



Barriers to Achieving Quality Distance Learning during and after the COVID-19 Pandemic

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Abstract: This study aims to compare the obstacles faced by students in distance learning during the COVID-19 pandemic and after. It describes these encountered in achieving quality online learning processes during the COVID-19 pandemic based on students' multiple intelligence, especially interpersonal and intrapersonal. Using a descriptive approach through online learning questionnaires with a selected sample of 23 students, the authors concluded that the students encountered personal, pedagogical, technical, financial, and organizational barriers. They also discovered that most students experienced difficulty in accessing internet networks and devices, while a few experienced problems following and understanding the online processes. Students with interpersonal intelligence have the highest learning personal barriers. However, students with intrapersonal intelligence have higher barriers to pedagogical, technical, financial, and organizational aspects than interpersonal students. However, after the COVID-19 pandemic, there was no significant difference in the obstacles experienced by intrapersonal intelligence students compared with interpersonal intelligence students.

Keywords: learning barriers, distance learning, COVID-19 pandemic, intrapersonal and interpersonal intelligence.

在新冠肺炎大流行期間和之後實現高質量遠程學習的障礙

摘要：本研究旨在比較新冠肺炎大流行期間及之後學生在遠程學習中面臨的障。它描述了在新冠肺炎大流行期間基於學生的多元智能，尤其是人際關係和自我內心實現高質量在線學習過程中遇到的這些問題。通過對23名學生的選定樣本進行在線學習問卷調查，作者使用描述性方法得出結論，這些學生遇到了個人、教學、技術、財務和組織方面的障礙。他們還發現，大多數學生在訪問互聯網網絡和設備時遇到困難，而少數學生在遵循和理解在線流程方面遇到問題。具有人際交往能力的學生具有最高的學習個人障礙。然而，與人際交往能力強的學生相比，具有自我內省能力的學生在教學、技術、財務和組織方面的障礙更高。然而，在新冠肺炎大流行之後，與人際交往智能學生相比，自我內心智能學生所經歷的障礙沒有顯著差異。

关键词：學習障礙、遠程學習、新冠肺炎 大流行、內省和人際交往智能。

1. Introduction

President Joko Widodo first confirmed COVID-19 in Indonesia on March 2, 2020. Currently, about 200 countries are affected by the pandemic with 17,000,000 positive cases. Worldwide, 91.3% or around 1.5 billion students cannot attend school including 45 million students in Indonesia. This led to the closure of schools to avoid a wider spread of the virus. The government replaced the face-to-face learning process with home online learning.

The Minister of Education and Culture of Indonesia issued Circular Letter Number 4 of 2020. This circular focused on implementing education Policies during COVID-19 under the following conditions. First, home learning provided a meaningful learning experience for students without any requirement to complete all curriculum achievements necessary for grade promotion or graduation. Second, this learning process focused on facilitating the acquisition of life skills such as COVID-19 coping skills. Third, learning activities and assignments varied between students according to their interests and conditions. Finally, evidence or products from home learning was in the form of qualitative and helpful feedback from the teacher, without any required quantitative scores/ values.

Online learning is an interactive process used to acquire knowledge and skills through various electronic media using technological devices [1]. It also is a learning process experienced in a synchronous or asynchronous environment where students can communicate with lecturers anywhere and share ideas with friends through different devices and instruments. The devices include handphones, tablets, and laptops [2]. Distance learning is all learning methods and levels of education in which the students do not receive direct and continuous supervision from the teacher in a traditional classroom. However, the educational process still follows the planning, organization, and direction of the educational institution and teacher. Distance learning is an interactive learning process outside educational institutions in which teachers' information and knowledge reach students using technical means and electronic media.

The American Association for Distance Learning (USDLA) defines distance learning as acquiring knowledge and skills for educational purposes through various media and technological devices. Subsequently, distance learning is an educational process that enables the ease of communication between teachers and students through different media, such as publications and modern audio-visual communication technology. Online learning also is a learning experience conducted

in a synchronous or asynchronous environment using abovementioned devices and instruments. Therefore, students can study and interact with their instructors and colleagues anywhere as long as there is internet access.

Higher education worldwide widely applies distance education, creating several challenges for universities' science and technology innovations to facilitate distance learning procedures. Additionally, technological developments should take advantage of while delivering the curriculum to students. [3] summarizes the transformations that universities should perform to suit the development of science as a shift from rigidity to flexibility, minimal skills to mastery and quality, from information contemplation to creativity and innovation, and limited education to lifelong learning.

Social and technological developments have strongly impacted the education sector. The role of lecturers in universities and other higher education institutions becomes reduced as students spend more time in front of the computer to obtain information from various universities. Meanwhile, the technology sector of higher education initiatives has begun managing, adapting, recording, and transforming traditional learning materials, such as messages, radio, and television, into virtual learning materials on the Internet. Therefore, to facilitate this transition, distance education methods are needed.

Recent developments showed that distance education is an efficient, targeted, and essential means of acquiring knowledge. Moreover, people who fail to adopt this learning system are considered less developed and discover that acclimatization is difficult in this information age. This learning system uses the theory of student independence, in which teachers and students are physically separated and only interact through modern means of communication [4]. Furthermore, during the pandemic, online platforms such as video conferencing, online discussions, and access to free lectures are urgently necessary.

In implementing the online learning process during the COVID-19 pandemic, teachers need to choose and use the correct distance education methods. These methods enabled teaching and learning processes to continue despite the crisis. Adapting online learning requires the readiness of the educators (teachers) and students and appropriate technology that is possible through various platforms, such as video conferencing and learning management systems that include Google Classroom and E-learning portals owned by schools or universities; video conferencing applications include

Zoom, Google Meet, and Visco Webex.

Many lecturers experience difficulties while using these applications due to the limitations of distance learning support facilities such as technical support and internet networks. Additionally, the availability of a strong internet connection is necessary to use student feedback as an alternative to face-to-face classes [5]. Therefore, the online teaching system challenges the current teaching and learning process [1].

Some obstacles encountered during distance learning at the intermediate and university level include lack of time, unavailability of infrastructure, and inadequate digital content. The availability of adequate technological infrastructure, such as learning tools and digital learning resources (e-books, e-notes), is crucial to online learning. Factors to consider during e-learning include teacher instructions, content, motivation, relationships, and students' mental health [6]. Students usually wanted materials and assignments for explaining online using voice notes [7]. The obstacles encountered during online learning include the lack of free internet access, financial problems, and online learning applications.

Barriers to online learning occur mainly due to the lack of preparation by students for the transition into the lecture system. Such obstacles include the inability of students to ask lecturers questions directly, lack of modern communication devices by both lecturers and students, and limited internet quota because most students do not possess Wi-Fi facilities in their homes, so they must buy internet packages. Another obstacle encountered includes the dual role of lecturers and students at home. Lecturers also act as parents, wives, or husbands.

In dealing with these obstacles, students have different abilities to overcome them. One of the determining factors is the students' multiple intelligence, known as Multiple Intelligences [8]. Multiple intelligence consists of linguistic intelligence, logical-mathematical intelligence, spatial dimensional intelligence (spatial), musical intelligence, kinesthetic intelligence, interpersonal intelligence, intrapersonal intelligence, and naturalist intelligence. The intelligence of one person with another tended to be different. Factors influencing intelligence are innate, interest factors and distinctive traits, formation, maturity, and freedom factors [9]. [8] revealed the importance of intrapersonal intelligence and interpersonal intelligence. These two types of intelligence are equally important as the basic foundation of all intelligence. Intrapersonal intelligence is intelligence that shows students' ability to understand them. They have high sensitivity in themselves and can realize the changes that occur within them physically and psychologically. They have high sensitivity to understanding moods and emotions that arise within them, and they can also realize the changes that occur

within them physically and psychologically [10, 11]. Strong intrapersonal intelligence will put a person to success and vice versa, weak one will expose a person to frustration and failure.

People with high intrapersonal intelligence generally have strong self-confidence and like to work on their programs and only do it alone. Three aspects include intrapersonal intelligence, namely (1) self-awareness, which includes emotional awareness, assertiveness, self-esteem, independence, and self-actualization; (2) knowing what he wants and where his life is going; and (3) knowing what is essential, especially when prioritizing one goal over another and when thinking about the interests of others [10]. In learning mathematics, they do deep reflection and self-motivation to find the meaning of a mathematical formula. This statement means that students more easily understand mathematical concepts if they construct their mathematical ideas.

Interpersonal intelligence shows students' ability to relate to other people. They can empathize well and establish harmonious relationships with others [8, 12–14]. Students with high interpersonal intelligence will be able to effectively communicate, empathize well and develop harmonious relationships with others. They can quickly understand the temperament, nature, and personality of others and can understand the moods, motives, and intentions of others [15]. All these abilities will make them more successful in interacting with other people.

This study aims to compare the obstacles faced by students with interpersonal and intrapersonal intelligence in distance learning during COVID-19 and after.

2. Methods

This study used a qualitative descriptive approach conducted online, collecting primary data through online questionnaires. The instruments used are a learning barriers questionnaire during and after the COVID-19 period and a multiple intelligence questionnaire. The respondents were 23 students who experienced the impact of the COVID-19 pandemic. Furthermore, supporting data were available in secondary data from documents, articles, or news related to online learning during COVID-19. The results were obtained from the Google Form filled out by the respondents and analyzed descriptively. The results of this study are in the form of a description of student learning barriers in terms of intrapersonal and interpersonal intelligence. The data analysis used is a descriptive narrative using the Miles and Huberman models [16], namely: 1) data reduction, 2) data display, and 3) conclusion drawing/verification. The data were processed using a one-way ANOVA test to see differences in student barriers based on the barrier type in obstacles; in the post-COVID-19 periods, the t-test

was used.

3. Results

The barriers to achieving online learning can be categorized into different aspects. These barriers occur either in the preparation, during, and outside the learning process. They can be categorized into four groups, which include personal, pedagogical, technical, financial, and organizational barriers. These groups were obtained through an online learning questionnaire. Table 1 shows the barriers to achieving quality online learning during COVID-19.

Table 1 Barriers to the implementation of online learning during the COVID-19 pandemic (Developed by the authors)

Barrier Type	Barrier	Average
1. Personal Barriers	Online Learning Motivation	2.05
	Difficulty in Managing Time	2.25
	Fear of being Infected with COVID-19	1.90
2. Pedagogical Barriers	Difficulty in Obtaining Teaching Materials	2.30
	Learning Atmosphere	2.01
	Clarity of Submission of Materials/ Assignments by Lecturers	2.49
	Availability of Time for Assignment	2.45
	Internet Connection	2.51
3. Technical Barriers	Equipment Used	2.80
	Cost	2.30
4. Financial and Organizational Barriers		

The description of learning barrier data in terms of interpersonal and intrapersonal intelligence can be seen in Table 2.

Table 2 Description of learning barrier data of interpersonal and intrapersonal intelligence (Developed by the authors)

Obstacle	Inter_Intra	Mean	Std. deviation	N
1	1.00	2.1462	.82698	130
	2.00	2.1636	.79594	110
	Total	2.1542	.81126	240
2	1.00	2.2885	.89897	416
	2.00	2.2465	.90384	353
	Total	2.2692	.90087	769
3	1.00	2.6250	.88337	104
	2.00	2.6477	.92276	88
	Total	2.6354	.89933	192
4	1.00	2.1538	1.06819	13
	2.00	2.6364	1.20605	11
	Total	2.3750	1.13492	24
Total	1.00	2.3107	.89645	663
	2.00	2.3007	.90570	562
	Total	2.3061	.90035	1225

Table 2 shows that the average learning barrier of students with intrapersonal intelligence is higher than students with interpersonal intelligence on personal barriers (2.16), technical barriers (2.65), and financial barriers (2.64). The pedagogical barriers for students

with interpersonal intelligence are higher than for students with intrapersonal intelligence (2.29). Barriers that get the highest average are technical (2.64), and the smallest are pedagogical barriers (2.15).

Table 3 shows the differences in learning barriers based on the barrier types and multiple intelligences. The results of the differences in barriers experienced by students with interpersonal and intrapersonal intelligence used the one-way ANOVA test. The test results showed a significant difference between the barrier types because of the value of sig. = 0.000 is less than the value of 0.05. As for multiple intelligences, there is no significant difference in learning barriers between interpersonal and intrapersonal intelligence students because of sig. = 0.239 is more than 0.05.

Table 3 Results of the one-way ANOVA test of learning barriers in terms of interpersonal and intrapersonal intelligence (Developed by the authors)

Source	Type III Sum of squares	df	Mean square	F	Sig.
Corrected Model	29.291 ^a	7	4.184	5.289	.000
Intercept	1695.666	1	1695.666	2143.108	.000
Hanbatan	27.575	3	9.192	11.617	.000
Inter_Intra	1.096	1	1.096	1.385	.239
Hanbatan *	1.737	3	.579	.732	.533
Inter_Intra					
Error	962.913	1217	.791		
Total	7507.000	1225			
Corrected Total	992.204	1224			

To see the further influence between learning barriers and multiple intelligences, the LSD test was carried out, as shown in Table 4.

Table 4 LSD advanced test results between learning barriers and interpersonal and intrapersonal intelligence (Developed by the authors)

(I) Barrier	(J) Barrier	Mean difference (I-J)	Std. error	Sig.	95% Confidence interval	
					Lower bound	Upper bound
1.00	2.00	-.1150	.06577	.081	-.2440	.0140
	3.00	-.4813*	.08613	.000	-.6502	-.3123
	4.00	-.2208	.19043	.246	-.5944	.1528
2.00	1.00	.1150	.06577	.081	-.0140	.2440
	3.00	-.3662*	.07176	.000	-.5070	-.2254
	4.00	-.1058	.18438	.566	-.4676	.2559
3.00	1.00	.4813*	.08613	.000	.3123	.6502
	2.00	.3662*	.07176	.000	.2254	.5070
	4.00	.2604	.19258	.177	-.1174	.6382
4.00	1.00	.2208	.19043	.246	-.1528	.5944
	2.00	.1058	.18438	.566	-.2559	.4676
	3.00	-.2604	.19258	.177	-.6382	.1174

Table 4 shows a significant difference between personal and technical barriers because of the value of sig. = 0.000 less than 0.05. Likewise, there is the same between pedagogical and technical barriers.

Furthermore, the obstacles that students experienced after COVID-19 were generally reviewed from all

existing aspects. Table 5 shows the data processed using the t-test.

Table 5 Mean differences in interpersonal and intrapersonal students' learning barriers (Developed by the authors)

Group	N	Mean	t	Sig. (2-tailed)
Interpersonal	29	2.41	- 0.622	0.537
Intrapersonal	21	2.52		

Table 5 shows the value of Sig. (2-tailed) = 0.537 more than 0.05 means no difference in learning barriers between Interpersonal and Intrapersonal students.

Generally, there was no difference in the barriers experienced by students with intrapersonal and interpersonal intelligence, both during COVID-19 and after COVID-19. However, both of them experienced difficulties in following lessons during COVID-19 on the aspects of Personal Barriers and Technical Barriers. In the personal barriers aspect, students have difficulties in time management and learning motivation at home [7]. In the technical barriers aspect, students have difficulty with the internet connection. The internet signal is often interrupted because the students live in a place far from the signal source [14]. Additionally, they also have difficulty in terms of gadget possession since they lack funds.

4. Discussion

Many obstacles hinder online learning, such as flexibility of time and location and student differences. Students experience problems with limited and inadequate use of technology and the ability to use this technology in learning [17]. Multiple intelligence factors also significantly influence the process and outcomes of learning mathematics. Intelligence that is quite important to note is Interpersonal and Intrapersonal intelligence. These two bits of intelligence have different characteristics and are very influential in learning mathematics. The following are barriers to online learning experienced by students.

4.1. Personal Barriers

Personal barriers include a lack of motivation for online learning arising from inexperience in self-study online. Additionally, students experience difficulty in managing their study time at home due to the lack of a favorable atmosphere. They must share their study time with various activities and share the existing devices with their younger siblings. Students with interpersonal intelligence obtained an average of less than intrapersonal intelligence. This fact means that interpersonal intelligence has less difficulty than intrapersonal intelligence. Because students with interpersonal intelligence like to use social network interactions, they are delighted to do it by chatting or teleconferencing and participating in talk shows. They also can adapt to the environment with different groups with feedback from others [18].

Several previous studies also reported barriers to online learning related to personal barriers, stating that online learning was less comfortable because most families only had one laptop and more than two people had to study. Furthermore, due to the economic limitations of parents, the study room was usually unavailable. As a result, only a few students enjoyed online learning due to the knowledge gained regarding using technology for learning. Similarly, some studies also discovered that a lack of motivation in online learning led to poor results. A case study [19] discovered that around 20% of lecturers and 13% of Arab students were not confident that online learning was the most ideal learning process.

Online learning also impacted parents as many preferred for their children to study in school rather than through online processes as it increased the internet bill. However, the benefits included an increase in the time parents spend monitoring their children's learning [20].

[21] stated that (1) 46.50% of students attributed their lack of enthusiasm for learning to the lack of attention from parents, (2) 61.25% of students claimed that the socioeconomic conditions of their families did not support online learning, and (3) 60.50% of students stated that the atmosphere around the house did not support online learning because of the crowd.

[22] showed that some lecturers were unsure of the benefits of online learning, which is consistent with the negative perception of some lecturers toward e-learning. Additionally, the lack of sufficient trust among lecturers and students regarding the importance of distance learning and its various advantages is consistent with those who stated that teachers were afraid that their role in the educational process will be reduced to educational software designers and technology specialists.

[23] reported that 65.27% of students stated that their parents did not teach them how to use the internet for online learning, while 75.89% admitted that their parents supervised them, enabling them to have sufficient study materials for online learning. However, 73.69% stated that they were unhappy with online learning.

4.2. Pedagogical Barriers

Pedagogical barriers include difficulty obtaining teaching materials, managing time, learning atmosphere, clarity of delivery of materials and assignments by lecturers, and availability of time to collect them. During online learning, most students have difficulty obtaining easy [20] teaching materials to help them in understanding a concept because existing teaching materials, which are generally in the form of unspecialized texts, are difficult for students to understand.

Students also encountered difficulty understanding

the material delivered online presented in the form of e-books made available per chapter, PowerPoint slides, and learning videos, resulting in a limited understanding of the concept, causing many to rely on their interpretation. However, some could ask for further explanation of the material submitted online [20].

Another barrier faced was the inability of the lecturers to use the appropriate technology in online learning because most lecturers could not operate computers adequately during learning activities. They also could not access materials due to the unstable internet network, use various learning applications, and make their learning media/videos, and so on.

Students with intrapersonal intelligence obtained an average of less than interpersonal intelligence. This fact means that intrapersonal intelligence has less difficulty than interpersonal intelligence. Because students with intrapersonal intelligence have advantages in self-regulation, they can understand their feelings and knowledge of self-knowledge, including their strengths and weaknesses. Thus, they can find ways and solutions to express their feelings and thoughts and develop an accurate self-model [18]. They also have high self-confidence and like to work on their program and only do it alone.

[21] reported that most students' encountered learning difficulties during the COVID-19 pandemic, which originated from the lecturers. These difficulties include (1) 55.50% stated that the lecturers did not use varied learning media while teaching, (2) 49.50% stated that their lecturers did not offer guidance during online learning, (3) 49.25% stated that the lecturer only gave assignments without explanation, (4) 52.50% stated that lecturers did not return assignments given, and (5) 5.00% stated that the learning method used by the lecturer was less attractive.

[23] stated that more than 76% of students condemned online learning as ineffective. 86.31% stated that understanding concepts were more difficult while studying alone compared to with friends and teachers. 77.9% claimed that contacting lecturers helped them learn and improve their understanding of concepts. 64.21% stated that learning online helped in improving their ICT skills. 96.84% of the respondents claimed that the type of learning applications used by their lecturers was easily understandable. However, 94.74% admitted that they had to receive an orientation on the applications used before learning.

4.3. Technical Barriers

Technical barriers include unstable internet connection and difficulty obtaining learning equipment (laptop or cell phone). Most students found it difficult to access the e-learning platform when studying online as most live in areas with limited internet access. Therefore, they could not accept assignments given by

lecturers either through WhatsApp or virtual classes.

Technological literacy was another obstacle encountered by both lecturers and students. Many lecturers found it difficult to design teaching materials that were easy to understand through online learning devices [20]. Moreover, many technology-savvy students were still limited to learning tools such as android phones or laptops, that worse for the underprivileged students as they had no choice but to borrow to study. Another obstacle encountered was the availability of the internet quota. Students with interpersonal intelligence obtained, on average, fewer technical barriers than intrapersonal intelligence. This fact means that interpersonal intelligence has fewer technical difficulties than intrapersonal intelligence. Because students with interpersonal intelligence like to use social network interactions, they will try their best to overcome technical problems [17].

Several previous studies also reported obstacles in online learning from a technical aspect. [21] reported that the obstacles faced by students because of learning facilities and infrastructure are as follows : (1) 449.75% did not possess devices that supported online learning (laptop, handphone), (2) 72.50% stated that the signal in their area did not support online learning, and (3) 64% stated that the atmosphere at home was not conducive for online learning.

[23] reported that 72.63% of students stated that they had adequate internet access to conduct online learning. However, 85.26% felt that the online learning system was less effective than face-to-face methods.

4.4. Financial and Organizational Barriers

Financial and organizational barriers include costs incurred during online learning and lack of knowledge in using various online learning applications. [19] discovered that around 82% of lecturers and 51.7% of Arab university students were less proficient in using online learning applications. Therefore, it led to confusion in receiving information and understanding lessons by the students.

Lecturers were unable to guarantee students' honesty during online exams. Additionally, problems regarding the security and confidentiality of data on the internet also affected the lecture process and students' exam results [19]. Many students were constrained by the lack of internet access and online learning devices such as laptops or handphones. Students with interpersonal intelligence obtained an average of less than intrapersonal intelligence. This fact means that interpersonal intelligence has less difficulty than intrapersonal intelligence because students with interpersonal intelligence like to learn very well when in a situation that builds interaction with one another [17]. They are highly productive and thrive when learning cooperatively and collaboratively. They know and use various ways of relating to others. Participate

in collaborative activities and accept the strengths and weaknesses of others in an organization [18].

Previous research found several learning barriers experienced by students with intrapersonal intelligence, including difficulties in communicating orally [24, 25]. Oral mathematical communication is the ability of students to express mathematical ideas through words. In other words, students with intrapersonal intelligence tend to be passive in speaking. They usually express their ideas or thoughts in a written form. Another obstacle is the lack of awareness and responsibility toward themselves to improve the quality of learning [26]. [27] explains several intrapersonal conflicts that students experience when learning mathematics, namely:

1. Approach-Approach conflict shows a state of indecision, doubt, and aggression.
2. Avoidance-Avoidance conflict shows fear, anxiety, and shame.
3. Approach-Avoidance conflict shows a state of doubt, anxiety, and embarrassment.

Most students are afraid to do math problems in front of the class. This situation means that unstable emotional and psychological conditions cause intrapersonal conflicts when learning mathematics [27]. The learning barriers of students with intrapersonal intelligence have also been previously studied by [28], which showed that students could not understand their strengths and weaknesses. They do not know what they want and what is essential. This statement contradicts the opinion of [29], which stated that students with high intrapersonal intelligence tend to have a deep understanding of themselves, what their strengths or weaknesses are, and what makes them unique, emphasizing that strong intrapersonal intelligence will set someone up for success, and vice versa, weak intrapersonal intelligence will lead to frustration and failure. However, sincere praise, non-criticism, positive support, respect for students' choices, and a willingness to listen to their stories and ideas are stimulants that can be used to increase students' intrapersonal intelligence [30].

Students with interpersonal intelligence also experience difficulties when learning mathematics, such as difficulty in written communication [25]. Mathematical written communication is the ability of students to convey and receive mathematical ideas in written form. Some students are less able to create effective conversations [31], less involved in conveying arguments and slow in receiving information [32], and difficult to work in a group. [33, 34] revealed that some students did not yet have empathy. Empathy is a factor that influences interpersonal intelligence. When a person has empathy for other people, that person understands other people better and can assist others [35].

The lack of self-confidence affects the development

of students' interpersonal intelligence [36], [37]. This statement occurs when students get some problems; they tend to look at their friends' work and are unsure of their answers [38]. Someone with high self-confidence will not be nervous about facing problems, never gives up, and is happy to learn [39]. [40] emphasized that the higher a person's self-confidence, the higher the person's speaking skills. Conversely, people who have low self-esteem always avoid communication activities.

Without interpersonal intelligence, students will find it difficult to establish social relationships with other people [34] and express their ideas [40]. [32] stated that students with high interpersonal intelligence prefer to study in groups, whereas students with low interpersonal intelligence prefer individual learning. To improve interpersonal intelligence, teachers can provide interesting tasks that students must complete in groups to train students' cooperation, empathy, and social interaction. Additionally, teachers can also apply problem-based learning models [38] and role-playing methods [41] in developing students' interpersonal intelligence.

5. Conclusion

Barriers experienced by students during online learning include personal, pedagogical, technical, financial, and organizational barriers. Furthermore, most students experienced many difficulties accessing internet networks and devices, while fewer students found it difficult to follow and understand the online learning process. Interpersonal intelligence students experience higher barriers than intrapersonal intelligence on aspects of personal barriers. Intrapersonal intelligence students experience higher barriers than interpersonal intelligence in pedagogical, technical, financial, and organizational aspects. Generally, all students experience barriers to online learning during the COVID-19 pandemic. After the COVID-19 pandemic, there was no significant difference in the obstacles experienced by intrapersonal intelligence students compared with interpersonal intelligence students. Generally, there is no difference in the barriers experienced by students with intrapersonal and interpersonal intelligence, both during COVID-19 and after COVID-19. On the other hand, both experienced difficulties in taking lessons during COVID-19, such as difficulties with internet networks, devices used, and managing time for studying.

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