

# STUDENTS' PERSPECTIVES AND CHALLENGES OF ONLINE LEARNING AT DANANG UNIVERSITY OF MEDICAL TECHNOLOGY AND PHARMACY

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**Abstract:** Like many other countries, educational institutions in Vietnam were forced to shift their courses from a face-to-face approach to online classes during the Covid-19 pandemic to try to stop the spread of the coronavirus. The objectives of this study were to investigate students' perceptions of online learning as well as to identify challenges of online learning they confronted. The study took a quantitative approach, using an online questionnaire on Google Forms to collect data from 631 undergraduate students at Danang University of Medical Technology and Pharmacy in Danang, Vietnam. The data were analyzed using descriptive statistics. The results revealed that the participants perceived online learning as being useful and time-saving. However, the study revealed some challenges the students encountered, such as unreliable internet connections, poor e-learning platforms and services, a lack of information and communication technology skills, and distractions. Based on the findings, some implications on online learning have been put forward.

*Keywords:* online learning, students' perspectives, challenges, Covid-19

## 1. Introduction

The Covid-19 pandemic affected almost the entire world, many countries closed their borders and restricted or completely stopped immigration (McCorkle, 2020). The pandemic had an adverse effect on economies, social life as well as educational facilities and services around the world (Farooq et al., 2020; Niemi & Kousa, 2020; Paudel, 2021). Millions of students were affected by the nationwide lockdown that took place in most countries around the world (UNESCO, 2020). Educational institutions quickly switched from face-to-face to online learning in an attempt to prevent the spread of the coronavirus. Due to this sudden change, many administrators and teachers began to deploy surveys, supportive devices as well as resources to convert from face-to-face to online learning.

Many technology tools and products were used in online classrooms to activate the teaching and learning process during the Covid-19 pandemic, including synchronous and asynchronous communication tools such as Zoom, Microsoft Teams, Moodle, Blackboard, and Google Classrooms. This rapid but necessary change forced schools to use available technology devices to create an online learning environment and resources for different subjects (Kaur, 2020). As a result, the online learning process faced many challenges during the pandemic (Crawford et al., 2020).

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Like many other universities in Vietnam, during the Covid-19 pandemic, Danang University of Medical Technology and Pharmacy quickly switched to online teaching and learning mode to maintain the training process by using Moodle learning management system and other online teaching and learning softwares selected by teachers according to their preferences, convenience and/or availability of tools. Previously, online classes had not been part of the regular programs in Vietnamese public schools and universities, but several universities and schools offered e-learning tools, such as the Moodle learning management system, Microsoft Teams which were utilized to help teachers and their students to navigate through the learning material effectively and to enable online collaborations (Khoa & Nguyen, 2021; Tu & Luong, 2021). During the Covid-19 pandemic, the fact that Danang University of Medical Technology and Pharmacy forced to convert all courses to a completely online mode changed its students' thinking, perception and learning and teaching methods. Studying and examining students' perspectives and the challenges regarding online learning across different educational institutions in Vietnam would help stakeholders and decision makers evaluate and enhance the quality of online learning under the new circumstances. This issue stresses the importance of this research in terms of obtaining a profound understanding of students' views and the challenges of online learning in the context of online education in the Danang University of Medical Technology – Pharmacy.

## **2. Research Objectives**

Based on the underlying problem, this study aims to reveal the perspectives of students and the challenges they faced regarding online learning at the Danang University of Medical Technology and Pharmacy by finding the answers to the two following research questions:

1. What are students' perspectives of online learning at Danang University of Medical Technology and Pharmacy?
2. What are challenges the students of Danang University of Medical Technology and Pharmacy faced when studying online?

## **3. Literature Review**

Online teaching and learning is a virtual interaction between teachers and students, which can take place anywhere but they are separated by physical space. Technology is used to bridge this spatial gap, mediate the teaching process, and create interactive opportunities for teachers and learners (Kim, 2020). This new teaching method gives students a more flexible learning environment, and can be done at any time, at any location without the need to go to university campuses. In addition, online learning is more convenient than face-to-face learning because online learning allows students to learn actively at their own pace and choose a time that suits them (Singh & Thurman, 2019; Yilmaz, 2019).

In recent years, many researchers have made efforts to study online teaching and learning methods related to the Covid-19 pandemic. Some have studied students' attitudes and/or perceptions of online learning (Ananga, 2020; ElSaheli-Elhage, 2021). For example, Zhu et al. (2020) conducted research on university students and found that students' attitudes towards online learning were generally positive and that they intended to continue their online learning, as predicted by self-regulating factors and attitudes, through perceived online social interactions. Agarwal and Kaushik (2020) conducted a study on 77 paediatric students participating in online courses on Zoom during the Covid-19 pandemic, they revealed that the

majority of students participating in the study found online learning appropriate, tailored to their clinical practice and learning needs because they found online learning enjoyable and motivating. All students agreed that online classes should be designed in the undergraduate program for medical students. Nguyen and Pham (2021) also concluded that all medical students participating in their study had a positive perception of and interest in computer-mediated synchronous online learning. This study also showed that students who participated in online learning had better academic results than those who attended traditional face-to-face classes.

However, Owusu-Fordjour et al. (2020) reported the negative effects of the Covid-19 pandemic on Ghanaian students' learning. Nambiar (2020) also revealed that the majority of Indian university students preferred face-to-face learning to online learning; in their perspectives, online teaching methods were inadequate. Similarly, Adnan and Anwar (2020) also surveyed the attitudes of Pakistani students about online learning models at university level. The study highlighted that the online learning model did not produce favorable outcomes in developing countries such as Pakistan. The study also reported many barriers in online learning. In line with these studies, Xhelili et al. (2021) investigated Albanian students' perception of online learning during the Covid-19 pandemic and found that students had more positive attitudes towards the traditional classroom learning environment.

Moreover, a number of studies have shown various influences and challenges of online learning (Farooq et al., 2020; Koi-Akrofi et al., 2020). To improve the quality of online learning, researchers investigated the obstacles and challenges the students faced during online learning. For example, Farooq et al. (2020) conducted a study in Pakistan and found the challenges that medical students faced during the pandemic, relating to the dynamics of online learning, internet connection, learner participation, assessment tools and methods, as well as the lack of training for teachers and support from the school board. Rababah (2020) conducted a study on English language students at Jadara University in Jordan which included only twelve students and pointed out the difficulties they faced, three out of twelve students indicated that they were worried about teaching effectiveness, insufficient and inconsistent teaching methods. In addition, research by Almaiah et al. (2020) indicated that these constraints varied from country to country due to differences in culture, context, and willingness to adapt.

In Vietnam, a variety of Vietnamese researchers have also investigated different attitudes and barriers when learning online (Dang et al., 2020; Nguyen et al., 2022; Pham & Dao, 2022). Dang et al. (2020) implemented a survey on 250 students of Faculty of Tourism, Hue University and presented four main groups of barriers in online learning, including barriers on economy, interaction, psychology and environment. Through the analysis of the four factors, the researchers found that interaction and environment barriers were the two biggest barriers. Most of the respondents commented that they wanted to return to the lecture hall as soon as the Covid-19 pandemic ended. They added that the teachers should provide more interesting and engaging lectures in case they continue to study online in future. In the cross-sectional study by Pham and Dao (2022), the participants had positive attitudes toward online learning although they pointed out that online learning did have some limitations, such as attention, motivation, and interaction. Preference of online learning was found lower than face-to-face learning in traditional classroom ( $m = 2.9$  to  $3.2$ ). They recommended the university should provide a trial of blended online theoretical lectures and face-to-face practical lectures for medical students to further evaluate for a feasible solution in future.

In addition, the study by Nguyen et al. (2022) aimed to explore how undergraduates

interact during online English language learning via two theoretical models, four types of interaction (student-lecturer, student-student, student-content, and student-interface), and three phases of learning (preparation, lecture and evaluation phase). The researchers pointed out the two most prominent problems that students faced when participating in online classes, which were: insufficient cooperation with interactive activities, especially with group work and lack of motivation. Apart from that, students also reported plentiful difficulties in learning due to lack of knowledge, unstable internet connection, health problems and unclear instructions from teachers. Students reflected that the interaction time between students - teachers and students - students was shortened due to internet connection issue, making students depressed, reducing motivation and interest in online learning.

To sum up, previous studies have shown mixed results on the attitudes, perceptions and challenges the students faced regarding the effectiveness of online learning. Researchers need to conduct more research to investigate obstacles and challenges the Vietnamese students face in the process of teaching and learning online. The aim of this study is to discover and complement the existing literature by investigating the students' perspectives at Danang University of Medical Technology and Pharmacy towards online learning during the Covid-19 pandemic and the challenges they face. This study might provide further insight into the challenges faced in online classes by developing countries. This research would also help managers and stakeholders evaluate and improve the quality of online teaching and learning in the new situation.

#### **4. Research Methods**

We implemented survey-based research with a quantitative approach to collecting data to examine the perspectives of students from Danang University of Medical Technology and Pharmacy and the challenges they faced in terms of online learning during the Covid-19 pandemic. This design used an electronic survey, which was appropriate for the purpose of the study, especially during the Covid-19 pandemic when students were off the campus. The questionnaire consists of 3 sections: the first one asking about the demographic characteristics of the participants (3 items), the second investigating the students' perspectives of online learning (8 items) and the final section examining the challenges that students face during online learning (17 items).

To collect data for this study, the researchers designed a questionnaire based on available literature about the perceptions, attitudes and challenges that students faced while learning online (Aboagye et al., 2020; Adnan & Anwar, 2020; Owusu-Fordjour et al., 2020) to investigate the perspectives of students from Danang University of Medical Technology and Pharmacy. The questionnaire was adopted with a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree). After being approved by the Research Ethics Committee of Danang University of Medical Technology and Pharmacy and obtaining the online consent from the research participants, the researchers collected data using an online survey questionnaire via Google Forms. All students who took part in online courses at Danang University of Medical Technology and Pharmacy were invited to fill out the questionnaire, in which 631 responded on the voluntary basis. The number of responses collected was sufficient to ensure the objectivity of the study, because the number of samples exceeded the number of samples required by Raosoft (2013)'s sample size calculation, with 95% confidence and 5% error.

Table 1 below is the general information of the study subjects:

**Table 1***Demographic Characteristics of the Participants (N = 631)*

| Information  |                       | Percentage (%) | Frequency |
|--|-----------------------|----------------|-----------|
| 1. Gender  | Male                  | 16             | 101       |
|  | Female                | 84             | 530       |
| 2. Duration of learning online                       | 2 semesters           | 84             | 530       |
|  | 3 semesters           | 11.4           | 72        |
|  | More than 3 semesters | 4.6            | 29        |
| 3. Online learning platforms<br>(more than 1 option) | Zoom Meeting          | 80             | 505       |
|  | Microsoft Teams       | 11.3           | 71        |
|  | Google Meet           | 83.2           | 525       |
|  | Skype                 | 2.7            | 17        |
|  | Google Handout        | 2.4            | 15        |
|  | Other                 | 1.8            | 9         |

A total of 631 students completed the questionnaire, in which 84% were female and 16% were male. This response rate reflects the actual gender distribution in the student population at Danang University of Medical Technology and Pharmacy. Out of a total of 631 students, 505 students participated in online learning for 2 semesters, 72 students studied for 3 semesters and 29 students studied for more than 3 semesters. Online learning platforms were also different, most of the students learned through Zoom Meeting (80%) and Google Meet (83.2%), the rest learned through Microsoft Teams, Skype, Google Handout, and some other platforms.

Before conducting data collection, to ensure validity and reliability, we conducted a pilot to fill out the questionnaire for 50 participants (41 female and 9 male). After the pilot test, we removed two questions that did not make sense and replaced 2 new questions. Cronbach's alpha coefficient was also calculated to determine the consistency and reliability of the questionnaire. The results of calculating Cronbach's alpha coefficient were: 0.89 for items about students' perspectives and 0.94 for items about challenges faced by students. These results showed that the research instrument was valid and reliable.

The responses were divided into three clusters for analysis, including demographic characteristics (items 1-3) as presented in Table 1 above and two other separate clusters to analyze two research questions. The researchers used SPSS software version 23 to analyze the obtained data and provide descriptive statistics such as mean score, frequency, and percentage.

The results are summarized and discussed for each specific question in the Results and Discussion section below.

## 5. Results and Discussion

### 5.1. Students' Perceptives of Online Learning at Danang University of Medical Technology and Pharmacy

To answer the first research question on the students' perspectives of online learning at

Danang University of Medical Technology and Pharmacy, consisting of 8 items, the researchers calculated the frequency, percentage, and mean score for each statement. To facilitate the explanation for the results, the researchers merged the results of strongly disagree and disagree responses to disagree, those of agree and strongly agree to agree (see Table 2).

Most students did not have a positive perception of online learning. As shown in Table 2 below, the results showed that 75.7% of students answered that online learning was not as effective as face-to-face learning with the lowest mean score of 2.27. This finding is in line with many researchers in Vietnam and in the world (Amir et al., 2020; Nambiar, 2020; Pham & Dao, 2022; Xhelili et al., 2021). Pham and Dao (2022) found preference of online learning lower than face-to-face learning for medical students in their study ( $m = 2.9$  to  $3.2$ ). In addition, 71.7% of students did not like online learning ( $m = 2.34$ ). This result is similar to the findings of Amir et al. (2020), which showed that students were less interested in learning online than in traditional classrooms. Similarly, in the study of Xhelili et al. (2021), the research team found that students had a negative attitude towards the online learning environment.

**Table 2**

*Students' Perceptives of Online Learning at Danang University of Medical Technology and Pharmacy (N = 631)*

| Statements  | Disagree |     | Neutral |     | Agree  |     | Mean        |
|---|----------|-----|---------|-----|--------|-----|-------------|
|   | P* (%)   | F*  | P* (%)  | F*  | P* (%) | F*  |             |
| (6) Online learning saves time for students.                            | 21.8     | 138 | 14.5    | 91  | 63.7   | 402 | 3.41        |
| (4) Online learning enables comfortable electronic communication.       | 31.4     | 198 | 12.4    | 78  | 56.2   | 355 | 3.24        |
| (3) Online learning helps to explore educational materials effectively. | 45.3     | 286 | 16.6    | 105 | 38.1   | 240 | 2.90        |
| (5) Online learning makes it easier to complete group assignments.      | 50.0     | 316 | 15.4    | 97  | 34.6   | 218 | 2.82        |
| (8) Online learning is an effective model.                              | 43.6     | 275 | 31.9    | 201 | 24.5   | 155 | 2.76        |
| (7) Online learning enhances the acquisition of knowledge.              | 61.5     | 388 | 22.2    | 140 | 16.3   | 103 | 2.49        |
| (2) I prefer online learning to face-to-face learning.                  | 71.7     | 452 | 14.4    | 91  | 13.9   | 88  | 2.34        |
| (1) Online learning is more effective than face-to-face learning.       | 75.7     | 478 | 12.4    | 78  | 11.9   | 75  | 2.27        |
| <b>Mean of cluster</b>  |          |     |         |     |        |     | <b>2.78</b> |

Note: (\*) P = percentage, F = frequency

In terms of the statement "Online learning helps to explore educational materials effectively", 45.3% responded disagreeing with this statement while 38.1% answered agreeing ( $m = 2.90$ ). This might be because the effectiveness of online learning depends partly on the autonomy and self-discipline of learners. More than half of the students (56.2%) answered that online learning helped their electronic communication comfortable ( $m = 3.24$ ). This statement

corroborates the study by Nguyen and Pham (2021), which showed that learners preferred comfort and less anxiety in a synchronous online discussion. Some other researchers commented that the benefit of online discussion was that learners did not worry about pronunciation, and thus would spend cognitive energy on other aspects of communication (Kost, 2004; Koi-Akrofi et al., 2020). These results are consistent with the findings of Adnan and Anwar (2020) study, which found that 77% of students felt comfortable in online communication.

However, only 34.6% answered that online learning helped students complete group assignments easily ( $m = 2.82$ ). This might be because there was no face-to-face presence when learning online, whereas in the face-to-face classroom there were more opportunities for learners to interact with each other and helped form social connections. In addition, some students had difficulty communicating with each other to discuss group assignments due to different timetables and locations. Furthermore, online communication did not include body language or facial expressions, so it was difficult for students to understand each other in some situations. This result is similar to the finding of Adnan and Anwar (2020), whose findings showed that 45% of students did not complete group assignments easily.

As shown in Table 2, 63.7% of students agreed with the statement "Online learning saves time" with the highest mean score of 3.16. The reason might be that learners preferred to study from home to avoid being infected with Covid-19 during the pandemic. Online learning also helped them save time by not having to travel to school, use transportation or waste time on social interactions. This result is consistent with the previous study by Amir et al. (2020), which showed that 87.9% of students answered "online learning helps them have more time to study".

Among the participants, 61.5% disagreed with the statement "Online learning improves the acquisition of knowledge" with the mean of 2.49, only 0.9% completely agreed with this statement. Regarding the final statement, 24.5% of students thought that online learning at Danang University of Medical Technology and Pharmacy was a useful learning mode, 43.6% disagreed with this statement and 31.9% answered neutral with mean score of 2.76. In general, the students were optimistic about online learning ( $m = 2.78$ ). Their positive experiences might be related to the flexibility of learning from any place at any time. This flexibility allows students to learn from the comfort of their homes and they can access learning materials several times for better comprehension. They also save time and money because there is no need for transportation.

## ***5.2. Challenges That Students of Danang University of Medical Technology and Pharmacy Face When Studying Online***

To answer the second research question about the challenges students faced when learning online (17 items), the researchers calculated the frequency, percentage, and mean score for each statement and for the entire cluster. Similar to section 5.1, to facilitate the explanation for the results, the researchers combined the results of strongly disagree and disagree responses to disagree, those of agree and strongly agree to agree (see Table 3).

**Table 3**

*Challenges Faced by Students of Danang University of Medical Technology and Pharmacy When Studying Online*

| Statement   | Disagree |     | Neutral |     | Agree |     | Mean        |
|---|----------|-----|---------|-----|-------|-----|-------------|
|   | P (%)    | F   | P (%)   | F   | P (%) | F   |             |
| (2) The Internet connection is unreliable.  | 11.3     | 71  | 8.6     | 54  | 80.1  | 506 | 3.77        |
| (13) Online learning restricts teacher-student and student-student interactions.            | 23.5     | 148 | 18.4    | 116 | 58.1  | 367 | 3.67        |
| (7) I can not concentrate on an online learning environment and can not avoid distractions. | 24.2     | 153 | 19.3    | 122 | 56.7  | 346 | 3.36        |
| (14) The teacher's interaction and feedback are inadequate.                                 | 37.9     | 239 | 21.4    | 135 | 40.7  | 257 | 3.01        |
| (8) I have poor time management skills, which affect my online learning capabilities.       | 36.3     | 229 | 28.7    | 181 | 35    | 221 | 2.98        |
| (9) I have poor ICT skills which affect online learning.                                    | 36.9     | 233 | 26.6    | 168 | 36.5  | 214 | 2.98        |
| (3) Online learning platforms and services are of low quality.                              | 36.4     | 230 | 29.8    | 188 | 33.8  | 213 | 2.96        |
| (12) The isolation of classmates affects my online learning.                                | 39.9     | 252 | 27.9    | 176 | 32.2  | 203 | 2.90        |
| (10) The technical assistance is not adequate.  | 38.4     | 242 | 31.4    | 198 | 30.2  | 191 | 2.89        |
| (6) I am not motivated to learn online.   | 40.4     | 255 | 34.9    | 220 | 24.7  | 156 | 2.81        |
| (17) The evaluation methods are not suitable.   | 46.9     | 295 | 30.4    | 192 | 22.9  | 144 | 2.72        |
| (1) Online learning is more expensive than face-to-face learning.                           | 47.2     | 298 | 30.4    | 192 | 22.4  | 141 | 2.71        |
| (15) The teaching strategies are not adequate.  | 47.5     | 300 | 33.7    | 212 | 18.8  | 119 | 2.67        |
| (5) I have mental health issues (e.g., stress, anxiety) that affect my online learning.     | 54.9     | 346 | 27.4    | 173 | 17.7  | 112 | 2.54        |
| (16) Learning materials are of poor quality.  | 58.2     | 367 | 24.6    | 155 | 17.2  | 109 | 2.54        |
| (11) I have technophobia which affects my online learning.                                  | 60.7     | 383 | 25.5    | 161 | 13.8  | 87  | 2.45        |
| (4) I have no adequate hardware and software for online learning at home.                   | 64.9     | 409 | 23.3    | 160 | 9.8   | 62  | 2.35        |
| <b>Mean of cluster</b>  |          |     |         |     |       |     | <b>2.88</b> |

Note: (\*) P = percentage, F = frequency

As shown in Table 3, in terms of the financial issue, only 22.4% of the respondents agreed ( $m = 2.71$ ) that online learning was more expensive than face-to-face learning. This expense might be for internet access and some softwares necessary for online learning.

The biggest challenge that students faced was unstable internet connection, in which

80.1% of students responded they had unreliable internet connection with the highest mean of 3.77. This showed us that many students had difficult experiences when taking part in synchronous online classes, as well as downloading learning materials, and so on which affected online learning. A number of students reported that the internet in their home had poor capacity and low bandwidth. Papers by Nguyen et al. (2022), Farooq et al. (2020) and Xhelili et al. (2021) are in line with this current finding, they concluded that internet connectivity was one of the biggest challenges their students faced. This suggests the Ministry of Education and Training as well as the Danang University of Medical Technology and Pharmacy should take practical actions to increase internet coverage and bandwidth to facilitate online learning activities. The research by Owusu-Fordjour et al. (2020) and Xhelili et al. (2021) also found the same results, which pointed out lack of internet access and lack of technology devices as main challenges when learning online.

The results presented in Table 3 above show that 33.8 % of students agreed with the statement “Online learning platforms and services are of low quality” with mean score of 2.96. Of all the participants in the study, only 9.8% reported they did not have online learning software at home. Regarding mental health, 17.7% of students reported having problems, with mean score of 2.54. In terms of statement 6, only 24.7% answered that they lacked motivation to study ( $m = 2.81$ ). This result is inconsistent with Nguyen et al. (2022)’s study in which they declared that the two most prominent problems that students faced when participating in online classes were: interaction and motivation. However, in Hartnett (2016) study, the researcher recognized motivation as a key factor in learning, developing, maintaining a sense of community, and achieving desired outcomes in an online learning environment. The finding showed that students did not find it too difficult to involve in online learning process. This indicated that they had the ability to self-regulate their learning so as to adapt to the pandemic situation.

56.5% of students answered that they had difficulty focusing on online learning with mean score of 3.36. This finding is similar to that of Dang et al. (2020), Pham and Dao (2022) Amir et al. (2020) and Ramachandran and Rodriguez (2020). Dang et al. analyzed the four different barriers affecting online learning and they confirmed environment was one of the biggest obstacles faced by the students. The other researchers studied both motivation and concentration, the results showed majority of of students had motivation and concentration problems.

In terms of time management skills, 35% of students reported they had difficulty managing their time with mean score of 2.98. According to Roper (2007), time management was the most important skill to help learners meet the requirements of an online course. This finding is consistent with the results of Rajab et al. (2020), in which the author stated that time management was one of the biggest challenges that students faced when studying online.

In addition, 36.5% of students reported having poor technology skills ( $m = 2.98$ ), and 30.2% reported no technical support provided during online learning process ( $m = 2.89$ ). The findings of Owusu-Fordjour et al. (2020) and Rababah (2020) are also in line with the current study. They concluded that lack of technology skills was a challenge in the online learning process. Of all participants, 20.1% had technophobia, which is a condition that causes learners anxiety and insecurity about their ability to work with computers, while 60.7% did not see technophobia as a challenge, and 25.5% of students answered neutral ( $m = 2.45$ ). The response to the statement 12 was that 32.2% felt isolated from their classmates.

The second biggest challenge reported by participants when learning online was limiting

interactions with teachers and classmates, with mean score of 3.67. This finding is much consistent with other studies in Vietnam (Dang et al., 2020; Nguyen et al., 2022; Pham & Dao, 2022). The important finding suggests educators must consider creating opportunities for meaningful and sustained interactions in online courses, especially when many students are taking multiple online courses while balancing their studies with home and work responsibilities because interactions are critical to student success as in online learning they can lead to increase student engagement, motivation, and can help improve student performance.

In addition, 40.7% of students reported teacher's interaction and feedback inadequate ( $m = 3.01$ ), 18.8% of students felt that the teaching approaches were not suitable ( $m = 2.67$ ), 17.2% responded lacking quality learning materials ( $m = 2.54$ ), and 22.9% thought that the assessment methods in the online learning process were inappropriate ( $m = 2.72$ ).

The overall mean for all challenges in the scale was 2.88 (Table 3), which reflects a moderate challenge level experienced among students at Danang University of Medical Technology. The most prevalent challenge was the unreliable internet connection, the next difficulty was the interaction between teachers and students as well as interactions between students and students. The findings of this study highlighted the external objective factors affecting students' online learning such as technology infrastructure, internet connection and learning environment. The results also showed that the internal barriers that students faced when learning online were teacher-student interaction as well as student-to-student interaction.

## 6. Conclusion and Recommendation

Due to the impact of the Covid-19 pandemic, almost all educational institutions in all countries around the world had to switch from face-to-face to online teaching. This study investigates the perspectives of students from Danang University of Medical Technology and Pharmacy about online learning and the challenges the students of Danang University of Medical Technology and Pharmacy faced when studying online. The findings of this study have provided valuable information on students' perspectives and the challenges they faced during online learning at Danang University of Medical Technology and Pharmacy. To achieve the research objectives, a survey questionnaire on Google Form was designed and 631 responses were collected for analysis and synthesis using SPSS software version 23. In general, the students were optimistic about online learning with mean score of 2.78. The advantages of online learning such as time saving, comfortable communication, and others were reported. The challenges that students faced when learning online, both internal and external, are moderate with mean score of 2.88 on the 5-point Likert scale. Reported challenges relate to financial issue, internet connectivity, online software delivery services, software availability, mental health, motivation, concentration, time management skills, technology skills, technology instruction, technophobia, isolation, teacher-student interaction, teacher feedback, teaching methods, learning materials, assessment methods. Despite the barriers, the evidence presented in this study shows that students of Danang University of Medical Technology and Pharmacy can adapt to online learning.

The results of this study provide more information about the need for upgrading technology infrastructure, internet connection, e-learning software, as well as the need for adequate technical support for students when implementing online teaching and learning. Simultaneously, the research results also suggest that teachers need to use specific strategies to motivate and create interaction among students as well as improve the quality of learning materials.

The limitation of the study is that the survey is only carried out at one university - the Danang University of Medical Technology and Pharmacy, and the results are only collected based on the student's point of view. Future researchers can use this study design to collect data from a larger sample size at more schools for more comprehensive and reliable results as well as from teachers' viewpoints. Future researchers should also collect qualitative data to emerge the mentioned issues.

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## NHẬN THỨC VÀ KHÓ KHĂN CỦA SINH VIÊN TRƯỜNG ĐẠI HỌC KỸ THUẬT Y - DƯỢC ĐÀ NẴNG KHI HỌC TRỰC TUYẾN

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**Tóm tắt:** Cũng như nhiều nước khác, các cơ sở giáo dục tại Việt Nam đã buộc phải chuyển từ hình thức học trực tiếp sang hình thức trực tuyến khi đại dịch Covid-19 diễn ra để cố gắng ngăn ngừa sự lây lan của vi rút corona. Mục tiêu của nghiên cứu này là điều tra nhận thức, thái độ của sinh viên khi học trực tuyến cũng như tìm hiểu những thách thức sinh viên phải đối mặt khi học trực tuyến. Nghiên cứu sử dụng thiết kế định lượng, dựa trên bảng câu hỏi điều tra trực tuyến qua Google Form để thu thập số liệu từ 631 sinh viên Trường Đại học Kỹ thuật y - dược Đà Nẵng, Việt Nam. Phương pháp thống kê mô tả được sử dụng để phân tích số liệu thu được. Kết quả cho thấy sinh viên nhận thấy hình thức học trực tuyến hữu ích và tiết kiệm được thời gian. Tuy nhiên, kết quả cũng tiết lộ những thách thức mà sinh viên phải đối mặt, như mạng internet không ổn định, phần mềm học trực tuyến chậm, thiếu kỹ năng công nghệ thông tin và truyền thông, sinh viên bị xao nhãng do môi trường học. Dựa trên những phát hiện này, nghiên cứu đưa ra những khuyến nghị về việc học trực tuyến.

*Từ khóa:* học trực tuyến, nhận thức của sinh viên, thách thức, Covid-19