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# Elucidating experiences of faculty members in applying effective teaching strategies in the online class during the COVID-19: A qualitative study

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## Abstract:

**BACKGROUND:** Despite the restrictions on providing medical courses online in medical universities, all instructors were required to provide training on virtual platforms. This study aimed to explain faculty members' experiences applying effective strategies in online class teaching.

**MATERIALS AND METHODS:** This study has been done with a qualitative approach and using the method of conventional content analysis. Participants included 14 faculty members working at the Shiraz University of Medical Sciences. Semistructured interviews were used to collect data. Faculty members who had experience in conducting online classes were purposefully selected. Graneheim and Lundman's (2004) approach was used to analyze interview data.

**RESULTS:** Two main categories were obtained from the data analysis: interpersonal communication and supportive behavior. The category of interpersonal communications comprises the subcategories of emotional expression and flexibility. The category of supportive behavior includes the subcategories of educational design, learner encouragement, diversity in evaluation, collaborative learning, and prompt feedback.

**CONCLUSION:** Our findings confirmed that an appropriate teaching strategy leads to better attention to class and deep learning in learners. The cause is that in online classes, the student's attention is more minor than in daily classes due to its virtual nature. Appropriate educational strategies will motivate learners, interest them, and improve teacher interaction. These strategies increase students' participation in educational activities.

## Keywords:

COVID-19, effective strategy, online classes, online education, pandemic, perception

## Introduction

In March 2020, WHO declared COVID-19 as a pandemic. The widespread disease outbreak led to the suspension of in-presence teaching activities in all educational institutions, including medical schools. Following the closure of all institutions, including universities, the usual models of medical education previously used worldwide became problematic,

practice-based education was challenged, and new methods and strategies for educating students were replaced.<sup>[1,2]</sup>

During the COVID-19 pandemic and in compliance with the strict observance of health protocols, a quick transition from face-to-face to distance teaching has brought online learning in full fervor to meet the educational needs of students.<sup>[3]</sup> Questions and concerns

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followed this sudden transfer. A review of online learning studies shows that virtual content plays a significant role in education. These studies report different results from students of different universities.<sup>[4]</sup> In a US Buffalo dental students survey, 99% of students were satisfied with online teaching.<sup>[5]</sup> In another study of German students, most learners were satisfied with online learning and wanted to benefit from online learning in upcoming curricula.<sup>[6]</sup> However, some studies have reported negative experiences of online education and learning. For example, in a study of dental students at Harvard University, students reported that their learning outcomes deteriorated and their interaction decreased during the COVID-19 pandemic.<sup>[7]</sup> Also, in a survey conducted among medical students in Pakistan, 77% of students had a negative attitude towards online education.<sup>[8]</sup> Due to the different perspectives on students' attitudes to online education, studies showed that educational strategies are factors that can make a difference in students' attitudes and create a different realization of students' interaction with professors and classmates.<sup>[4]</sup>

Studies in all disciplines show that proper design, planning, and prioritization of online education can increase motivation, satisfaction, and student learning.<sup>[9]</sup> Prior to the COVID-19 pandemic, online education was used in a limited way in Iranian higher education institutions.<sup>[10]</sup> Due to the adoption of virtual technology by faculty members and students and its increasing use in academic circles after the COVID-19 pandemic, this study was conducted to explain faculty members' experiences using effective teaching strategies in online classes during the COVID-19 era. This study provides a deep insight into the researched field. This allows the researcher to find problems, subtleties, and complexities.

## Materials and Methods

### Study design and setting

A conventional content analysis approach was performed. Participants in this study were 14 faculty members of Shiraz University of Medical Sciences (SUMS) [see Table 1]. The criterion for selecting participants was the experience of teaching an online class amid the COVID-19 pandemic. The researchers tried to reach participants who had a wealth of information. The field of research was also the faculties affiliated with SUMS.

### Data collection tool and technique

We used the interview technique to collect data. Participants entered into the study in a purposeful manner. Each professor was interviewed once, and 14 interviews were conducted. The interviewee and the interviewer conducted the interview process semistructured for 20–30 minutes. The interviews continued until no new data was obtained from their text until data saturation was reached. After obtaining permission from the participants, their voices were recorded using a voice recorder. Most of the interviews were conducted in person, and a small number were conducted by telephone.

The interview began with an open-ended question. In the interview, general questions were asked from the professors: "Tell us about your experience of online classes?" "What steps did you take to have an active and interactive class?" "How did you involve the students in the class?" "What motivated students to be active in the online class?" The interview continued with probing questions such as "How do you think these measures were effective?" "What do you mean by that?" or phrases like "Please explain more about this."

**Table 1: Demographic characteristics of participants**

Age	Field of study	Gender	Experience	Academic ranking	Faculty
46	medical education	Male	10	Assistant Professor	Medicine
40	Health Professional	Male	15	Associate Professor	Public health
44	Biostatistics	Male	15	Associate Professor	Medicine
55	Parasitology	Male	20	Professor	Medicine
49	Medicinal Chemistry	Female	18	Associate Professor	Pharmacology
42	Biotech	Male	18	Professor	Pharmacology
44	Traditional Iranian medicine	Male	12	Assistant Professor	Medicine
50	infectious disease	Male	20	Professor	Medicine
42	Health Economics	Male	10	Associate Professor	Health management
50	Anatomical sciences	Female	15	Professor	Medicine
46	Radiology	Female	13	Associate Professor	Paramedics
54	Virology	Male	20	Professor	Medicine
58	Toxicology	Male	18	Professor	Pharmacology
60	Immunology	Male	22	Professor	Medicine

### Data analysis

Graneheim and Lundman’s approach analyzed the data.<sup>[11]</sup> The recorded interviews were first implemented on paper and then typed into a computer. After being reviewed several times, the texts of the interviews were broken down into constituent meaning units and codes. Then, the codes were read to be replaced based on semantic similarity in the subcategories and, finally, the classes.

Credibility, dependability, confirmability, and transferability criteria were used to assess the accuracy of the data.<sup>[12]</sup> To determine the credibility of the data, this study took more than 11 months. In the data analysis process, four professors from different universities were used. The transcripts of the interviews and the findings were also shared with some participants. To determine the dependability of the data, the opinions of an external observer were sought as a researcher who was familiar with virtual education and qualitative research methodology but was not a member of the research team, and there was agreement on the results. All activities were recorded to determine confirmability, and a report on the research process was prepared. To determine transferability, the study’s results were shared with the virtual faculty, and the results were approved.

### Ethical consideration

To comply with ethical considerations, permission to conduct research was obtained from the ethics committee of Shiraz University of Medical Sciences (IR.SUMS.REC.1399.1009). The study’s objectives were discussed with the participants before the interview. Permission was granted to record audio. The participant signed a written consent form. They were assured that the information obtained from their voice recordings would remain confidential. Participants were allowed to leave the study without obligation to continue.

## Results

Two categories and seven subcategories were obtained from the analysis of participants’ narratives. The interpersonal communication category included the subcategories of emotional expression and flexibility. The supportive behavior category included the five subcategories: educational design, learner encouragement, diversity in evaluation, collaborative learning, and prompt feedback [see Table 2].

#### 1. Interpersonal communication:

There are behaviors directly related to how the teacher and the students interact; the interactions that increase the context of teacher–student communication and the context of their educational participation in the teaching and learning process. This category includes two subcategories: emotional expression and flexibility.

**Table 2: Category and subcategory**

Category	Subcategory
Interpersonal communication	emotional expression Flexibility
Supportive behavior	Educational design Learner encouragement Diversity in Evaluation Collaborative learning Prompt feedback

1.1. Emotional expression: Showing the teacher’s inner feelings to the student through expression. When emotions are shared, there is a better rapprochement between the teacher and the student. One participant said, “When I start my class, I have fun with the students. I ask how they are. I talk about the events of the country and the world. How I feel today and that I am happy to attend the class and start teaching.”

1.2. Flexibility: It refers to the learning environment where the learner can take the better initiative to learn. Flexibility includes a wide range of teacher behavior, class duration, presentation, and instructional content. One of the participants said, “The experience I learned while teaching in an online class was that you have to be very flexible. The class should not be too boring and soulless. Give the class a break-in time. Allow for comments. Do not take a stand towards irrelevant comments from students and be patient.”

2. Supportive behavior: This category refers to the teacher’s actions to support the students in making the online class effective learning. This category includes five subcategories: educational design, learner encouragement, diversity in evaluation, collaborative learning, and prompt feedback.

2.1. Educational design is the adjustment of educational events based on the goals, content and facilities the instructor provides under the learners’ needs to hold an online class. One participant said, “I had a lesson plan for the online class, just like the lesson plan I had for the daily class, with the difference that there had to be more programs for the online class because I had to make up for attendance restrictions.”

2.2. Learner encouragement: It is a tool presented in the form of positive verbal statements by the teacher after the student’s performance in the online class. “Students should be constantly encouraged. They should be cheered. Those who are active in the class should be given marks so that other students can be motivated and participate in class programs,” said one participant.

2.3 Diversity in evaluation: A wide range of different tools exists to assess the achievement of educational

goals in online classes. It is one of the most important activities done by the teacher after implementing educational programs. One participant stated, "Getting a good grade in a course is important for most students. Having a good and varied assessment in the online class will increase student participation and improve their learning. I always ask questions throughout the online class, whether written or oral, individually or as a team."

**2.4 Collaborative learning:** A set of activities is performed during teaching to better students' learning. These activities include teamwork, interstudent collaboration, and partner-teacher teaching to enhance classroom dynamism. One participant said, "The class should be managed so that the students participate in the teaching process. For example, I joined the students in social networking groups and worked together simultaneously, or I asked two students to play a role in pairs in one subject."

**2.5 Prompt feedback:** How a teacher responds to students' performance, attitude, and behavior in line with established educational goals is called feedback. In cyberspace and online, this feedback must be provided very quickly. One of the participants said, "In any case, in the online class, like in the presence of a student, you may answer a mistake. The student should be given prompt and timely feedback. This will help him learn and correct other mistakes of his classmates."

## Discussion

This study aimed to explain faculty members' experiences in applying effective strategies in online class teaching during the COVID-19 era. In this study, the professors believed that they were satisfied with the online education due to the pandemic conditions that it was impossible to hold classes in person. The professors believed that using appropriate strategies could guide the class atmosphere in a better way for students to learn. A study by Rajabalee and Santally (2020) showed that although the online class was students' first experience during the COVID-19 pandemic, online learning was valuable to learners and satisfied with it.<sup>[13]</sup> The results of Makarova's (2021) studies showed that most learners have adapted to virtual education and online class and tend to maintain this type of education in the future and continue with face-to-face education.<sup>[14]</sup>

In this study, one of the obtained subcategories was emotional expression. Participants believed that teachers should establish a good emotional connection with students in the online class. The teacher should take the time to start the class to establish two-way communication and then start the lesson content. The study of Martben and Boliger (2018) on the issue of motivating students to learn online showed that a

close and intimate relationship between teacher and student is effective in learning success.<sup>[15]</sup> Creating a friendly relationship between teacher and student in the classroom is essential. Given that there is no face-to-face contact with students in online classes and nonverbal skills are minimized, creating a friendly relationship between the learner and the student is very effective. The results of this study are also consistent with Glaser's.<sup>[16]</sup>

Therefore, the teacher should be extroverted in the classroom and establish a good emotional relationship with the student. Other studies show a positive and significant relationship between teacher personality traits and the quality of e-learning provided to the learner.<sup>[17-19]</sup> Therefore, the teacher's personality factor can affect the access and participation of students in the online learning environment.<sup>[20]</sup>

One of the subcategories extracted in this study was flexibility. Teachers in this study believed that the online class requires particular flexibility not present in face-to-face classes. This flexibility includes how the teacher treats the student, the class length, and how the content is presented. They believed that flexibility in the online class conveys the message to the student that the teacher accompanies the student, that the atmosphere in the classroom is not dry, and that comments and even criticism are possible. The study by Welch and Holden (2019) showed that flexibility is a growing trend in e-learning in terms of quality in learning design and more learning facilities for students.<sup>[21]</sup> The study by Kariippanon *et al.*<sup>[22]</sup> showed that the learning environment is flexible in behavioral persuasion, student-centered learning and two-way interaction between teacher and student. Numerous other studies show that students' academic success and achievement are significantly associated with the pattern of flexibility.<sup>[23]</sup> These measures include teacher flexibility, learning time, access to resources, and minimizing the limitations of e-learning.<sup>[24-27]</sup> Flexibility in learning is considered as an approach that aims to satisfy the needs of different learners and increase the quality of learning and teaching.<sup>[27]</sup>

In this study, one of the subcategories of the educational design was obtained. Having a lesson plan in the daily class is done by assistants. Having a lesson plan in online classes is also harmful. Because it forces the teacher to have a schedule for the time allotted for the class, with proper design, the teacher can provide various programs for students to learn better. Kokoç *et al.*<sup>[28]</sup> believe that appropriate educational design can keep students active in online classes.

Undoubtedly, participating in an online class without a plan and using a passive method will cause students to be passive and inattentive to the classroom. The study of



Rose (2019) does not show proper educational design, and only the lecture method in online classes leads to student fatigue and does not lead to learning.<sup>[29,30]</sup> According to Chuang, the opportunity to learn from peers is lost, and the learning outcomes will not be measurable.

In this study, one of the obtained subcategories was learner encouragement. This strategy sets the stage for a dynamic class. Strengthening students leads to greater participation and deeper learning. Students are encouraged to improve learning performance, positive behaviors, and willingness to participate in learning activities.<sup>[28]</sup> Khan *et al.*<sup>[31]</sup> suggested different ways to motivate students and participate in learning and active participation using different strategies. Therefore, encouraging student participation by the teacher in the online class by giving rewards, and constructive and timely feedback is effective.<sup>[2,32]</sup>

One of the obtained subcategory was diversity in evaluation. The student should feel that the instructor may question him or her during the online class. Therefore, he must be active and listen well to the words of the master. This allows the professor to make better judgments about students' academic achievement. Using formative assessment creates multiple opportunities for learners and helps them track their learning progress.<sup>[33]</sup> Using different assessment methods can, in addition to paying attention to learners' learning styles, give the teacher better judgment about learners' performance. The study of Martin *et al.*<sup>[34]</sup> is consistent with this. Of course, test analysis should be considered to improve virtual tests, which various articles have referred to the discussion of test analysis.<sup>[35]</sup>

In this study, one of the extracted subcategories was participatory learning. Students' participation in teaching and learning in online classes leads to content retention and better learning. The critical issue of engaging students in academic activities during online classes is essential and plays an essential role in their effective learning.<sup>[28]</sup>

In this study, prompt feedback was one of the subcategories. Appropriate teacher-to-student feedback can correct the student's wrong course in motivating and learning them. Prompt feedback emphasizes what needs to be learned and what is not related to learning.<sup>[36]</sup>

It can be concluded that using appropriate strategies in the online class and better student learning leads to student satisfaction with the classroom.<sup>[37]</sup> Gupta study showed that professors could activate students in an online class by using appropriate strategies and increasing the quality of education.<sup>[38]</sup> Muthuprasad *et al.*<sup>[39]</sup> showed that most students had a positive attitude

toward online classes following the COVID-19 outbreak. Students believed that online learning was beneficial because it provides flexibility and convenience for learners. Students prefer well-structured content with recorded videos. They also find the need for interactive sessions, taking tests, and homework at the end of each class helpful.

### Limitation and recommendation

The strong point of this study was to present a valuable and effective teaching strategy in holding an online class that was used by professors and was satisfied by students so that professors can use these strategies in different universities. The limitations of this study were conducting research and interviews during the COVID-19 and created many challenges in determining the time and place of the interview. It is recommended that interviews be conducted with students and that they have better experiences from the online class and learning.

### Conclusion

Virtual learning is a different experience from face-to-face learning. Proper teaching strategy leads to better classroom attention and deep learning in learners. Since in online classes, due to its virtual nature and lack of student attention to the classroom is less than in daily classes, the use of appropriate educational strategies creates motivation and interest in learners and contributes to a better interaction with teachers. These strategies increase students' participation in educational activities. According to the experience gained from pandemic, the necessary planning for the qualitative development of virtual education should be prioritized by governments. COVID-19 created an opportunity for governments to rethink how to use virtual education, improve the quality of content, present it, and evaluate learners. Paying attention to these issues will focus more on the quality of education and improve students' learning.

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### Conflicts of interest

There are no conflicts of interest.

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