Students' Experience of Online Learning during the COVID-19 Pandemic

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ABSTRAK

Tantangan yang dihadapi oleh mahasiswa di Indonesia selama pandemi COVID-19 ketika mengikuti pembelajaran daring menjadi hal yang penting untuk dipertimbangkan. Penelitian ini bertujuan untuk mengungkap keterbatasan dan hambatan yang mereka hadapi dalam mengakses dan mengambil manfaat dari pendidikan daring. Berfokus pada pengalaman pembelajaran daring para mahasiswa, studi ini berupaya mengidentifikasi hambatan dan menawarkan rekomendasi untuk perbaikan. Penelitian ini menggunakan survei di dua lokasi kampus yang berbeda di Indonesia. Survei ini menggunakan kuesioner daring, yang dirancang dan ditinjau oleh dua orang peneliti. Penelitian ini difokuskan pada mahasiswa berusia 17 tahun ke atas. Analisis data awal meliputi karakterisasi responden berdasarkan usia, jenis kelamin, universitas, dan jurusan dengan menggunakan tabel dan grafik. Selanjutnya, para peneliti melakukan analisis deskriptif, menghitung statistik dasar, dan mengkategorikan pertanyaan-pertanyaan yang berkaitan dengan pembelajaran online. Penelitian ini juga meneliti dampak dari lokasi kampus dan jurusan terhadap pengalaman mahasiswa. Studi ini menemukan bahwa pembelajaran online tidak sesuai dengan harapan karena hambatan teknis dan finansial menghalangi banyak mahasiswa untuk mengakses internet. Temuan ini menggarisbawahi pentingnya menyediakan akses internet yang terjangkau dan mudah diakses serta perangkat yang memadai untuk semua mahasiswa. Hasil penelitian ini dapat memandu para pemangku kepentingan pendidikan dalam membentuk kebijakan yang memungkinkan mahasiswa untuk terlibat dalam pembelajaran daring secara efektif, terutama selama karantina wilayah dan masa-masa ketidakpastian yang disebabkan oleh pandemi.

ABSTRACT

The challenges faced by students in Indonesia during the COVID-19 pandemic when participating in online learning are essential things to consider. This research aims to reveal the limitations and obstacles they face in accessing and taking advantage of online education. Focusing on students' online learning experiences, this study seeks to identify barriers and offer recommendations for improvement. This research uses surveys at two different campus locations in Indonesia. The survey used an online questionnaire designed and reviewed by two researchers. This research focused on students aged 17 years and over. Initial data analysis includes the characterization of respondents based on age, gender, university, and significant using tables and graphs. Next, the researchers conducted descriptive analysis, calculated basic statistics, and categorized questions related to online learning. This research also examines the impact of campus location and its significant on student experiences. This study found that online learning did not meet expectations because technical and financial barriers prevented many students from accessing the Internet. These findings underscore the importance of providing affordable and easily accessible internet access and adequate devices for all students. The results of this research can guide education stakeholders in forming policies that enable students to engage in online learning effectively, especially during lockdowns and times of uncertainty caused by the pandemic.

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1. INTRODUCTION

Learning and teaching in an online environment is exactly the same as teaching and learning in the context of formal education: learners need to be assessed; specified content; learning activities are arranged; and learning is assessed. Online media have the effect of creating a unique environment for teaching and learning. Online media shifts the time and place of educational interaction. One of the ability to support human-machine interactions in multiple formats (text, voice, video, etc.) with asynchronous and synchronous modality creates a rich learning context for communication (Eid & Al Osman, 2016; Hendley et al., 2014). Therefore, information technology enables best practices to be captured in the form of interactive web-based materials and sophisticated course management software (Singh & Miah, 2019, 2020). The development of information technology is growing rapidly and is starting to spread to all corners of the world. The growth of the internet and online learning will continue, and as this research shows, it will come with challenges. Individuals involved in online courses may have different qualities for a successful online environment or a challenging element. Each experience will be unique to the individual as educators and students become more comfortable and proficient in communicating and learning remotely. Best practices related to this learning environment will continue to be explored (Katz et al., 2021; Moser et al., 2021).

Currently, the world is experiencing the COVID-19 pandemic. The COVID-19 pandemic has catalyzed a rapid transition to online education worldwide. In the context of Indonesia, there are substantial expectations and pressing needs that have yet to be adequately addressed in the existing literature. This gap analysis highlights the disparities between these expectations and the current state of the field, emphasizing the urgency of the research being conducted. First, it is expected that access to technology and internet connectivity will improve, but the reality in Indonesia is that gaps still exist, especially in rural areas. Many students face limited or no access to the required technology, which hampers their ability to participate in online education effectively. Second, there's an assumption that online learning platforms are designed to cater to the needs of diverse students. However, these platforms often fall short in adapting to the Indonesian context. The specific cultural and linguistic diversity of Indonesia is often overlooked in the design of these platforms, causing barriers to effective learning. Furthermore, it is assumed that students have adapted well to online learning, but the challenges related to motivation and self-regulation persist. The abrupt shift to online education during the pandemic has left many students struggling to stay motivated and manage their learning independently. Lastly, expectations are high for improvements in support systems for students, but there is still a notable lack of guidance and support. Students in Indonesia often lack the necessary resources and counseling to navigate the challenges of online education effectively.

In fact, the COVID-19 pandemic forced all educational institutions to conduct online learning to reduce the impact of this pandemic. The COVID-19 pandemic has resulted in a massive adaptation in health professional education, with a shift from hands-on learning to a heavy dependence on internet-mediated education (Megahed & Hassan, 2022; Saleh et al., 2023; Sandars et al., 2020). COVID-19 also had an impact on conventional learning methods in academic institutions around the world. Schools, colleges, and college managers choose online lectures/courses as an alternative way to promote education. Online learning has been shown to help keep students and teachers healthy in the COVID 19 pandemic, but it is not as effective as traditional learning (Adnan, 2020; Vilchez et al., 2021). Online learning has emerged as an alternative to traditional learning, even during a pandemic. Most of the students experienced online learning for the first time (Baber, 2020; Yan et al., 2021).

Online education enables continuous learning without spreading COVID-19, saves time and space in delivering course content, facilitates information sharing and on-demand learning, and provides flexibility in delivery of instruction. In addition, online learning offers the opportunity to enter new markets for both program sales and student education. Lifelong learning in the 21st century can be characterized by the convergence of diverse global learners who develop and maintain a virtual community of practice using web-based technical tools. These virtual communities can bring together geographically and demographically diverse people from schools, universities and workplaces to collectively achieve common goals and solve real-life problems (Freeman & Wohn, 2019; Hayashi et al., 2020). Previous research, found that online learning challenges and strategies are mediated by available resources, interaction with teachers and peers, and existing school and online learning policies (Barrot et al., 2021; Ferri et al., 2020). In the context of a pandemic, the implementation of the blockade and the socio-economic conditions of the students exacerbated the students' challenges. Education in the form of e-learning and education is far from using mobile technology to support everyday classrooms and enhance learning experiences and processes, but major research efforts are increasing (Borba et al., 2016; Lau et al., 2014). It was conducted to include mobility in learning in this area. In Romania, for example, the COVID-19 virus has created an unprecedented situation. Students and teachers had to adapt to

unprecedented situations and were forced to finish their grades in remote areas. In these situations, e-learning systems are the necessary and optimal solution. Other research also shows that higher education institutions in Romania are not yet ready for exclusively online learning. (Coman et al., 2020; Ionescu et al., 2020). The technical problems are followed by the lack of technical skills of the teachers and their teaching style, which is not suitable for the online environment. In addition, this problem is also due to the lack of interaction and poor communication between students and teachers. A different study conducted in Indonesia, said that it is not enough to just offer online learning opportunities to students to offer accessibility and adaptability (Simamora, 2020; Sutrisno & Syukur, 2023).

It is often equally important for all types of online learning to help develop their skills for independent study and readiness to learn. With the right use of technology, students can succeed in their studies and prepare for their next online study. Therefore, teachers should remember to continue to connect the benefits of working and learning online with their students. The research being carried out in this study is of paramount importance due to its unique contributions to the field of online education during the COVID-19 pandemic. First, this study focuses on Indonesian university students. While there is a wealth of research on online education, this study specifically concentrates on university students in Indonesia. By narrowing the scope to a specific demographic, it allows for an in-depth examination of the unique challenges they face. Second, this research places significant emphasis on the cultural and linguistic diversity of Indonesia, shedding light on how this diversity impacts online learning. This focus provides a nuanced understanding of the barriers students encounter and how these can be overcome. Finally, rather than merely identifying problems, this research is committed to providing practical and actionable recommendations. It seeks to bridge the gap between expectations and the current state by offering solutions to improve the situation for Indonesian university students during the pandemic. The purpose of this research is to investigate students' experiences of online learning during the COVID-19 pandemic. The study aims to use a survey to gather data on students' perceptions, attitudes, and experiences of online learning during the pandemic. The research seeks to understand the challenges, opportunities, and effectiveness of online learning for students during this unprecedented time. By gathering this information, the study aims to provide insights into how online learning can be improved to better support students' learning and academic success during the pandemic and beyond. In addition, this research also studies the psychological and emotional impact of online learning during the pandemic, which explains the long-term viability of online education methods and their effectiveness. The novelty of this research lies in the exploration of student experiences during the global crisis, a relatively uncharted area in the existing literature, with implications for policy, future preparedness, and the ongoing integration of online learning into traditional education systems.

2. METHOD

The type of research used in this study is survey research, which involves collecting data through questionnaires (Dalati & Marx Gómez, 2018; de Vaus, 2016). Surveys are a well-established method of gathering information and insights from a large and diverse group of participants. In this case, the researchers used a questionnaire as a data collection tool, which allowed the research participants to provide their responses to a series of carefully crafted questions. The research design includes the development and administration of this questionnaire, which builds on previous survey research conducted on the same topic, to ensure that the questions asked are relevant and fit the research objectives. Furthermore, to improve the validity and reliability of the questionnaire, a review process was conducted, which involved critical examination and feedback from two researchers. This review stage aimed to refine the questionnaire and ensure that it effectively captured the relevant data needed to answer the research questions and objectives.

The survey was conducted in two different campus locations in Indonesia, namely Yogyakarta and Medan, to ensure a broad and representative sample. These locations were chosen to obtain a diverse sample of students' experiences and perspectives on distance learning. The questionnaire distribution was conducted in early March 2022, providing sufficient time for students to provide thoughtful and comprehensive responses. In order to obtain a representative and comprehensive sample, this study focused on students aged 17 years and above who were enrolled in two different majors from different campuses. The participants were selected from the Performing Arts Education Department and the Pancasila and Citizenship Education Department. This selection aimed to explore how students from different fields of study perceive and engage in distance learning, as well as its impact on their academic activities and personal lives. Data collection was conducted through an online questionnaire distributed through a Google Form link. The questionnaire consisted of two groups of questions: the first group collected demographic information, including university affiliation, major, age, and gender, while the

second group focused on 12 questions related to online learning during the COVID-19 pandemic. The design and content of the questionnaire were carefully crafted to obtain relevant information about participants' experiences and perceptions. A total of 108 students participated in this survey, answering the questions through a Google Forms link during the data collection period from March 5 to March 10, 2022. In analyzing the data of this study, the analysis steps taken include descriptions of respondent data to identify respondent characteristics such as age, gender, university, and major. The results are then described through tables and graphs that illustrate the distribution of respondents' characteristics. Descriptive analysis was conducted by calculating relevant variables, such as age and answer scores to questions related to online learning. Subcategories of the online learning questions were grouped, and the mean or percentage of positive/negative responses were calculated for each subcategory. Furthermore, results from two different campus locations and two different majors were compared to look at differences in student perceptions and experiences. The research flow is presented in Figure 1.
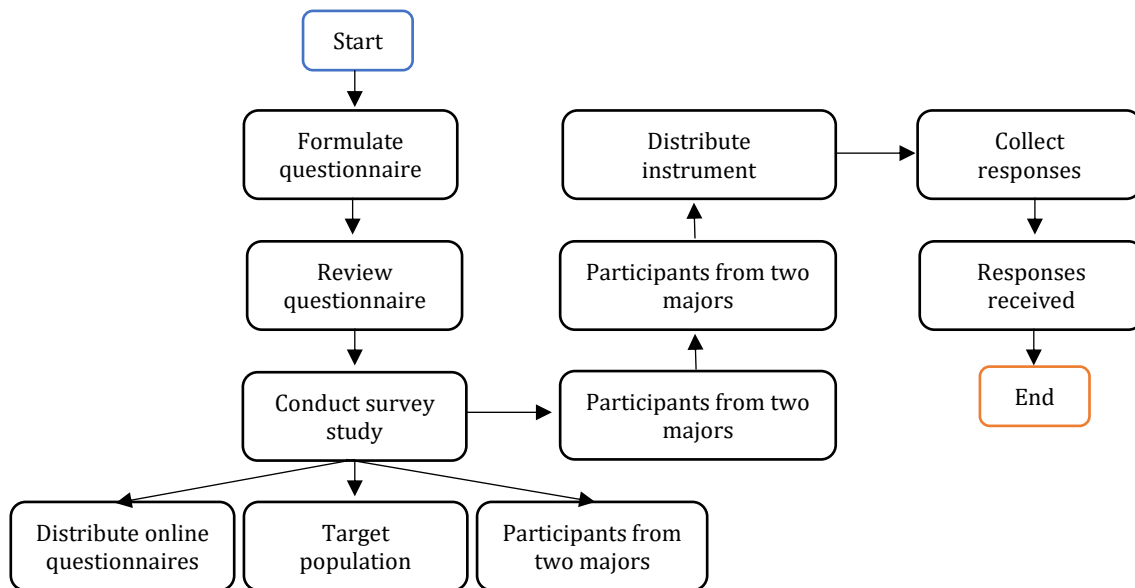

Figure 1. Flowchart of Research Procedure

Student participants came from two universities, namely the Department of Performing Arts Education, Indonesian Institute of the Arts Yogyakarta and the Department of Pancasila and Civic Education, Medan State University, as shown in Figure 2.
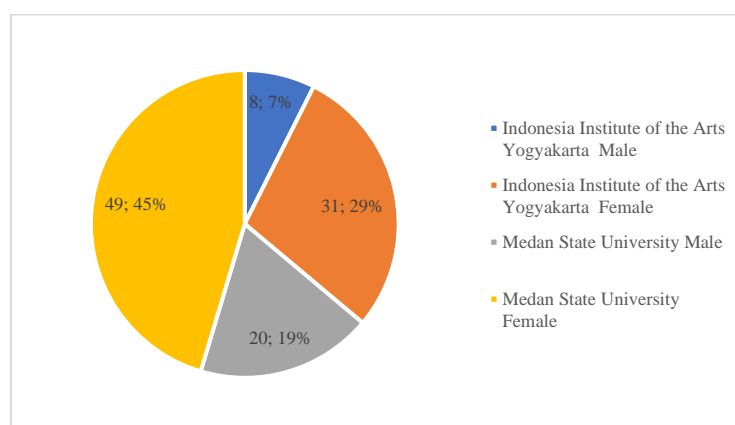

Figure 2. Total of Student Participants from Two Universities

Based on age and gender, participants were dominated by female students from two universities, as shown in Figure 3 below. There were 31 (79%) female students and 8 (21%) male students from the Department of Performing Arts Education, Indonesian Institute of the Arts Yogyakarta and 49 (71%) female students and 20 (29%) male students from the Department of Pancasila and Civic Education, Medan State University.
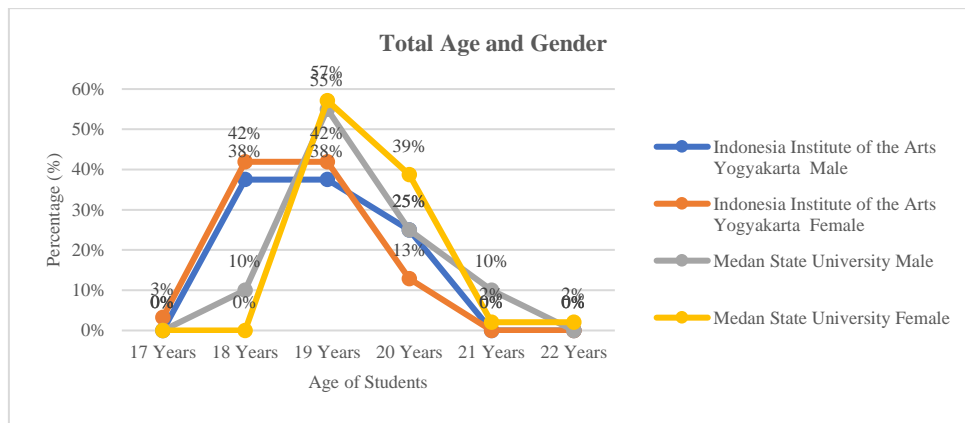
Figure 3. Total Age and Gender of Two Majors/Study Programs

3. RESULT AND DISCUSSION

Result

First, Opinion about Online Learning. The results of this study indicated that there are differences of opinion between students of the Department of Performing Arts Education and students of the Department of Pancasila and Citizenship Education regarding online learning as shown in Figure 4. In the Department of Performing Arts Education, male students said online learning was good (38%), average (38%), and poor (25%). Furthermore, female students said online learning was good (45%), average (3%), moderate (48%), and bad (3%). Meanwhile, in the Department of Pancasila and Civic Education, male students said online learning was good (65%), below average (5%), very good (10%), moderate (15%), and bad (5 %). Furthermore, female students said that online learning was good (59%), very good (2%), moderate (35%), and bad (4%). This means, there are two answers that are most dominantly chosen by students from both majors, both male students and female students, namely: online learning "already good" and "average".
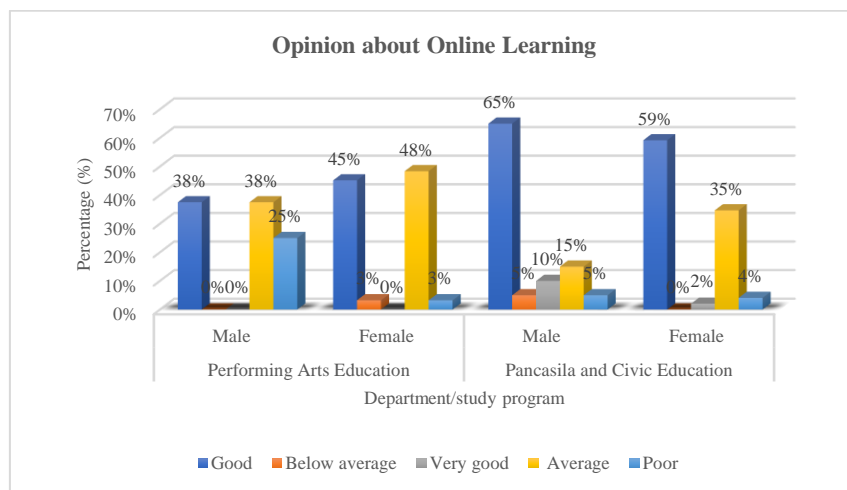

Figure 4. Opinion about Online Learning

As shown in Figure 5 below, there are differences between students of the Department of Performing Arts Education and students of Department of Pancasila and Civic Education in terms of having access to tools for online learning. In the Department of Performing Arts Education, male students answered yes (50%), and yes, but did not work well (50%), Furthermore, female students answered yes (58%), and yes, but did not perform well (42%). Meanwhile, in the Department of Pancasila and Civic Education, male students answered yes (70%), yes, but it didn't work well (25%), and no, I shared it with other people (5%). Furthermore, female students answered yes (78%), yes, but it didn't work well (20%), and no, I shared it with others (2%).
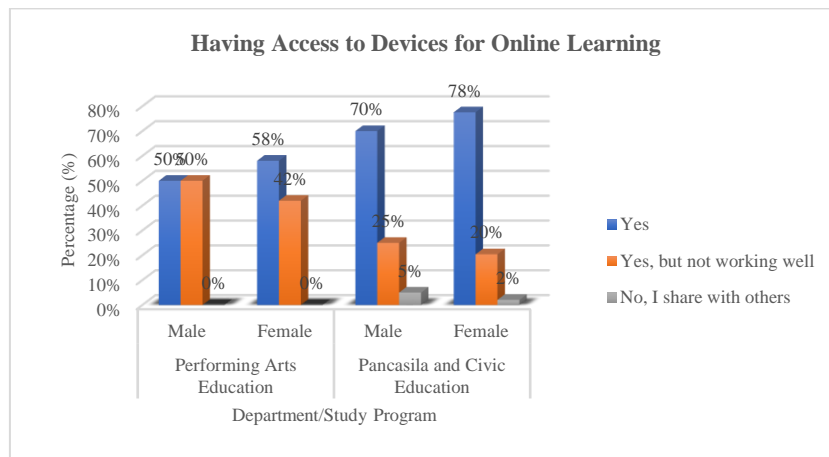
Figure 5. Having Access to Devices for Online Learning

From Figure 5 above, it can be concluded that although the majority of male and female students from both majors said that they had access to devices for online learning, some students also complained that their devices did not work well. Second, Online Learning Devices. The results of this study presents that there are differences between students of the Department of Performing Arts Education and students of Department of Pancasila and Civic Education in the use of online learning tools as shown in Figure 6. In the Department of Performing Arts Education, male students use laptops (50%) and smartphones (50%). Furthermore, female students sometimes use laptops, sometimes use smartphones (7%), laptops (48%), pc/computers (3%), and smartphones (42%). Meanwhile, in the Department of Pancasila and Civic Education, male students use laptops (25%), and smartphones (75%). Furthermore, female students use laptops (31%), smartphones (67%), and laptops and smartphones (2%).
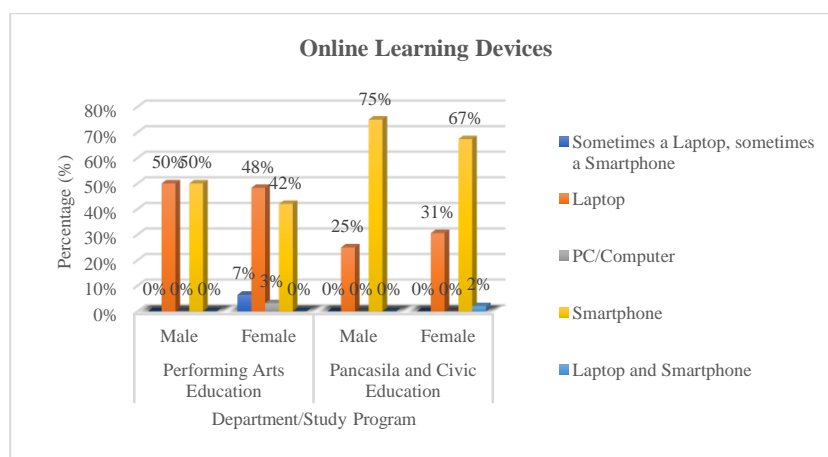

Figure 6. Online Learning Devices

From Figure 6 above, it can be concluded that students from both majors, both male and female students, are more dominant in using "laptops" and "smartphones" as online learning tools. Third, Online Learning Applications. The results of this study shows that students of the Department of Performing Arts Education and students of the Department of Pancasila and Civic Education have differences regarding the use of online learning applications as shown in Figure 7. In the Department of Performing Arts Education, male students said they used Zoom (100%). The same goes for female students. Female college students say they use Zoom (100%). Meanwhile, in the Department of Pancasila and Civic Education, male students said they used Zoom (80%), Google Meet (15%), and Google Classroom (5%). Furthermore, female students said they used (Zoom 80%), Google Meet (14%), Google Classroom (2%), Learning Management System (LMS) (2%), and Zoom, Google Meet, Google Classroom and Learning Management System (LMS) (2%).
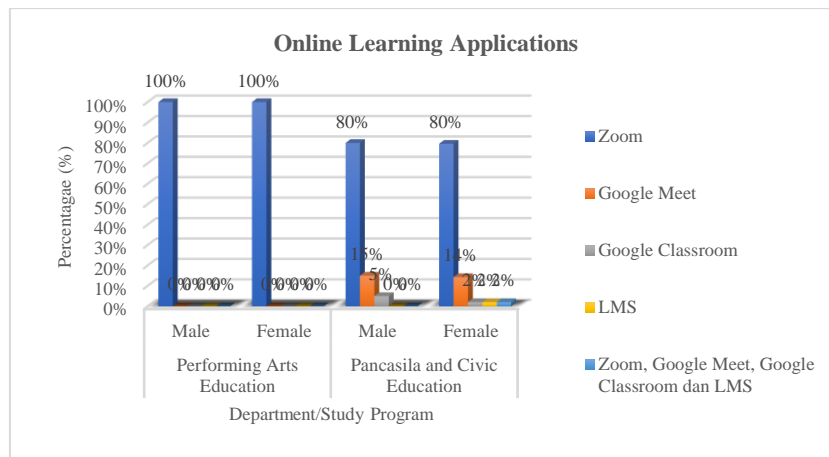
Figure 7. Online Learning Applications

From Figure 7 above, it can be concluded that students from both majors, both male students and female students, use the "Zoom" application as an online learning application more often than other online learning applications. Fourth, Average Time Spent Online Learning. The results of this study shows that there is a difference between the Department of Performing Arts Education and students of the Department of Pancasila and Civic Education regarding how much time students spend on online learning on average as shown in Figure 8. In the Department of Performing Arts Education, male students said an average of 3-5 hours (63%) and an average of 5-7 hours (38%). Furthermore, female college students said an average of 1-3 hours (16%), an average of 3-5 hours (29%), an average of 5-7 hours (45%), and an average of 7-10 hours (10%). Meanwhile, in the Department of Pancasila and Civic Education, male students said an average of 1-3 hours (25%), an average of 3-5 hours (45%), an average of 5-7 hours (15%), an average of 7-10 hours (5%) and an average of 10 hours (10%) Furthermore, female students said an average of 1-3 hours (16%), an average of 3-5 hours (45 %), an average of 5-7 hours (31%), and an average of 10 hours (8%).
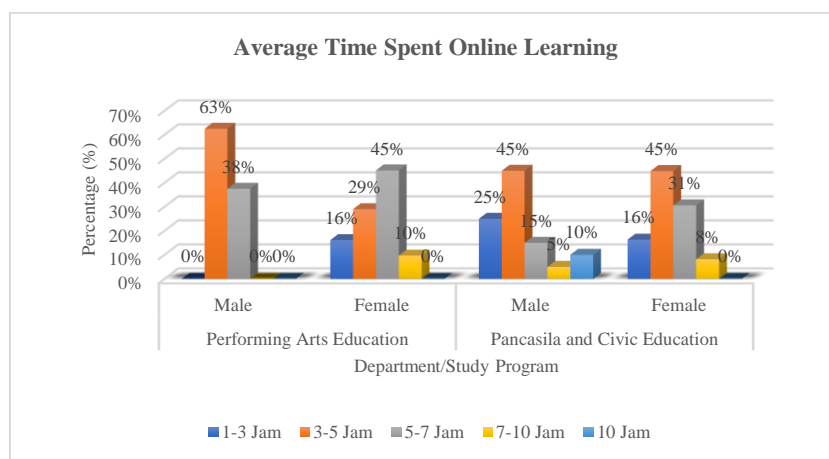

Figure 8. Average Time Spent Online Learning

From Figure 8 above, it can be concluded that students from both majors, both male and female students chose an average of "3-5 hours" and "5-7 hours" was the time spent on online learning. Fifth, Effectiveness of Online Learning. The results of this study shows that according to male students in the Department of Performing Arts Education, online learning is quite effective (25%) and slightly effective (75%) as shown in Figure 9. On the other hand, female students said online learning was quite effective (55%), not at all effective (10%), and slightly effective (35%). Meanwhile, according to male students in the Department of Pancasila and Civic Education, online learning is quite effective (50%), not at all effective (10%), very effective (10%), and slightly effective (30%). In contrast to female students who said online learning was quite effective (76%), not at all effective (4%), very effective (6%), and slightly effective (14%).
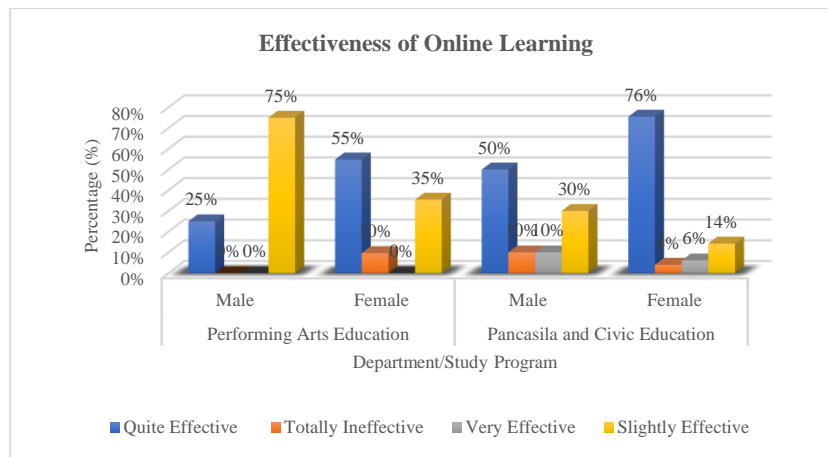
Figure 9. Effectiveness of Online Learning

From Figure 9 above, it can be concluded that students from both majors, both male and female students, said that online learning was "very effective and quite effective". Sixth, Campus Offers Resources for Learning from Home. The results of this study shows that students from two department said that campus institutions offer resources for learning from home. In the Department of Performing Arts Education, male students said they were quite helpful (75%) and slightly helpful (25%). Furthermore, female students said they were quite helpful (58%), not helpful at all (6%), very helpful (10%), and little help (26%). Meanwhile, male students in the Department of Pancasila and Civic Education said they were quite helpful (55%), not helpful at all (5%), very helpful (10%), and slightly helpful (30%). Furthermore, female students said they were quite helpful (45%), not helpful at all (16%), very helpful (6%), and little help (33%). It can be concluded that students from two department, both male and female students, said the campus had been "quite helpful" and "a little helpful" when offering students resources for studying from home. Seventh, Student Stress Level during Online Learning. The results of this study shows that there are differences in students' stress levels when learning online.

In the Department of Performing Arts Education, male students said they were a little stressed (13%), moderately stressed (38%), stressed (50%). Furthermore, not stressed (6%), slightly stressed (6%), moderately stressed (48%), stressed (32%), and very stressed (6%). Meanwhile, in the Department of Pancasila and Civic Education, male students said they were not stressed (5%), a little stressed (25%), moderately stressed (45%), stressed (20%), and very stressed (5%). Furthermore, female students said they were not stressed (4%), a little stressed (14%), moderately stressed (45%), stressed (24%), and very stressed (12%). It can be concluded that students from both majors, both male and female students, show different levels of stress when online learning is carried out. The majority of students answered "stress" and "a little stress" when learning online. Eigth, Managing Time while Online Learning. In general, the two majors have significant differences in managing time during online learning. In the Department of Performing Arts Education, male students said it was not good (13%), quite good (63%), and good (25%). Furthermore, female students said not good (3%), somewhat good (6%), quite good (61%), good (26%), and very good (3%). Meanwhile, in the Department of Pancasila and Civic Education, male students said it was quite good (45%), good (15%), and very good (40%). Furthermore, female students said slightly good (4%), quite good (33%), good (57%), and very good (6%). It can be concluded that students in the Department of Performing Arts Education, both male and female students, said they were "good enough" in managing time during online learning. Meanwhile, students in the Department of Pancasila and Civic Education showed differences. Male students said "good enough" and female students said "good" in managing time during online learning.

Nineth, Enjoying Online Learning. The results of this study show the difference in terms of whether they enjoy online learning. A male student in the Department of Performing Arts Education said not enjoying, there are some challenges (25%), not at all (13%), and enjoying, but want to change some things (63%). Furthermore, female college students said they are not enjoying it, there are some challenges (35%) and enjoying it, but want to change some things (65%). Meanwhile, male students in the Department of Pancasila and Civic Education said that they are not enjoying, there are some challenges (25%), not at all (5%), and enjoying, but want to change some things (50%), and very enjoy (20%). Furthermore, female students said they are not enjoying it, there are some challenges (24%), enjoying, but want to change some things (59%), and very enjoy (16%). Students from both majors said that they enjoyed online learning the most, but students wanted to change something. On the other hand, some

students said they did not enjoy online learning because there were several challenges. The results of this study shows that students in the two Departments have different answers about lecturers helping students when learning online. Male students in the Department of Performing Arts Education said quite helpful (88%), and very helpful (13%). Furthermore, female students said they were quite helpful (65%), very helpful (23%), and little help (13%). Meanwhile, male students in the Department of Pancasila and Civic Education said quite helpful (40%), very helpful (45%), and little help (15%). Furthermore, female students said they were quite helpful (49%), not helping at all (2%), very helpful (37%), and little help (12%). Students in the Department of Performing Arts Education, both male and female students, said that the lecturers were "quite helpful" when learning online. Meanwhile, students in the Department of Pancasila and Civic Education showed a slight difference. The male students said the lecturers had been "very helpful", but the female students said the lecturers had been "quite helpful" during online learning.

Discussion

One of the central arguments raised in this discussion pertains to the limitations of online learning when compared to conventional methods. It is a widely acknowledged fact that online learning, while serving as an alternative means of education, does not consistently deliver the same results as in-person instruction. The absence of face-to-face interaction can lead to reduced engagement, challenges in student-teacher relationships, and difficulties in maintaining students' focus and motivation (Cendana & Siswanto, 2022; Lince, 2022). Additionally, not all students have equal access to the internet, reliable devices, or a conducive learning environment, thus exacerbating the disparities in educational outcomes. While online learning relies on a plethora of internet applications to disseminate course materials and facilitate interaction between students and educators, it must be acknowledged that there are inherent limitations (Wahyuningsih, 2021; Zahro et al., 2021). The efficacy of online learning largely hinges on the availability of technology and internet access, making it inaccessible for many individuals. This issue underscores the importance of bridging the digital divide to ensure equitable access to education. Furthermore, the need for additional training of all educational stakeholders in using technology effectively is a crucial consideration for the success of online learning.

Students were asked to express their opinion about the online learning experience during the COVID-19 pandemic. From the findings, as summarized in Figure 4, the following can be reported; Online learning can be a satisfying experience for professional development to access continuing education and create a dynamic learning system that continuously interacts with students and modifies the content of online learning. offered according to student needs. This is proven by previous research which found that 95% of students had a moderate to high level of satisfaction with online classes for the opening semester of 2020. (Choi et al., 2021; Simamora, 2020). In addition, other research says online learning also improves students' skills and experience. Subsequent research also showed that students did not experience significant difficulties in accessing online learning (Chang, 2020; Syauqi et al., 2020). Based on previous studies, it was found that face-to-face learning perceptions were higher than online learning in terms of social presence, social interaction, satisfaction and added that younger students prefer face-to-face teaching and find it difficult to engage with lecturers and online peers, which might suggest that mixed learning may be introduced later in students' academic studies (Bali & Liu, 2018; Cranfield et al., 2021; Patricia, 2020). Previous research, also found that students face obstacles and difficulties during online learning (Erlangga, 2022; Xhelili et al., 2021). Only a small number of students find online learning easy and most students have to change their learning methods to adapt to online classes.

Some students realized that online education would be an opportunity to advance their education and professional development. However, achieving this requires large amounts of data and is expensive for students. Other research has also found that not all teachers and students have access to all digital devices, the internet, and Wi-Fi. Digital tools are not available, no internet connection, or Wi-Fi connection constraints cause a lot of problems and there are many students who miss learning opportunities. This inability will create a digital divide due to economic disparities among students (Agormedah et al., 2020; Dhawan, 2020; Hayashi et al., 2020). Based on previous research, all online meeting applications discussed in this study provide tangible benefits because video conferencing is proven to be more efficient, practical, and secure. The exchange of communication and a sense of togetherness is also maintained, although it can only be seen in visual and audio forms. The findings of previous research, show that lecturers and students can more easily interact synchronously in the learning process by applying the zoom meeting application to learning during this pandemic. It is evident from research conducted that online learning using the Zoom application reaches 93.75% and is reinforced that the application that is the most preferred by users is Zoom followed by Google Meet and Jitsi (Fajri et al., 2021; Gunawan et al., 2021; Ospina García et al., 2021; Pratama et al., 2020). Some students said that they experienced stress during online learning. It was also reported in previous studies that students had

difficulty concentrating, understanding the subject matter, feeling anxious about their exams and complaining that the assignments given by the lecturers were too many so that they could not focus on one task because other tasks must also be considered completed immediately (Al-Nofaie, 2020; Xhelili et al., 2021). In addition, reported that increased stress and anxiety and difficulty concentrating were caused not only by technology and instruction, but also social and affective challenges of isolation and social distance (Lemay et al., 2021; Syahrir et al., 2021). The results of previous studies show that people who tend to be self-disciplined in managing their time well, setting their study goals, consulting with people to solve learning problems, and being interested in their performance are people who are satisfied with the online learning environment. In addition, time management for online courses, access to reliable internet services and more freedom given to participants are increasingly challenging challenges in online learning while instructors urging them to stay on task are parameters that are less challenging in online courses. Most of the participants were satisfied with online courses because they can spend more time with their families (Khalil et al., 2020; Paudel, 2020; Pavan Kumar, 2021).

Based on research conducted shows that students enjoy online learning. Students became more participative, less anxious and able to do assignments while enjoying their online learning sessions (Abidah et al., 2020; Kamal et al., 2020). In addition, also found that students' enjoyment of interaction affects their decisions about class participation. Students are encouraged to express themselves and listen attentively to others in class, which creates a favourable climate for cooperative learning (Alhebaishi, 2019; Sugino, 2021). This study shows that participation, cooperation, and active engagement create positive feedback, promoting every aspect even in online settings. Based on the results of previous research, revealed that two dimensions of readiness need special attention: learner control and independent learning. Teachers may need to help students develop independent learning and student control skills and attitudes, especially for online learning contexts. For example, teachers may need to improve the clarity of their syllabus and course structure before students can direct themselves to take full control of their own learning. Thus, teachers can help students to build their own time and information management skills and can ensure adequate time for class participation. Teachers should design activities to draw students in: for example, encourage students to share real-life experiences and to vote for or comment on issues related to online courses. In addition, E-learning should not only be based on delivering content, but students should be able to work with the material and receive feedback. Successfully implementing online learning into the curriculum requires well-thought-out strategies and a more active approach (Bączek et al., 2021; Marchak et al., 2021). Overall, the research highlights the transformative impact of COVID-19 on traditional education systems, with a notable shift towards online learning in response to the pandemic. While it rightly underscores the challenges associated with internet access and technology for some students, the assertion that online learning is inherently less effective than conventional methods lacks specific data or evidence to substantiate it. The potential of online learning as the future of education is a familiar concept and recommendations for training stakeholders and government policies to address digital disparities align with existing discussions. To fully address the research goal, future studies should delve deeper into the effectiveness of online learning, the extent of internet access issues, and the impact of policy interventions, while also exploring innovative pedagogical changes that online learning can bring about, adding a fresh perspective to the discourse.

4. CONCLUSION

COVID-19 has had a tremendous impact on conventional learning methods in all educational institutions. Educational institutions such as academies, institutes, universities, and other colleges then choose to switch to online learning. Although online learning helps the teaching and learning process in the midst of the COVID-19 pandemic, in fact, online learning is not as effective as conventional learning. Online learning cannot give the desired results, and most students cannot access the internet due to technical and financial problems. Online learning makes use of various internet applications to distribute class materials and help students and educators interact with one another. By using adequate technology, educators can provide a more interactive online learning experience by providing real-time learning. Online learning is the future learning process and this platform has the potential for an overall change in teaching and learning pedagogy in the modern world. However, for online learning to run well, steps are needed to train all education stakeholders in using technology for online learning. Government/educational institutions should adopt policies to provide all students with affordable, easily accessible, free internet and adequate gadgets to encourage online learning so that students can engage during the lockdown and stay safe from the pandemic. Online learning is the best learning method right now because of the COVID-19 outbreak and in-depth studies are needed to further investigate the impact of online learning during the COVID-19 pandemic.

5. REFERENCES

Abidah, A., Hidaayatullaah, H. N., Simamora, R. M., Fehabutar, D., & Mutakinati, L. (2020). The Impact of Covid-19 to Indonesian Education and Its Relation to the Philosophy of "Merdeka Belajar". *Studies in Philosophy of Science and Education*, *1*(1), 38–49. https://doi.org/10.46627/sipose.v1i1.9.

Adnan, M. (2020). Online learning amid the COVID-19 pandemic: Students perspectives. *Journal of Pedagogical Sociology and Psychology*, *1*(2), 45–51. https://doi.org/10.33902/JPSP.2020261309.

Agormedah, E. K., Aduhenaku, E., Ayite, D. M. K., & Aporiansah, E. (2020). Online Learning in Higher Education during COVID-19 Pandemic: A case of Ghana. *Journal of Educational Technology and Online Learning*, *3*(3), 183–210. https://doi.org/10.31681/jetol.726441.

Al-Nofaie, H. (2020). Saudi University Students' Perceptions towards Virtual Education During Covid-19 Pandemic: A Case Study of Language Learning via Blackboard. *Arab World English Journal*, *11*(3), 4–20. https://doi.org/10.24093/awej/vol11no3.1.

Alhebaishi, S. M. (2019). Investigation of Cooperative Learning Techniques and Attitudes in Language Learning Classrooms. *International Journal of Applied Linguistics and English Literature*, *8*(2), 219. https://doi.org/10.7575/aiac.ijalel.v.8n.2p.219.

Baber, H. (2020). Determinants of Students ' Perceived Learning Outcome and Satisfaction in Online Learning during the Pandemic of COVID19. *Journal of Education and e-Learning Research*, *7*(3), 285–292. https://doi.org/10.20448/journal.509.2020.73.285.292.

Bączek, M., Zagańczyk-Bączek, M., Szpringer, M., Jaroszyński, A., & Wożakowska-Kapłon, B. (2021). Students' perception of online learning during the COVID-19 pandemic. *Medicine*, *100*(7), e24821. https://doi.org/10.1097/MD.0000000000024821.

Bali, S., & Liu, M. C. (2018). Students' perceptions toward online learning and face-to-face learning courses. *Journal of Physics: Conference Series*, *1108*(1). https://doi.org/10.1088/1742-6596/1108/1/012094.

Barrot, J. S., Llenares, I. I., & Del Rosario, L. S. (2021). Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Education and Information Technologies*, 1–18. https://doi.org/10.1007/s10639-021-10589-x.

Borba, M. C., Askar, P., Engelbrecht, J., Gadanidis, G., Llinares, S., & Aguilar, M. S. (2016). Blended learning, e-learning and mobile learning in mathematics education. *ZDM*, *48*(5), 589–610. https://doi.org/10.1007/s11858-016-0798-4.

Cendana, W., & Siswanto, E. (2022). Peningkatan Motivasi Belajar Siswa Kelas 1 Sekolah Dasar Melalui Pemberian Apresiasi Secara Sinkronus. *Cendekiawan*, *4*(1), 43–49. https://doi.org/10.35438/cendekiawan.v4i1.252.

Chang, H. S. (2020). Online Learning in Pandemic Times. *Revista Romaneasca pentru Educatie Multidimensionala*, *12*(2Sup1), 111–117. https://doi.org/10.18662/rrem/12.2Sup1/296.

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*(August), 100336. https://doi.org/10.1016/j.jhlste.2021.100336.

Coman, C., Țîru, L. G., Meseşan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online teaching and learning in higher education during the coronavirus pandemic: Students' perspective. *Sustainability (Switzerland)*, *12*(24), 1–22. https://doi.org/10.3390/su122410367.

Cranfield, D. J., Tick, A., Venter, I. M., Blignaut, R. J., & Renaud, K. (2021). Higher Education Students' Perceptions of Online Learning during COVID-19—A Comparative Study. *Education Sciences*, *11*(8), 403. https://doi.org/10.3390/educsci11080403.

Dalati, S., & Marx Gómez, J. (2018). *Surveys and Questionnaires* (bll 175–186). https://doi.org/10.1007/978-3-319-74173-4_10.

de Vaus, D. (2016). Survey Research. In *Research Methods for Postgraduates: Third Edition* (bll 202–213). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118763025.ch21.

Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, *49*(1), 5–22. https://doi.org/10.1177/0047239520934018.

Eid, M. A., & Al Osman, H. (2016). Affective Haptics: Current Research and Future Directions. *IEEE Access*, *4*, 26–40. https://doi.org/10.1109/ACCESS.2015.2497316.

Erlangga, D. T. (2022). Student Problems In Online Learning: Solutions To Keep Education Going On. *Journal of English Language Teaching and Learning*, *3*(1), 21–26. https://doi.org/10.33365/jeltl.v3i1.1694.

Fajri, Z., Baharun, H., Muali, C., Shofiatun, Farida, L., & Wahyuningtiyas, Y. (2021). Student's Learning Motivation and Interest; the Effectiveness of Online Learning during COVID-19 Pandemic. *Journal of Physics: Conference Series*, *1899*(1). https://doi.org/10.1088/1742-6596/1899/1/012178.

Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online Learning and Emergency Remote Teaching: Opportunities and Challenges in Emergency Situations. *Societies*, *10*(4), 86. https://doi.org/10.3390/soc10040086.

Freeman, G., & Wohn, D. Y. (2019). Understanding eSports Team Formation and Coordination. *Computer Supported Cooperative Work (CSCW)*, *28*(1–2), 95–126. https://doi.org/10.1007/s10606-017-9299-4.

Gunawan, G., Kristiawan, M., Risdianto, E., & Monicha, R. E. (2021). Application of the Zoom Meeting Application in Online Learning During the Pandemic. *Education Quarterly Reviews*, *4*(2). https://doi.org/10.31014/aior.1993.04.02.193.

Hayashi, R., Garcia, M., Maddawin, A., & Hewagamage, K. P. (2020). Online-Learning-Sri-Lanka-During-Covid-19. *Asian Development Bank*, *5*, 151. https://doi.org/10.22617/BRF200260-2.

Hendley, R. J., Beale, R., Bowers, C. P., Georgousopoulos, C., Vassiliou, C., Sergios, P., Moeller, R., Karstens, E., & Spiliotopoulos, D. (2014). CASAM: collaborative human-machine annotation of multimedia. *Multimedia Tools and Applications*, *70*(2), 1277–1308. https://doi.org/10.1007/s11042-012-1255-1.

Ionescu, C. A., Paschia, L., Gudanescu Nicolau, N. L., Stanescu, S. G., Neacsu Stancescu, V. M., Coman, M. D., & Uzlau, M. C. (2020). Sustainability Analysis of the E-Learning Education System during Pandemic Period—COVID-19 in Romania. *Sustainability*, *12*(21), 9030. https://doi.org/10.3390/su12219030.

Kamal, A. A., Mohd, N., Truna, L., Sabri, M., & N., S. (2020). Transitioning to Online Learning during COVID-19 Pandemic: Case Study of a Pre-University Centre in Malaysia. *International Journal of Advanced Computer Science and Applications*, *11*(6). https://doi.org/10.14569/IJACSA.2020.0110628.

Katz, V. S., Jordan, A. B., & Ognyanova, K. (2021). Digital inequality, faculty communication, and remote learning experiences during the COVID-19 pandemic: A survey of U.S. undergraduates. *PLOS ONE*, *16*(2), e0246641. https://doi.org/10.1371/journal.pone.0246641.

Khalil, R., Mansour, A. E., Fadda, W. A., Almisnid, K., Aldamegh, M., Al-Nafeesah, A., Alkhalifah, A., & Al-Wutayd, O. (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), 285. https://doi.org/10.1186/s12909-020-02208-z.

Lau, R. W. H., Yen, N. Y., Li, F., & Wah, B. (2014). Recent development in multimedia e-learning technologies. *World Wide Web*, *17*(2), 189–198. https://doi.org/10.1007/s11280-013-0206-8.

Lemay, D. J., Bazelais, P., & Doleck, T. (2021). Transition to online learning during the COVID-19 pandemic. *Computers in Human Behavior Reports*, *4*, 100130. https://doi.org/10.1016/j.chbr.2021.100130.

Lince, L. (2022). Implementasi Kurikulum Merdeka untuk Meningkatkan Motivasi Belajar pada Sekolah Menengah Kejuruan Pusat Keunggulan. *Prosiding Seminar Nasional Fakultas Tarbiyah dan Ilmu Keguruan IAIM Sinjai*, *1*, 38–49. https://doi.org/10.47435/sentikjar.v1i0.829.

Marchak, D., Shvarts-Serebro, I., & Blonder, R. (2021). Teaching Chemistry by a Creative Approach: Adapting a Teachers' Course for Active Remote Learning. *Journal of Chemical Education*, *98*(9), 2809–2819. https://doi.org/10.1021/acs.jchemed.0c01341.

Megahed, N., & Hassan, A. (2022). A blended learning strategy: reimagining the post-Covid-19 architectural education. *Archnet-IJAR: International Journal of Architectural Research*, *16*(1), 184–202. https://doi.org/10.1108/ARCH-04-2021-0081.

Moser, K. M., Wei, T., & Brenner, D. (2021). Remote teaching during COVID-19: Implications from a national survey of language educators. *System*, *97*, 102431. https://doi.org/10.1016/j.system.2020.102431.

Ospina García, N., Díaz Velásquez, M. F., Tavera Romero, C. A., Ortiz Monedero, J. H., & Khalaf, O. I. (2021). Remote Academic Platforms in Times of a Pandemic. *International Journal of Emerging Technologies in Learning (iJET)*, *16*(21), 121. https://doi.org/10.3991/ijet.v16i21.25377.

Patricia, A. (2020). College Students' Use and Acceptance of Emergency Online Learning Due to COVID-19. *International Journal of Educational Research Open*, *1*(1), 100011. https://doi.org/10.1016/j.ijedro.2020.100011.

Paudel, P. (2020). Online Education: Benefits, Challenges and Strategies During and After COVID-19 in Higher Education. *International Journal on Studies in Education*, *3*(2), 70–85. https://doi.org/10.46328/ijonse.32.

Pavan Kumar, S. (2021). Impact of Online Learning Readiness on Students Satisfaction in Higher Educational Institutions. *Journal of Engineering Education Transformations*, *34*, 64. https://doi.org/10.16920/jeet/2021/v34i0/157107.

Pratama, H., Azman, M. N. A., Gulzhaina K. Kassymova, & Duisenbayeva, S. S. (2020). The Trend in Using Online Meeting Applications for Learning During the Period of Pandemic COVID-19 : A Literature

Review. *Journal of Innovation in Educational and Cultural Research*, *1*(2), 58–68. https://doi.org/10.46843/jiecr.v1i2.15.

Saleh, M. M., Abdelkader, M., & Hosny, S. S. (2023). Architectural education challenges and opportunities in a post-pandemic digital age. *Ain Shams Engineering Journal*, *14*(8), 102027. https://doi.org/10.1016/j.asej.2022.102027.

Sandars, J., Correia, R., Dankbaar, M., de Jong, P., Goh, P. S., Hege, I., Masters, K., Oh, S.-Y., Patel, R., Premkumar, K., Webb, A., & Pusic, M. (2020). Twelve tips for rapidly migrating to online learning during the COVID-19 pandemic. *MedEdPublish*, *9*, 82. https://doi.org/10.15694/mep.2020.000082.1.

Simamora, R. M. (2020). The Challenges of Online Learning during the COVID-19 Pandemic: An Essay Analysis of Performing Arts Education Students. *Studies in Learning and Teaching*, *1*(2), 86–103. https://doi.org/10.46627/silet.v1i2.38.

Singh, H., & Miah, S. J. (2019). Design of a mobile-based learning management system for incorporating employment demands: Case context of an Australian University. *Education and Information Technologies*, *24*(2), 995–1014. https://doi.org/10.1007/s10639-018-9816-1.

Singh, H., & Miah, S. J. (2020). Smart education literature: A theoretical analysis. *Education and Information Technologies*, *25*(4), 3299–3328. https://doi.org/10.1007/s10639-020-10116-4.

Sugino, C. (2021). Student Perceptions of a Synchronous Online Cooperative Learning Course in a Japanese Women's University during the COVID-19 Pandemic. *Education Sciences*, *11*(5), 231. https://doi.org/10.3390/educsci11050231.

Sutrisno, A. B., & Syukur, S. W. (2023). Tantangan Pembelajaran Daring di Masa Pandemi COVID-19: Analisis Esai Mahasiswa Pendidikan Seni Pertunjukan. *Jurnal Dieksis Id*, *3*(2), 112–127. https://doi.org/10.54065/dieksis.3.2.2023.345.

Syahrir, S., Supriyati, Y., & Fauzi, A. (2021). Evaluasi Dampak Program Pendidikan Jarak Jauh (PJJ) melalui model CIPP pada Kinerja Dosen aspek Pembelajaran pada Masa Pendemi Covid 19. *Jurnal Ilmiah Mandala Education*, *7*(1). https://doi.org/10.58258/jime.v7i1.1716.

Syauqi, K., Munadi, S., & Triyono, M. B. (2020). Students' perceptions toward vocational education on online learning during the COVID-19 pandemic. *International Journal of Evaluation and Research in Education (IJERE)*, *9*(4), 881. https://doi.org/10.11591/ijere.v9i4.20766.

Vilchez, J. A., Kruse, J., Puffer, M., & Dudovitz, R. N. (2021). Teachers and School Health Leaders' Perspectives on Distance Learning Physical Education During the <scp>COVID</scp> -19 Pandemic. *Journal of School Health*, *91*(7), 541–549. https://doi.org/10.1111/josh.13030.

Wahyuningsih, K. S. (2021). Problematika Pembelajaran Daring Di Masa Pandemi Covid-19 Di Sma Dharma Praja Denpasar. *PANGKAJA: JURNAL AGAMA HINDU*, *24*(1), 107. https://doi.org/10.25078/pkj.v24i1.2185.

Xhelili, P., Ibrahimi, E., Rruci, E., & Sheme, K. (2021). Adaptation and Perception of Online Learning during COVID-19 Pandemic by Albanian University Students. *International Journal on Studies in Education*, *3*(2), 103–111. https://doi.org/10.46328/ijonse.49.

Yan, L., Whitelock-Wainwright, A., Guan, Q., Wen, G., Gašević, D., & Chen, G. (2021). Students' experience of online learning during the COVID-19 pandemic: A province-wide survey study. *British Journal of Educational Technology*, *52*(5), 2038–2057. https://doi.org/10.1111/bjet.13102.

Zahro, I. F., Amalia, R., & Sugito, S. (2021). Deskripsi Kemandirian Siswa dalam Pembelajaran Daring Pada Masa Pandemi Covid. *Attanwir: Jurnal Keislaman dan Pendidikan*, *12*(1), 63–75. https://doi.org/10.53915/jurnalkeislamandanpendidikan.v12i1.50.