2000). Impact of asynchronous and synchronous internet-based communication on Collaboration and performance among K-12 teachers. *Journal of Educational Computing Research*, 23(4), 405–420. <https://doi.org/10.2190/U40F-M2LK-VKVV-883L>
- Orcutt, J. M., & Dringus, L. P. (2017). Beyond being there: Practices that establish presence, engage students and influence intellectual curiosity in a structured online learning environment. *Online Learning Journal*, 21(3), 15–35. <https://doi.org/10.24059/olj.v%vi%i.1231>
- Palvia, S., Aeron, P., Gupta, P., Mahapatra, D., Parida, R., Rosner, R., & Sindhi, S. (2018). Online education: Worldwide status, challenges, trends, and implications. *Journal of Global Information Technology Management*, 21(4), 233–241. <https://doi.org/10.1080/1097198X.2018.1542262>

- Lubis, B. S., Siregar, E. F. S., Sari, S. P., & Batubara, I. H. (2022). Students' perceptions of elementary schoolteacher education on online learning. *Cypriot Journal of Educational Science*, 17(10), 3588-3603 <https://doi.org/10.18844/cjes.v17i10.7022>
- Purwadi, Saputra, W. N. E., Wahyudi, A., Supriyanto, A., Muyana, S., Rohmadheny, P. S., Ariyanto, R. D., & Kurniawan, S. J. (2021). Student perceptions of online learning during the COVID-19 pandemic in Indonesia: A study of phenomenology. *European Journal of Educational Research*, 10(3), 1515–1528. [https://pdf.eu-jer.com/EU-JER\\_9\\_4\\_1591.pdf](https://pdf.eu-jer.com/EU-JER_9_4_1591.pdf)
- Rasmitadila, R., Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S. (2020). The perceptions of primary school teachers of online learning during the COVID-19 pandemic period: A case study in Indonesia. *Journal of Ethnic and Cultural Studies*, 7(2), 90. <https://doi.org/10.29333/ejecs/388>
- Retno Wulan, R., Poniman Kosasih, D., & Din Nugraha, H. (2021). New students' perception of online learning during COVID-19: A case study at Telkom University. *Journal of Educational Social Studies*, 10(1), 28–35. <http://journal.unnes.ac.id/sju/index.php/jess>
- Sellnow-Richmond, D., Strawser, M. G., & Sellnow, D. D. (2020). Student perceptions of teaching effectiveness and learning achievement: A comparative examination of online and hybrid course delivery format. *Communication Teacher*, 34(3), 248–263. <https://doi.org/10.1080/17404622.2019.1673456>
- Setiyono, J., Sukarni, S., & Ngafif, A. (2021). Online learning perception during COVID-19 pandemic. *English Review: Journal of English Education*, 10(1), 75–82. <https://doi.org/https://doi.org/10.25134/erjee.v10i1.5356>
- Shawaqfeh, M. S., Al Bekairy, A. M., Al-Azayzih, A., Alkatheri, A. A., Qandil, A. M., Obaidat, A. A., Al Harbi, S., & Muflih, S. M. (2020). Pharmacy students perceptions of their distance online learning experience during the COVID-19 pandemic: A cross-sectional survey study. *Journal of Medical Education and Curricular Development*, 7, 238212052096303. <https://doi.org/10.1177/2382120520963039>
- Stefan Hrastinski. (2008). Asynchronous and synchronous cooperation. *Educause Quarterly*, 31(4), 51–55. [https://doi.org/10.1007/978-4-431-66942-5\\_22](https://doi.org/10.1007/978-4-431-66942-5_22)
- Stoecker, R. (1991). Evaluating and rethinking the case study. *The Sociological Review*, 39(1), 88–112. <https://doi.org/10.1111/j.1467-954X.1991.tb02970.x>
- UNESCO, UNICEF, The World Bank, & OECD. (2020). *What have we learnt? Overview of findings from a survey of ministries of education on national responses to COVID-19*. United Nations Children's Fund. <https://doi.org/10.1002/9781444323252.ch9>
- Volery, T. (2001). Online education: An exploratory study into succes factors. *Journal Educational Computing Research*, 24(1), 1–16. <papers2://publication/uuid/92CCBDA8-0D4C-4955-8E31-F1872B0463F1>
- Wallace, R. M. (2003). Online learning in higher education: A review of research on interactions among teachers and students. *Education, Communication & Information*, 3(2). <https://doi.org/10.1080/14636310303143>
- Wei, H. C., & Chou, C. (2020). Online learning performance and satisfaction: Do perceptions and readiness matter? *Distance Education*, 41(1), 48–69. <https://doi.org/10.1080/01587919.2020.1724768>
- Winter, E., Costello, A., O'Brien, M., & Hickey, G. (2021). Teachers' use of technology and the Impact of COVID-19. *Irish Educational Studies*, 40(2), 235–246. <https://doi.org/10.1080/03323315.2021.1916559>
- Yin, R. K. (2018). *Case study research and applications: Design and methods*. SAGE Publications. <https://doi.org/10.1177/109634809702100108>