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## Research Article

# Tutorial and Lecture Activities on Deep Online Learning in Dentistry

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## Abstract

Online learning has become a new normal in the era of the COVID-19 pandemic. However, this learning mode has brought many challenges that can impact the learning experience. The study aims to evaluate student feedback on the online learning model and identify any challenges that require attention to enhance the quality of Dentistry education at Muhammadiyah University of Yogyakarta. This research is a descriptive observational study that utilized a cross-sectional approach. A modified questionnaire comprising 27 questions was distributed to collect the data. It was found that most of the 277 surveyed students agreed that implementing online learning in tutorial activities had a positive impact. Notably, 47.3% of the students found the online tutorial activities to be an excellent way to learn the material, while an equal number of students, 47.3% believed that they developed their tolerance during the online tutorial group sessions. Furthermore, the student responses to the online lecture activities were also positive, with 40.8% of the students finding comfort in the recorded classes, while 37.2% better understood the material through the online lectures. As for student satisfaction, the majority of the surveyed students expressed their satisfaction with the online learning experience regarding the material 52%, learning strategy 40.4%, availability of e-resources 49.1%, and assistance provided 42.6%. Students responded positively to online learning in tutorials and lectures and reported overall satisfaction with online learning during the COVID-19 pandemic.

**Keywords:** student responses; online learning; tutorials; lectures

## INTRODUCTION

The pursuit of knowledge through studying and learning is inextricably linked and plays a critical role in the realm of education. We recognize the significance of these two concepts and understand that they cannot be separated.<sup>1</sup> The learning process is a mutually beneficial communication exchange between educators and their students and among the students themselves. The ultimate goal of this exchange is to achieve the predetermined learning objectives.<sup>2</sup> This educational process involves purposeful interactions between educators and students to achieve specific learning outcomes. These interactions are methodical and are carried

out through a series of stages, including design, implementation, and evaluation.<sup>3</sup>

The COVID-19 pandemic has significantly impacted the education sector, leading to the implementation of government regulations aimed at reducing the spread of the virus. These regulations limit contact between individuals in schools and workplaces and restrict activities in public facilities and religious gatherings.<sup>4</sup> Academic institutions are embracing online learning techniques as an alternative to conventional offline learning systems. The objective is to ensure that education can be conducted more efficiently and effectively.<sup>5</sup> In light of the COVID-19 pandemic, online learning has become a vital tool for

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individuals, providing effective and easily accessible educational opportunities. To this end, leveraging technology-driven applications such as WhatsApp groups, e-learning platforms, Zoom, and Google Classroom can help facilitate a seamless and productive learning experience.<sup>6</sup>

New normal policy is a strategic approach that aims to resume public activities while ensuring strict adherence to health protocols to curb the spread of COVID-19. This approach is being implemented to balance the need to gradually reopen businesses and public spaces with the need to protect public health and safety.<sup>7</sup> Educational institutions made adaptations during the new normal period of the COVID-19 pandemic by implementing blended learning methods so that educational goals and objectives were achieved. Blended learning is learning by combining two methods: offline and online. Many educational institutions proactively implemented blended learning methods in response to the COVID-19 pandemic, which caused significant disruption to traditional educational practices. Blended learning is a hybrid approach that combines online and offline learning, enabling educational goals and objectives to be achieved in a flexible and adaptable manner. This approach allowed institutions to ensure that students could continue their educational journeys safely and effectively despite the unprecedented challenges posed by the pandemic.<sup>8</sup>

The study program of dentistry at Muhammadiyah University in Yogyakarta employs various methods of learning, including theoretical lectures, small group discussions using Problem-Based Learning (PBL) and Case Based Learning (CBL) approaches, Skills Lab exercises, and practical training. These learning activities were traditionally conducted in person; however, the COVID-19 pandemic necessitated a shift to online instruction. Students now attend lectures and tutorials remotely to minimize in-person interactions with their peers and instructors, thereby

mitigating the risk of COVID-19 transmission. This transition to online learning represents a proactive measure the university took to protect the health and safety of its students and faculty during these challenging times.

One of the key benefits of online learning is the opportunity for virtual interaction between students and professors during lectures and tutorials. This valuable interaction can be accessed from anywhere and at any time, motivating students to study independently.<sup>9</sup> Another benefit of online learning is the ease of sharing learning videos, which can clarify explanations during tutorial discussions.<sup>10</sup> Online learning has been observed to have certain shortcomings that need to be addressed in order to improve its effectiveness. These include issues related to methodology, comprehension of course content, technical challenges, online behavior during sessions, and the implementation of online exams. It is important to be aware of these challenges and work towards finding solutions to ensure the success of online learning.<sup>11</sup> The effect of online learning on students encompasses a range of challenges, including but not limited to confusion, decreased engagement, diminished creativity and productivity, and heightened stress levels.<sup>5</sup> To improve its quality, it is important to assess how well students respond to online learning during the COVID-19 pandemic. Therefore, a research study is being conducted to determine how students at the Faculty of Dentistry respond to online learning in tutorial and lecture activities in the new normal era. The study was conducted after obtaining informed consent from the research participants. Additionally, an Ethical Clearance with the number 152/EC-KEPK FKIK UMY/V/2021 was obtained prior to the commencement of the research.

## **MATERIALS AND METHODS**

This research study utilized a descriptive observational research method

with a cross-sectional approach. The research was conducted on the Faculty of Dentistry student body, comprising 303 active students enrolled in the 2018, 2019, and 2020 classes. The data was collected through a questionnaire administered via Google Forms. This research study employs a questionnaire consisting of 27 statement points divided into three parts. The first part comprises 12 statements related to online tutorials, including five questions concerning the construction process and seven statement items regarding construct content. The second part entails 10 statement points related to

online lectures, and the third part includes five statement points regarding the level of satisfaction with online learning. Descriptive statistics and frequency analysis are utilized to determine the data percentage of each research study based on each online learning aspect.

## RESULT

The respondents have been categorized by type, category, gender, and age in Table 1 for easy reference and analysis.

**Table 1.** Frequency distribution of respondents according to gender and age

Gender		
Male	47	17%
Female	230	83%
Age		
17-19 years old	106	44.5%
20-22 years old	168	60.7%
>22 years old	3	1.1%

Table 1 shows that 303 students from the Faculty of Dentistry were included in the study using complete sampling. Out of these, 277 students completed the

questionnaire. The table indicates that 83% of the respondents were female students, with the majority aged 20-22 (60.7%).

**Table 2.** Frequency distribution of student responses to online learning in tutorial activity

No	Statement	Criteria									
		SD		DA		N		A		SA	
		n	%	n	%	n	%	n	%	n	%
<b>Construction Process</b>											
1	I find that working in online tutorial groups is better than working alone	3	1.1	7	2.5	37	13.4	125	45.1	105	37.9
2	When working alone, I don't learn as much as I do when working in tutorial groups online. I find that working in tutorial groups online is better than working alone.	8	2.9	43	15.5	74	26.7	91	32.9	61	22.0
3	I find studying in groups through online tutorial activities convenient as it consumes little time.	3	1.1	7	2.5	44	15.9	131	47.3	92	33.2
4	Studying in groups during online tutorial activities can often be frustrating and stressful	1	0.4	9	3.2	56	20.2	122	44.0	89	32.1
5	Learning together as a group in online tutorials is an effective method for understanding the material	2	0.7	9	3.2	61	22.0	131	47.3	74	26.7
<b>Construct Content</b>											
6	I learned how to be tolerant during online tutorial group sessions.	0	0.0	2	0.7	28	10.1	131	47.3	116	41.9
7	During online tutorial sessions, I successfully worked with students from diverse social and cultural backgrounds.	1	0.4	2	0.7	45	16.2	128	46.2	101	36.5
8	Our group collaborated efficiently during the online tutorial session	1	0.4	7	2.5	43	15.5	127	45.8	99	35.7
9	During our online tutorial sessions, the members of my group share information freely	0	0.0	4	1.4	35	12.6	130	46.9	108	39.0
10	I find it helpful to receive input from other members of the group when participating in online tutorial activities	0	0.0	6	2.2	46	16.6	114	41.2	111	40.1
11	I have become more empathetic towards others while participating in online tutoring groups.	0	0.0	5	1.8	69	24.9	128	46.2	75	27.1
12	participating in online group work has helped me better understand certain subjects that were previously confusing to me.	0	0.0	5	1.8	61	22.0	128	46.2	83	30.0

According to Table 2, the researchers agreed with 12 statements about online learning students' responses in tutorial activities regarding both the construct process and construct content aspects. The online tutorial activities were

found to be an excellent way to learn the material by 47.3% of the students. An equal number of students, 47.3%, believed they developed tolerance during the online tutorial group sessions.

**Table 3.** Frequency distribution of students' responses concerning the effectiveness of online learning during lecture activities.

No.	Parameter	Kriteria Pernyataan									
		VI		I		EE		E		VE	
		n	%	n	%	n	%	n	%	n	%
1	Provides comfort	3	1.1	21	7.6	92	33.2	113	40.8	48	17.3
2	Meet individual learning needs	2	0.7	51	18.4	109	39.4	88	31.8	27	9.7
3	Contribute to effective communication	4	1.4	35	12.6	123	44.4	91	32.9	24	8.7
4	Build skills and knowledge	5	1.8	44	15.9	109	39.4	97	35.0	22	7.9
5	Offer better understanding through class recoding	2	0.7	17	6.1	59	21.3	103	37.2	96	34.7
6	Level of interaction	19	6.9	89	32.1	102	36.8	50	18.1	17	6.1
7	Doubt session	2	0.7	16	5.8	95	34.3	108	39.0	56	20.2
8	Balancing practical and theoretical experience	11	4.0	55	19.9	117	42.2	71	25.6	23	8.3
9	Improve your professional appearance and working time	11	4.0	72	26.0	95	34.3	77	27.8	22	7.9
10	Submission of assignments	0	0.0	3	1.1	31	11.2	105	37.9	138	49.8

VI: Very ineffective, I: Ineffective, EE: Effective enough, E: Effective, VE: Very Effective

Table 3 shows that for the ten parameters in the lecture activities, three were effective, and one was very effective in eliciting responses from students in online learning. The feedback from students regarding the online lecture activities was predominantly positive. A

notable 40.8% of students expressed comfort in the convenience of recorded classes, while 37.2% mentioned that they better understood the material through the online lectures.

**Table 4.** Frequency distribution of student satisfaction with online learning

No	Statement	Statement criteria									
		SD		DA		N		A		SA	
		n	%	n	%	n	%	n	%	n	%
1	I feel grateful for the online learning materials provided to me. They have been a great help.	0	0	7	2.5	61	22.0	144	52.0	65	23.5
2	I feel content with the balance of practical and theoretical knowledge provided during the online classes.	4	1.4	43	15.5	109	39.4	92	33.2	29	10.5
3	I feel satisfied with the development strategy professional in online classes	3	1.1	23	8.3	102	36.8	112	40.4	37	13.4
4	I am satisfied with the availability of e-resources during online lectures	0	0.0	10	3.6	66	23.8	136	49.1	65	23.5
5	I am satisfied with the assistance provided during online classes	0	0.0	14	5.1	78	28.2	118	42.6	67	24.2

SD: Strongly Disagree, DA: Disagree, N: Neutral, A: Agree, SA: Strongly Agree, n: number

According to the findings presented in Table 4, students have expressed their satisfaction with the online learning implementation. They rated all the items with an "agree" except for the statement related to their satisfaction with the balance between practical and theoretical

knowledge. The majority of surveyed students reported being content with various aspects of the online learning experience. Specifically, 52% expressed satisfaction with the course material, 40.4% with the learning strategy, 49.1% with the

availability of e-resources, and 42.6% with the assistance provided.

## DISCUSSION

The learning methodology we have implemented follows a highly effective approach to help individuals improve their clinical reasoning skills. This methodology has been specifically designed to enhance individuals' cognitive and analytical abilities, enabling them to make sound decisions based on empirical evidence. The methodology emphasizes practical learning and encourages learners to apply their knowledge in real-life scenarios to develop a deeper understanding of the subject.<sup>12</sup> The tutorial learning method is one way to reason about a case. During tutorial sessions, a group of students convenes to engage in small group discussions to activate their prior knowledge and solve problems related to the studied topic (13). According to the research findings, the tutorial was positively perceived by both students and tutors concerning the construction process and construct content. It has been established that tutorial learning can significantly enhance the academic performance of students and tutors alike.<sup>14,15</sup> Online tutorial learning is a collaborative process between students and educators, where they discuss a case within a given scenario. Recent research has demonstrated that online tutorials are an effective use of time, as they can be conducted from any location, adhering to predetermined guidelines. Additionally, students find tutorial learning more engaging and can save significant time.<sup>16</sup> Online tutorials present an efficacious method to study learning material by leveraging a case scenario. Collaborative work among students enables them to complete the scenario and share their learning outcomes. The scenario catalyzes discussions to ensue, facilitating the comprehension of intricate subject matter. Students can effectively discuss and comprehend the materials by expressing their opinions and guidance from the

lecturer. Tutorial learning is an effective way to instill in students a sense of respect for other's opinions and to cultivate their tolerance towards diverse perspectives during group discussions. This approach helps them develop essential interpersonal skills highly valued professionally.<sup>15</sup>

According to the feedback provided by dental students, it can be inferred that they find online learning to be a source of comfort during lecture activities. The ease of access to online resources, the flexibility of learning at one's own pace, and the convenience of attending lectures from anywhere are some contributing factors that make online learning a comfortable experience for students. According to prior research, online learning presents a viable opportunity for students to participate in lectures and foster meaningful engagement with peers and instructors. In today's world, online learning has become a popular mode of education. One of the key advantages of online learning is the use of video media, which enhances students' understanding by providing a visual representation of the subject. The ability to replay videos multiple times helps students to grasp the concept better. It is supported by the feedback from students who rated these videos "effective". Moreover, studies have shown that recorded classes uploaded on websites, YouTube, or other applications are more effective for students as they provide a flexible space for them to study. Students can access these classes anytime, anywhere, and at their own pace. It allows them to balance their studies with other commitments and work on their own schedule. Online learning has revolutionized education by providing quality education from the comfort of one's home. The use of video media and recorded classes has made learning more effective, engaging, and accessible for students around the world.<sup>14,17,18</sup>

Most students who participated in the doubt session have been classified as "effective". Notably, students had the opportunity to leverage online discussion

forums to pose queries about the subject matter and respond to queries raised by their peers. According to the research findings, one of the major areas of concern is the effectiveness of the task submission parameters, which have been rated as "very effective". These parameters enable the students to complete their assignments within the stipulated deadlines through digital media. The research results are consistent with previous studies showing that online learning is associated with better assignment submission rates than traditional classroom learning. Therefore, this finding is critical for educators and policymakers, and it highlights the need to integrate digital media into the learning process to ensure the timely completion of assignments.<sup>19</sup>

As per the feedback from the students, it has been observed that online lectures effectively met their learning needs. One of the key benefits of online learning is its inherent flexibility, allowing students to select the learning method that best suits their unique needs.<sup>20</sup> According to prior academic research, implementing e-learning is an effective means of addressing the varying learning needs of students. By providing a platform for self-guided learning with flexible accessibility, e-learning can improve overall learning outcomes while fostering a sense of confidence and competence in the learning process. Effective engagement between students and teachers can only be achieved through direct interaction. Unfortunately, online learning platforms cannot provide this level of interaction, which may hinder the learning experience.<sup>21</sup>

Numerous students have expressed their concerns regarding the efficacy of online learning, particularly regarding communication and interaction with their peers and instructors. The level of engagement during online lectures is often suboptimal compared to in-person lectures, resulting in a lack of coordination and engagement between students and teachers. The prevalence of poor internet connections

further compounds these issues, impeding students' ability to comprehend and internalize the material being presented.<sup>22,23</sup> Online learning has been found to be an efficient way for students to develop their skills and knowledge and balance practical and theoretical experience. It also helps in enhancing their professional self-appearance while working.<sup>22,24</sup> However, students' feedback regarding online lectures did not meet all parameters. It supports previous research suggesting that online learning may not be effective in certain learning contexts.<sup>22</sup>

The satisfaction of dental students indicates the successful implementation of online learning during the COVID-19 pandemic. The survey results indicated that students were content with the online learning experience, except for their dissatisfaction with the balance of practical and theoretical knowledge. Recent studies have highlighted the importance of e-resources during online learning. These resources are valuable to the learning material and contribute to the overall learning experience. In particular, research has shown that the availability of these resources plays a crucial role in enhancing students' satisfaction with their online learning experience. Moreover, the use of e-resources can help students to explore the field of dentistry in greater depth. These resources can attract students' attention and encourage them to explore the subject matter further. It, in turn, can lead to a more comprehensive understanding of the subject and better academic outcomes.<sup>25</sup>

## CONCLUSION

Based on the comprehensive descriptive analysis conducted, it has been observed that the students have responded positively towards the online learning modules, specifically concerning the tutorial and lecture activities.

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