

## Online University Teaching during and after the Covid-19 Crisis in Iraq: Teacher's Presence and Learning Activity

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### ABSTRACT

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Covid - 19 pandemic was a dangerous threat to humanity in the whole earth. The epidemic has succeeded in the global closure of many activities, including educational activities. Although the implementation of e-learning initiatives has reached advanced stages in developed countries, it is still in its infancy in many developing countries and the Middle East in particular. Recently, after the outbreak of Covid-19, state universities in Iraq began limited attempts to use e-learning alongside traditional classrooms. This research paper discusses the effect of online teaching on the teaching process. The researcher made a survey among academic teachers to assess the effect of online study, take their opinions about the problems they faced during the pandemic and analyze our data. The results showed that online teaching.

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## 1. Introduction

On 11 March 2020, the World Health Organization (WHO) declared coronavirus disease 2019 (COVID-19) to be a global pandemic (Tison et al., 2020), "We have therefore made the assessment that COVID-19 can be characterized as a pandemic. Pandemic is not a word to use lightly or carelessly. It is a word that, if misused, can cause unreasonable fear, or unjustified acceptance that the fight is over, leading to unnecessary suffering and death." (WHO 2020).

The spread of the COVID-19 pandemic led to changes in various sectors in the countries of the world after this announcement as in society and, in particular, education. The COVID-19 crisis has led to an education crisis for which no one was prepared. School closures worldwide have affected millions of student. as a temporary solution, Emergency remote teaching (Bozkurt et al. 2020) has been adopted in order to decrease the effects of this pandemic on education (Assunção et al., 2020).

Lederman (2020) justly stated that due to the COVID-19 crisis both teachers and students find themselves in the situation where they felt obligate to start an online academic experience of the teaching-learning process. The reason behind the shift into online teaching is the uncertainties in pursuing in the traditional mode. In order to maintain the social distancing, it is quite impossible to take classes in regular mode. Hence undoubtedly online teaching mode became a necessity. In addition to that, the online teaching mode is providing the feeling of safety to learning community during COVID-19 period (Mishra, et al., 2020).

On the other hand, this crisis has stimulated innovation within the educational sector. We have seen innovative approaches in support of education and training continuity. The quick responses by governments and partners around the world supporting education continuity have become important for the development of online learning as a solution. We have also been reminded of the essential role of teachers and that governments have an ongoing duty of care to education personnel (Mishra et al., 2020).

There is no pedagogical approach can replace the position of formal education due to having teacher-taught direct interaction. But, the after math of COVID-19 crisis, online education became a pedagogical shift from traditional method to the modern approach of teaching-learning from classroom to Zoom, from personal to virtual and from seminars to webinars. Previously, e-learning was popularly considered as the part of non-formal education, but now as the circumstances seems to persist, it sounds it would gradually replace the formal education system. Some of the most popular online communication platforms that would change the destination and direction of the whole education system across the world in post-COVID-19 circumstances are, Google Classroom, Google meet, Edmodo, and many more (Mishra et al., 2020).

### ***1.1 Academic Educational System in Iraq***

The academic educational sector globally is changing rapidly with an increased requirement of good educational delivery. In Iraq it is confront rapidly changing challenges. The country is making great efforts to promote its human resources through education. The educational policy aims to reorganize the education system and link education with its national development plans. In the past, the level of academic education in Iraq was advanced, due to the endorsement of a law on free education, Iraq won the UNESCO prize for the best illiteracy-free country, in 1982 (UNESCO). (Al-Husseini et al., 2019).

Iraq represents a unique case in the context of using online teaching in academic education. In comparison to develop and developing countries, Iraq is considered behind, due to several challenges as a result of lack of facilities and lack of financial support. According to the United Nations Development Programme (UNDP) 2016 report, only 42% of Iraqi students are satisfied with their educational experience. Previous research found that online learning can be an effective tool to increase the standards and quality of education (Ameen et al., 2019).

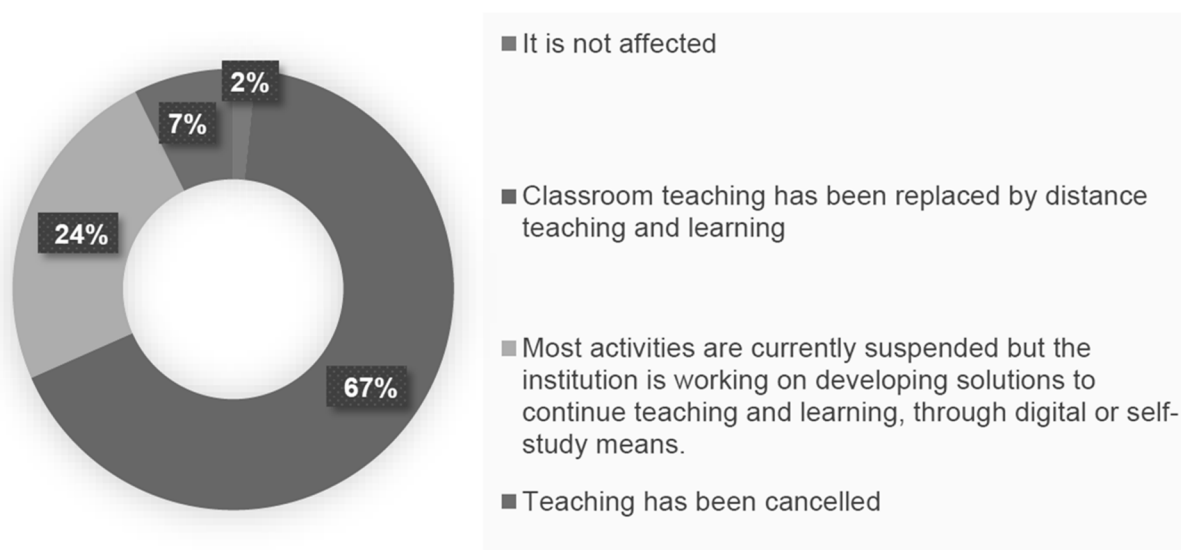
Unfortunately, as a result of the political situations and the economic embargo imposed between 1991 and 2003, Iraq was distanced from the rest of the world. Additionally, the lack of security, post- 2003 made many academics and scientists to emigrate, causing a loss of academic capabilities. The Ministry of Higher Education and Scientific Research has released an international strategy for 2012-2020 and adopted a number of approaches for upgrading academic education. This strategy consists of a number of the main axes, such as the development of curricula, study programs and scientific research, encouraging creativity, and developing academics on all levels. Also it includes upgrading the capabilities of the teaching staff in using technology for education and learning (Al-Husseini et al., 2019).

### ***1.2 Problem Statement***

Education method is affected by the absence of face to face learning and teacher's presence, (This special issue is devoted to the COVID-19 pandemic and its effects on teacher education. Flores, M. A., 2020) therefore teachers cannot really examine the knowledge of their student during online testing, so they just check that they are resourceful and they continue studying (Omelchenko, 2020).

The reduction of collage attendance reduces the learning activity and the student participant become passive. (Physical aspect of learning is often neglected (ibid).

Figure1.1 show how COVID-19 affected teaching and learning? (Marinoni, 2020).



### 1.3 Research Questions

1. What are the challenges that faced academic teachers in adapting to the online teaching process during COVID-19 pandemic?
2. What is the effect of online teaching on education level?
3. What are the teacher's perceptions and recommendation about online teaching during and after COVID-19 pandemic?

### 1.4 Significance of the Study

This research try to find out how to promote the online teaching during the covid-19 pandemic, by discussing the challenges and teacher perceptions in order to improve the effectiveness of online teaching in this crisis, in a term of taking advantages of the circumstances arising from this crisis in the future (What doesn't kill you makes you stronger). As the online teaching was ignored until this pandemic appears and shows its importance to continue teaching. For the researchers, the study will help to uncover critical areas in online teaching process.

### 1.5 Scope of the Study

This study intended to investigate the opinions of Al-Iraqia university academic teachers, with a sample size of 166 teachers, about online teaching and the challenges that faced during this experience, as well as the effectiveness of online teaching.

Table 1.1 the research population

| Gender | Sample size |
|--------|-------------|
| Male   | 51          |
| Female | 115         |
| Total  | 166         |

## 2. Literature Review

The COVID-19 pandemic has its effects on education at all levels in various ways. Institutions and teachers had to have a rapid response to an unexpected and forced transition from face-to-face to online teaching. They also had to create learning environments for student teachers doing their preparation in the light of the requirements of teacher education programs (Carrillo et al., 2020).

It is important to learn more about online teaching potential and use, for informed and productive learning. Also, it is essential to go beyond emergency online practices that was a response to the pandemic and develop quality online teaching and learning that result from careful instructional design and planning. The situation has forced many teachers to adapt an online format, it is necessary to ensure that these practices are effective. Therefore; this is a crucial moment to synthesis the work that has been done on the topic to inform future practices. This period of change entails the necessity to provide an evidence-based perspective on what works and does not work but, most importantly, to understand the characteristics, the processes, the outcomes and the implications of online teaching (Carrillo et al., 2020).

### 2.1 Educational System

Global changes put pressure on nations of the world to constantly acquire and apply new skills and techniques in teaching through adoption of relevant technologies to cope with trends of globalization (Akarowhe, 2017).

Recent studies have shown that, a significant proportion (70%) of teachers in the European education system recognize the importance of teaching based on digitally assisted methods, but practically, only 25% of the teaching staff use digital assisted methods in working with the trainers. At the level of educational preparation there is a high rate of use of Information and Communication Technologies by the professor (Cosmulese et al., 2019).

The European Agenda 'Open Education' innovates a high-quality teaching and learning methods through new technologies and digital content. The goal is the achievement of the European Union's objectives in terms of reducing early school leaving and increasing tertiary education (Cosmulese et al., 2019).

## ***2.2 xmk Blended Learning***

The blended learning environments offer a highly individualized and self-managed experience for the university student, as well as the widely-accepted understanding that integrating both modalities (e-learning and face-to-face learning) ensures flexibility of access to and use of knowledge. This blend offers the combination of varied social interaction patterns that meets different needs and learning styles and provides benefits for students including program cost reductions, improved time efficiency, and locational convenience (Medina, 2018).

The current generation of students (ranging from school to university years) is very well equipped with digital devices and indeed views information technologies as essential elements of their lives. The teachers and students must learn to integrate these in increasingly blended classrooms. Effective blended learning must become more personalised, flexible, to serve as a support source that expands the scope of traditional instructional and learning actions. Also the need for constant support and training for teachers and learners and the need for integrative approaches that support more effective blended learning outcomes. Furthermore, that help learners develop throughout their learning experiences (Medina, 2018).

That thoughtfully designed blended learning can preserve and enhance the 'traditional values' of higher education. Fifteen years later, we might say the same for online teaching and learning: not just as an emergency remedy but as a way of enriching and extending the educational possibilities open to all universities. If teachers invest time in designing learning activities that address learners' cognitive and social needs, better learning outcomes are possible. This design pedagogical knowledge is not limited to online teaching and learning but can permeate face-to-face contexts as well, further expanding educational benefits (Rapanta, et al. 2020).

## ***2.3 Teacher Presence***

Teachers have to establish a relationship with their students, especially during the current situation of COVID-19 pandemic teaching presence and how it can be re-conceived is important as the educators are the designers, the tutors, and the evaluators of the learning experience. A three requirement of teacher presence:

- A cognitive presence, focusing on how teachers take into consideration students' preparation to participate in the online learning experience.
- A social presence, which indicates that teachers should allow the space for communication between student-student and student-teacher interaction through Educational Applications.
- A facilitator presence, demonstrating teachers' facilitator discourse, direct instruction by using tools, resources, and mentoring activities. (Rapanta, et al. 2020).

## ***2.4 Advantages and Disadvantages Online Teaching***

### ***2.4.1 Advantages***

1. Continuity of learning process.
2. A great chance to take learning in comfortable conditions such as from home.
3. No need to go to the university regularly, so valuable time and money is saved.
4. Students are given the chance to allocate their time properly, they are not limited to do their tasks in the morning or afternoon, and they can study in the evening or at night, what is more suitable for working students. (Omelchenko, 2020)

### ***2.4.2 Disadvantages***

1. Spending more time in front of the computer or other electronic device, damaging eyesight and posture for both teachers and students.
2. Physical aspect of learning is often neglected.
3. Students have to master a lot of theoretical material on their own. This can really affect the psychological and emotional mood.
4. Lack of interact in the society and live communication, as at university students do not only acquire knowledge,
5. Ignore distance learning from both teachers and student; some of them have real excuses – no computers and the Internet.
6. Teachers and student may do not have enough computer skills.
7. An important problem in e-learning is cheating, we can't control how students do their tasks, and they can use any source they want. In some cases in order to overcome this problem the teachers can check their knowledge in online videoconference, but this may be difficult if there are a lot of student in, with a limited time. So teachers need to be creative (Omelchenko, 2020).

## **3. Methodology**

This study applied the quantitative simple random method to identify the academic teachers' perceptions and recommendations about online teaching in Al Iraqia University College of Education for Women during the COVID-19 crisis. An online Google form questionnaire used for data collection, by publishing it to the academic teachers of higher education via some applications (WhatsApp and telegram). The questionnaire items were presented to a group of jury, which includes 10 instructor from the same

university. Some suggested revisions and modifications have been made to the questionnaire according to the jury study ideas and feedback.

### 3.1 Participants of the Study

Most of the questionnaire sections were taken from previous researches, in the study (Mahdy, M. A. 2020, Akour, et al. 2020 and Alqurshi, 2020) considering the researchers' opinion and it directed to 166 academic teachers in Al Iraqia University College of Education for Women.

The questionnaire had the goals of gathering data on the perceived challenges which the academic teachers faced in the Al Iraqia University/ College of Education for Women surveyed, as well as the strategies used to address those challenges.

### 3.2 Questionnaire

A Google form used to create the online survey which was designed in the Arabic language. The beginning of the form includes research title, the goal and instruction about how to fill the questionnaire. Six sections with overall 38 questions were included in this anonymous online survey, selected from previous researches (Mahdy, 2020, Akour, et al. 2020, Alqurshi, 2020).

The first part is demographic information, consisted of 3 questions distributed as follows: the gender, qualification, and the experience of work. The second part is the most common teaching strategies and tools during COVID-19 pandemic, consisted of 2 sections (strategies and tools) 4 questions for each one. With responses in the form of five-point intensity Likert scale. The third part is the challenges that confront academic teachers during online teaching, consisted of 11 questions, with responses in the form of five-point intensity Likert scale. The fourth part is the effect of online teaching on education level, consisted of 3 questions, with responses in the form of five-point intensity Likert scale. The fifth part is the teacher's perceptions and recommendation about online teaching during COVID-19 pandemic, consisted of 7 questions, with responses in the form of five-point intensity Likert scale. The sixth part is the recommendation about the future of online teaching after COVID-19 pandemic, consisted of 6 questions, with responses in the form of five-point intensity Likert scale.

### 3.3 Demographic Variables

Table 4.1 The Gender

| The Gender | Frequency | Percent |
|------------|-----------|---------|
| Male       | 50        | 43.1    |
| Female     | 66        | 56.9    |
| Total      | 116       | 100.0   |

As shows in table 4.1 the majority of the responders are female in frequency of 66 (which represent 56.9 percent) compared to 50 of the male (which represent 43.1 percent).

Table 4.2 and figure 4.2 shows the qualification of the academic teachers that involves in our study, 44.8 percent of the respondents hold a master and 55.2 percent hold a Ph.D. degree and above.

Table 4.2 The Qualification of the Academic Teachers

| The Qualification | Frequency | Percent |
|-------------------|-----------|---------|
| Master            | 52        | 44.8    |
| Ph.D. or higher   | 64        | 55.2    |
| Total             | 116       | 100.0   |

Finally the experiences of the work, most of the respondents 61.2 percent had 11 years of experience and above, while 23.3 percent of them were between 1 to 5 years, and 15.5 percent of them were between 6 to 10 years of experience as in table 4.3 and figure 4.3.

Table 4.3 The Experience of Work

| The Experience of Work | Frequency | Percent |
|------------------------|-----------|---------|
| 1- 5 years             | 27        | 23.3    |
| 6- 10 years            | 18        | 15.5    |
| 11+ years              | 71        | 61.2    |
| Total                  | 116       | 100.0   |

### 3.4 Data Management and Proc

The data underwent statistical processing and collected into degrees of score on the five-Likert scale collection; then were given grades (5, 4, 3, 2, 1) entered into a computer and analyzed using SPSS program.

Table 4.4 five-Likert Scale

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|-------------------|----------|---------|-------|----------------|
| 1                 | 2        | 3       | 4     | 5              |

#### 4. The Most Common Teaching Strategies and Tools during COVID-19 Pandemic

Table 4.4 and figure 4.4 shows that the most responders agree to use Educational Applications (Edmodo, google classroom, etc.) and Online video applications (Zoom, Google meet, etc.) with 49.1 percent during covid-19 pandemic. While the Online chat applications (Telegram, WhatsApp, etc.) agree with 37.9 percent and finally University platform 38.8 percent respond as neutral. The study shows that Al-Iraqia University's teachers prefer to use Educational Applications.

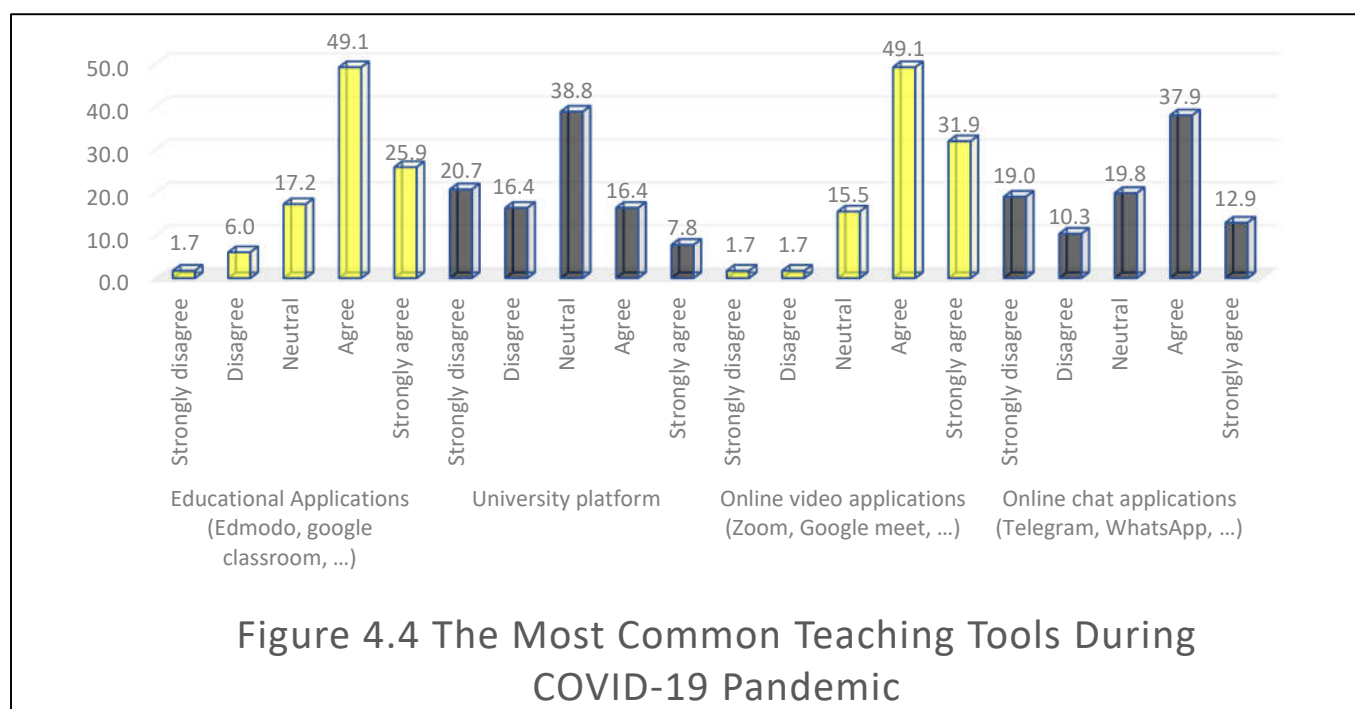


Table 4.5 The Most Common Teaching Tools During COVID-19 Pandemic

| The Most Common Teaching Tools | Educational Applications (Edmodo, google classroom, etc.) |        | University platform |        | Online video applications (Zoom, Google meet, etc.) |        | Online chat applications (Telegram, WhatsApp, etc.) |        |
|--------------------------------|-----------------------------------------------------------|--------|---------------------|--------|-----------------------------------------------------|--------|-----------------------------------------------------|--------|
|                                | Percent                                                   | Number | Percent             | Number | Percent                                             | Number | Percent                                             | Number |
| Strongly disagree              | 1.7                                                       | 2      | 20.7                | 24     | 1.7                                                 | 2      | 19.0                                                | 22     |

|                |      |     |      |     |      |     |      |     |
|----------------|------|-----|------|-----|------|-----|------|-----|
| Disagree       | 6.0  | 7   | 16.4 | 19  | 1.7  | 2   | 10.3 | 12  |
| Neutral        | 17.2 | 20  | 38.8 | 45  | 15.5 | 18  | 19.8 | 23  |
| Agree          | 49.1 | 57  | 16.4 | 19  | 49.1 | 57  | 37.9 | 44  |
| Strongly agree | 25.9 | 30  | 7.8  | 9   | 31.9 | 37  | 12.9 | 15  |
| Total          | 100% | 116 | 100% | 116 | 100% | 116 | 100% | 116 |

Regarding the most common teaching strategies table 4.6 and figure 4.5 shows the majority of the responses go to the Online video conference (Zoom, Google meet, etc.) as 48.3 percent with agree. In the second place Sending PDF lectures, power point lectures comes with 39.7 percent agree, while the respond to Combining both Online chat and video with 32.8 percent agree. Finally online chat discussion (Telegram, WhatsApp, etc.) agree in a percent of 29.3.

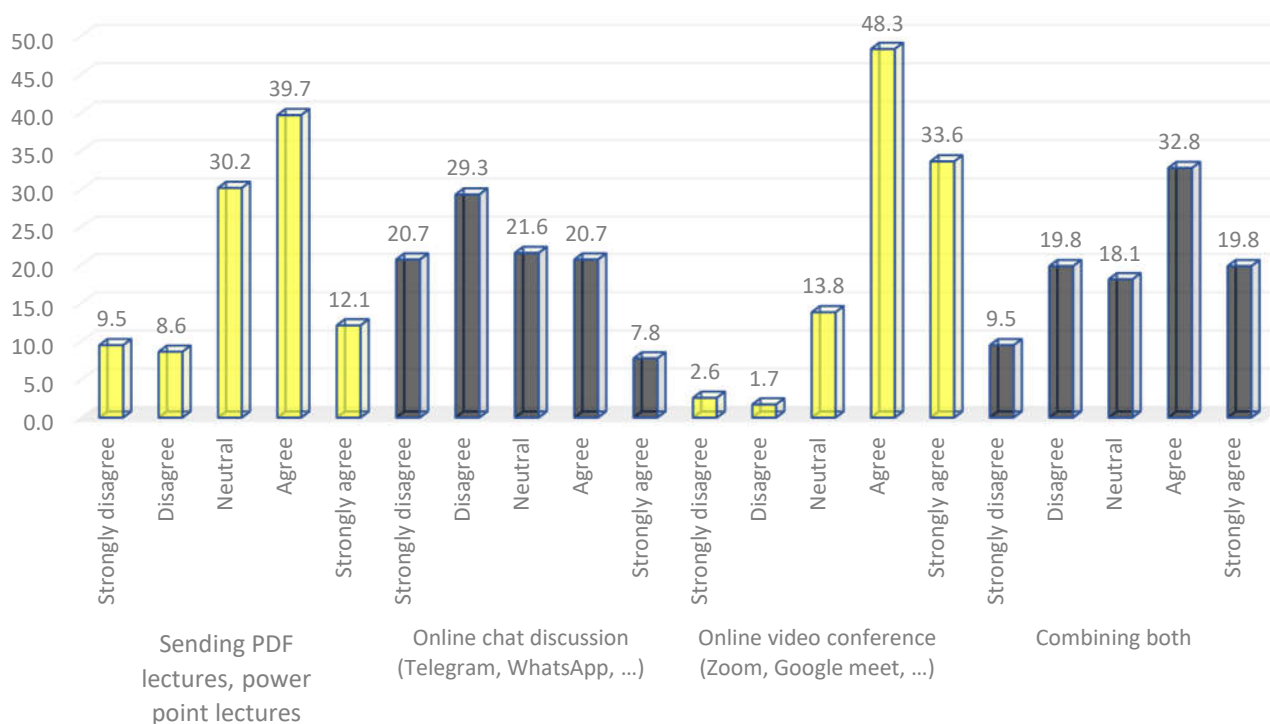


Figure 4.5 The Most Teaching Strategies During COVID-19 Pandemic.

Table 4.6 The Most Common Teaching Strategies During COVID-19 Pandemic

| The Most Common Teaching Strategies | Sending PDF lectures, power point lectures |        | Online chat discussion (Telegram, WhatsApp, etc.) |        | Online video conference (Zoom, Google meet, etc.) |        | Combining both Online chat and video |        |
|-------------------------------------|--------------------------------------------|--------|---------------------------------------------------|--------|---------------------------------------------------|--------|--------------------------------------|--------|
|                                     | Percent                                    | Number | Percent                                           | Number | Percent                                           | Number | Percent                              | Number |
| Strongly disagree                   | 9.5                                        | 11     | 20.7                                              | 24     | 2.6                                               | 3      | 9.5                                  | 11     |
| Disagree                            | 8.6                                        | 10     | 29.3                                              | 34     | 1.7                                               | 2      | 19.8                                 | 23     |
| Neutral                             | 30.2                                       | 35     | 21.6                                              | 25     | 13.8                                              | 16     | 18.1                                 | 21     |
| Agree                               | 39.7                                       | 46     | 20.7                                              | 24     | 48.3                                              | 56     | 32.8                                 | 38     |

|                |      |     |      |     |      |     |      |     |
|----------------|------|-----|------|-----|------|-----|------|-----|
| Strongly agree | 12.1 | 14  | 7.8  | 9   | 33.6 | 39  | 19.8 | 23  |
| Total          | 100% | 116 | 100% | 116 | 100% | 116 | 100% | 116 |

#### ***4.1 First Objective: The Challenges That Faced Academic Teachers in Adapting to the Online Teaching Process during COVID-19 Pandemic***

Table 4.7 and figure 4.6 shows the responses about the challenges that faced teachers during the online teaching. While responding to the online questionnaire, the majority of the academic teachers (57.8 percent agree and 19 percent strongly agree that the need for more time and effort to design examinations and suitable assessment tools, while only 1.7 percent strongly disagree with this challenge). 50.9 percent voted agree to Lack of technological competency and training to use online teaching platforms. 49.1 percent of responses agree that Ensure that the student is present during the lecture, while 3.4 percent strongly disagree.

47.4 percent of the responders agree that there is anxiety about the quality of Internet service and video calls. 47.4 percent of academic teachers strongly agree with the challenge of online examinations increase the probability of cheating among students.

46.6 percent of responses agree that there is Changing in the question directions. 45.7 percent agree to have difficulties in explaining the material. 44 percent of the responses faced challenge to ensure that the student is present during the lecture. 42.2 percent agree that there is reduction of interaction with students. 37.9 percent agree that teacher privacy (phone number, username, etc.) is a challenge they have faced during online teaching. (Finally only 27.6 percent agree that the lecture time in the online schedule is not fixed, which confuses students and teachers).

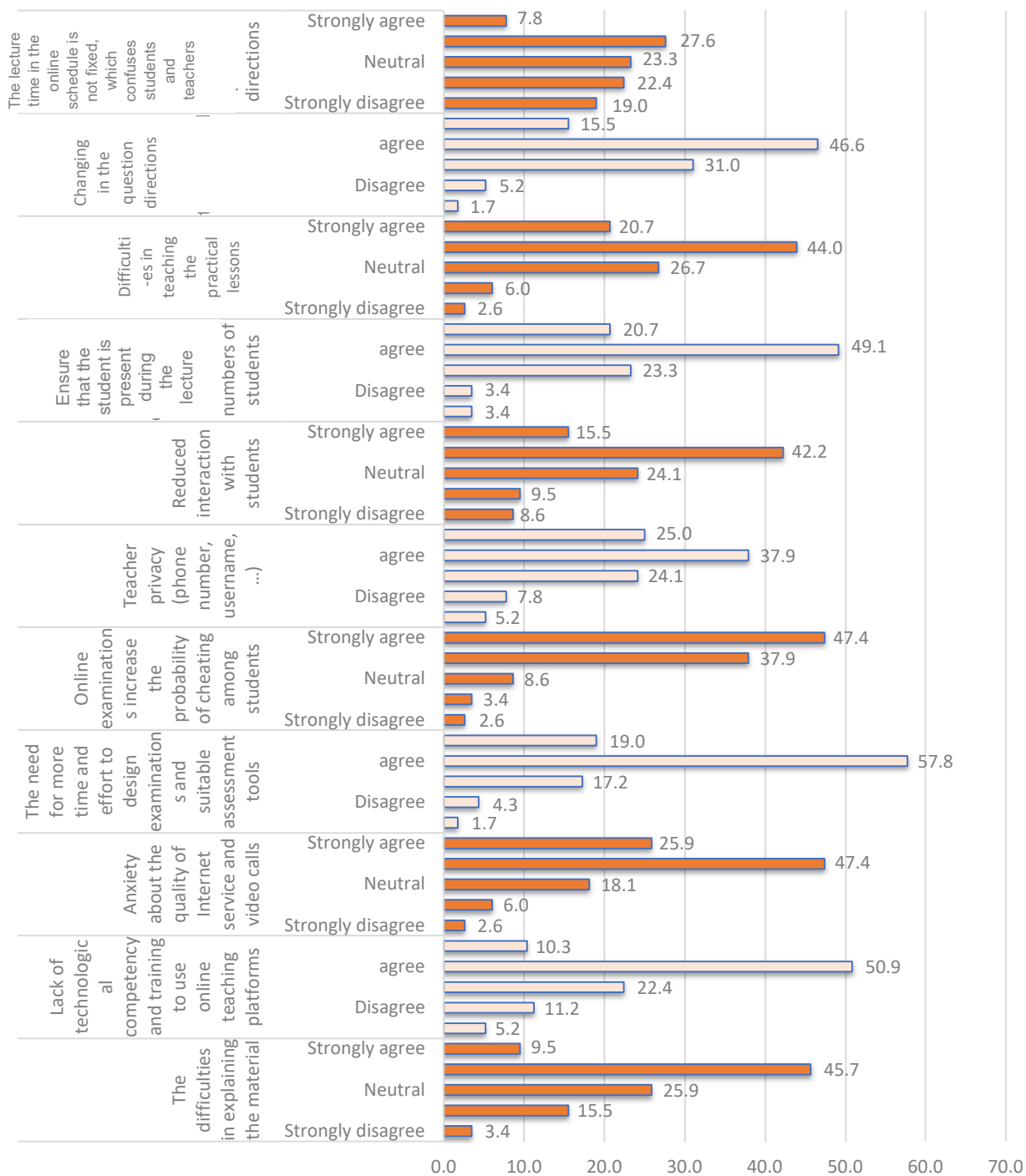


Figure 4.6 The Challenges That Faced Academic Teachers During Online Teaching.

Table 4.7 The Challenges That Faced Academic Teachers During Online Teaching.

| The Challenges That Faced Academic Teachers                                            |         | Strongly disagree | Disagree | Neutral | agree | Strongly agree | Total |
|----------------------------------------------------------------------------------------|---------|-------------------|----------|---------|-------|----------------|-------|
| The difficulties in explaining the material                                            | Percent | 3.4               | 15.5     | 25.9    | 45.7  | 9.5            | 100%  |
|                                                                                        | Number  | 4                 | 18       | 30      | 53    | 11             | 116   |
| Lack of technological competency and training to use online teaching platforms         | Percent | 5.2               | 11.2     | 22.4    | 50.9  | 10.3           | 100%  |
|                                                                                        | Number  | 6                 | 13       | 26      | 59    | 12             | 116   |
| Anxiety about the quality of Internet service and video calls                          | Percent | 2.6               | 6.0      | 18.1    | 47.4  | 25.9           | 100%  |
|                                                                                        | Number  | 3                 | 7        | 21      | 55    | 30             | 116   |
| The need for more time and effort to design examinations and suitable assessment tools | Percent | 1.7               | 4.3      | 17.2    | 57.8  | 19.0           | 100%  |
|                                                                                        | Number  | 2                 | 5        | 20      | 67    | 22             | 116   |
| Online examinations increase the probability of cheating among students                | Percent | 2.6               | 3.4      | 8.6     | 37.9  | 47.4           | 100%  |
|                                                                                        | Number  | 3                 | 4        | 10      | 44    | 55             | 116   |
| Teacher privacy (phone number, username, etc.)                                         | Percent | 5.2               | 7.8      | 24.1    | 37.9  | 25.0           | 100%  |
|                                                                                        | Number  | 6                 | 9        | 28      | 44    | 29             | 116   |
| Reduced interaction with students                                                      | Percent | 8.6               | 9.5      | 24.1    | 42.2  | 15.5           | 100%  |
|                                                                                        | Number  | 10                | 11       | 28      | 49    | 18             | 116   |
| Ensure that the student is present during the lecture                                  | Percent | 3.4               | 3.4      | 23.3    | 49.1  | 20.7           | 100%  |
|                                                                                        | Number  | 4                 | 4        | 27      | 57    | 24             | 116   |
| Difficulties in teaching the practical lessons online                                  | Percent | 2.6               | 6.0      | 26.7    | 44.0  | 20.7           | 100%  |
|                                                                                        | Number  | 3                 | 7        | 31      | 51    | 24             | 116   |
|                                                                                        | Percent | 1.7               | 5.2      | 31.0    | 46.6  | 15.5           | 100%  |

|                                                                                            |         |      |      |      |      |     |      |
|--------------------------------------------------------------------------------------------|---------|------|------|------|------|-----|------|
| Changing in the question directions                                                        | Number  | 2    | 6    | 36   | 54   | 18  | 116  |
| The lecture time in the online schedule is not fixed, which confuses students and teachers | Percent | 19.0 | 22.4 | 23.3 | 27.6 | 7.8 | 100% |
|                                                                                            | Number  | 22   | 26   | 27   | 32   | 9   | 116  |

#### ***4.2 Second Objective: The Effect of Online Teaching on Education Level***

The researchers in this section represent the effect of online teaching on educational level. As table 4.8 and figure 4.7 shows that the majority of the responses (37.9 and 34.5 percent agree and strongly agree that the awarded grades are not an accurate reflection of students' knowledge and skills). (33.6 And 30.2 percent of the responders agree and strongly agree that online teaching effect the students' evaluation). While most of responders voted neutral with the effect of online teaching on the student's comprehensive. The responses reflect teachers' opinion that the online teaching effect on the education level.

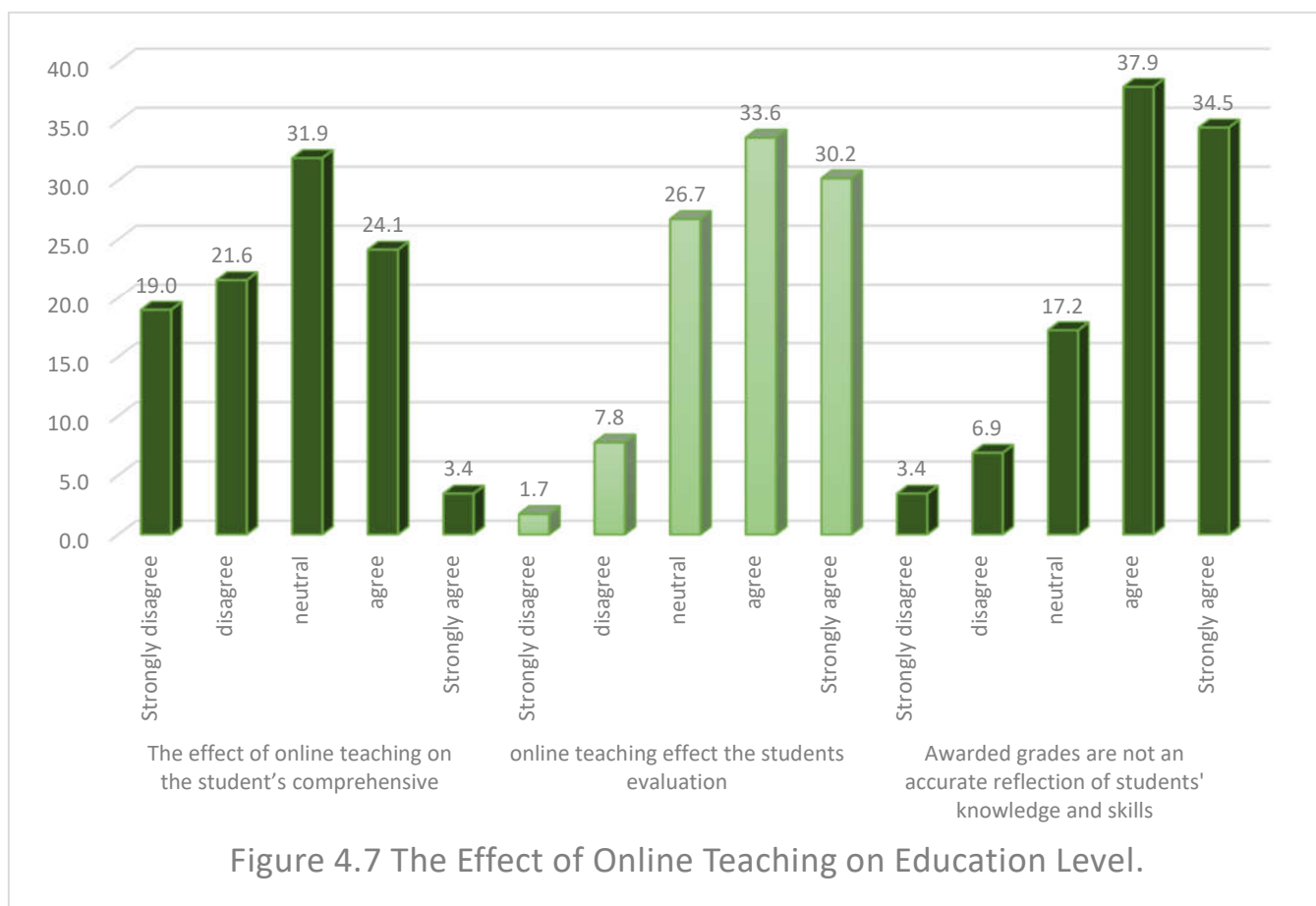


Table 4.8 The Effect of Online Teaching on Education Level.

| The Impact Of<br>Online Teaching On<br>Education Level | The effect of online teaching<br>on the student's<br>comprehensive |        | Online teaching effect the<br>students evaluation |        | Awarded grades are not an<br>accurate reflection of students'<br>knowledge and skills |        |
|--------------------------------------------------------|--------------------------------------------------------------------|--------|---------------------------------------------------|--------|---------------------------------------------------------------------------------------|--------|
|                                                        | Percent                                                            | Number | Percent                                           | Number | Percent                                                                               | Number |
| Strongly disagree                                      | 19.0                                                               | 22     | 1.7                                               | 2      | 3.4                                                                                   | 4      |
| Disagree                                               | 21.6                                                               | 25     | 7.8                                               | 9      | 6.9                                                                                   | 8      |

|                |      |     |      |     |      |     |
|----------------|------|-----|------|-----|------|-----|
| Neutral        | 31.9 | 37  | 26.7 | 31  | 17.2 | 20  |
| Agree          | 24.1 | 28  | 33.6 | 39  | 37.9 | 44  |
| Strongly agree | 3.4  | 4   | 30.2 | 35  | 34.5 | 40  |
| Total          | 100% | 116 | 100% | 116 | 100% | 116 |

#### ***4.3 Teacher's Perceptions and Recommendation about Online Teaching During and after COVID-19 Pandemic***

The majority of the responders in this section agree with the ideas that suggested from the researchers as shows in table 4.9 and figure 4.8. (The highest suggestion is to provide questions during lectures to pay student attention which comes with 50.9 percent agree and 37.1 percent strongly agree). This shows that the teachers take care of students' knowledge. On the other hand (34.5 percent agree with decrease the amount of classwork could help reducing students' stress).

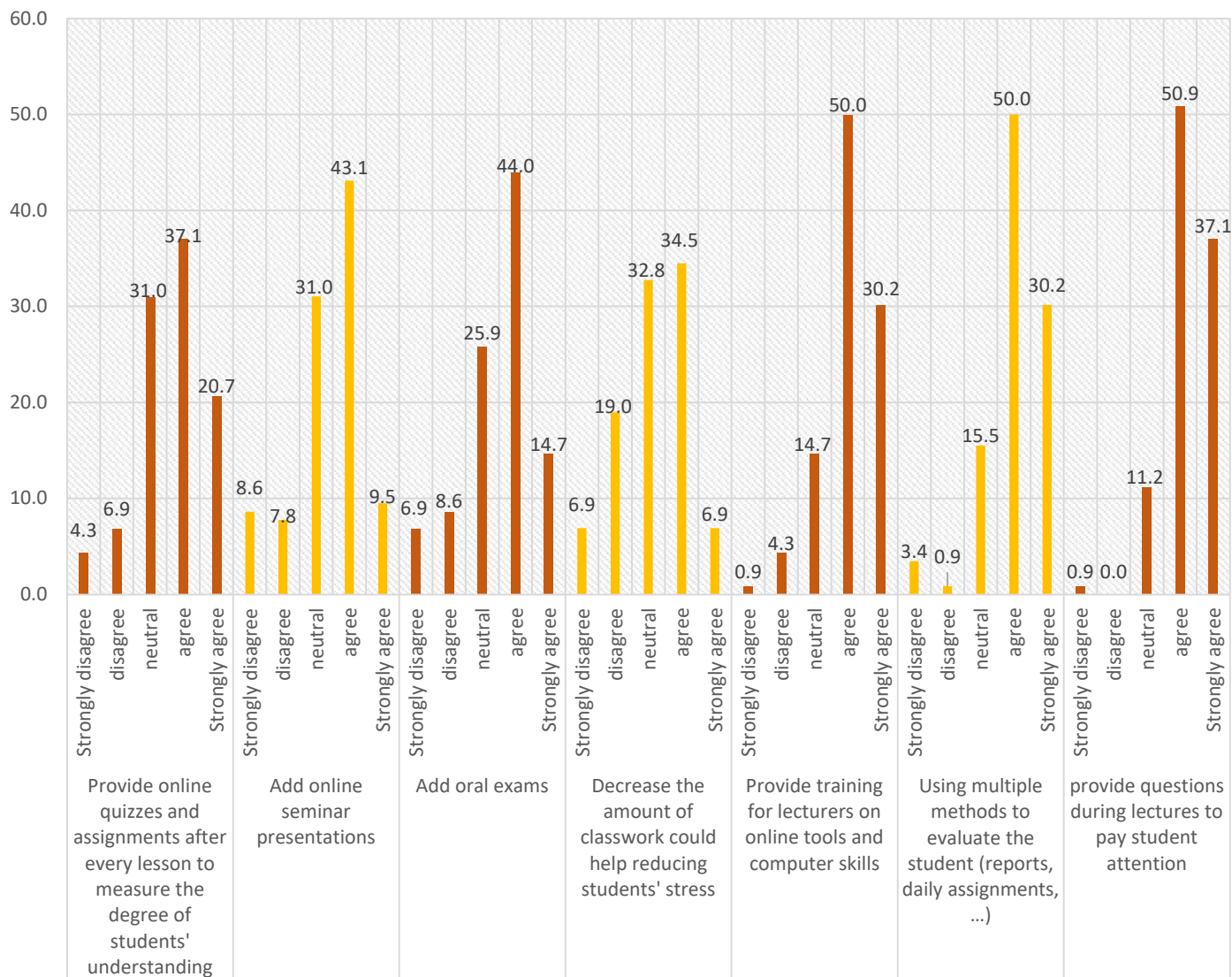


Figure 4.8 The Teacher's Perceptions and Recommendation About Online Teaching During COVID-19 Pandemic

Table 4.9 The Teacher's Perceptions and Recommendation about Online Teaching During COVID-19 Pandemic

| The Teacher's Perceptions and Recommendation | Provide online quizzes and assignments after every lesson to measure the degree of students' understanding |     | Add online seminar presentations |     | Add oral exams |     | Decrease the amount of classwork could help reducing students' stress |     | Provide training for lecturers on online tools and computer skills |     | Using multiple methods to evaluate the student (reports, daily assignments, etc.) |     | provide questions during lectures to pay student attention |     |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------|-----|----------------------------------|-----|----------------|-----|-----------------------------------------------------------------------|-----|--------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|------------------------------------------------------------|-----|
|                                              | %                                                                                                          | No. | %                                | No. | %              | No. | %                                                                     | No. | %                                                                  | No. | %                                                                                 | No. | %                                                          | No. |
| Strongly disagree                            | 4.3                                                                                                        | 5   | 8.6                              | 10  | 6.9            | 8   | 6.9                                                                   | 8   | 0.9                                                                | 1   | 3.4                                                                               | 4   | 0.9                                                        | 1   |
| Disagree                                     | 6.9                                                                                                        | 8   | 7.8                              | 9   | 8.6            | 10  | 19.0                                                                  | 22  | 4.3                                                                | 5   | 0.9                                                                               | 1   | 0.0                                                        | 0   |
| Neutral                                      | 31.0                                                                                                       | 36  | 31.0                             | 36  | 25.9           | 30  | 32.8                                                                  | 38  | 14.7                                                               | 17  | 15.5                                                                              | 18  | 11.2                                                       | 13  |
| Agree                                        | 37.1                                                                                                       | 43  | 43.1                             | 50  | 44.0           | 51  | 34.5                                                                  | 40  | 50.0                                                               | 58  | 50.0                                                                              | 58  | 50.9                                                       | 59  |
| Strongly agree                               | 20.7                                                                                                       | 24  | 9.5                              | 11  | 14.7           | 17  | 6.9                                                                   | 8   | 30.2                                                               | 35  | 30.2                                                                              | 35  | 37.1                                                       | 43  |
| Total                                        | 100%                                                                                                       | 116 | 100%                             | 116 | 100%           | 116 | 100%                                                                  | 116 | 100%                                                               | 116 | 100%                                                                              | 116 | 100%                                                       | 116 |

The majority of responders agree in a percent of 39.5, 35.3, 34.5, and 31.9 respectively, with provide the opportunity for students to submit their question about the curriculum online, Supporting lectures by sending them audio or video recordings via online platforms, dependence on blended learning and The Continuity to submitting assignments online. On other hand, only 10.3 percent agree against 37.9 percent strongly disagree with the continuity of online teaching even after the pandemic

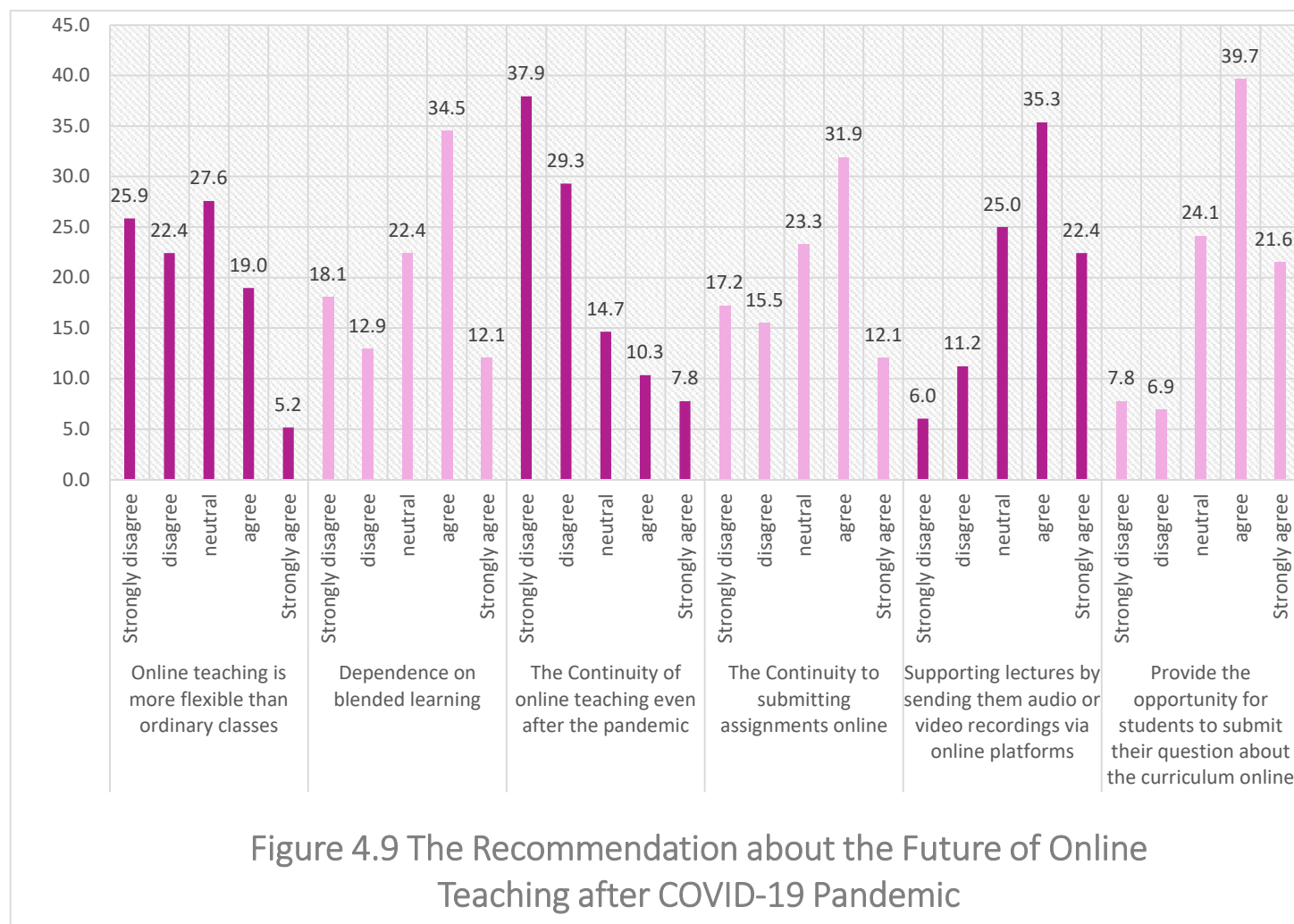


Table 4.10 The Recommendation about the Future of Online Teaching after COVID-19 Pandemic

| The Recommendation About the Future of Online Teaching | Online teaching is more flexible than ordinary classes | Dependence on blended learning | The Continuity of online teaching even after the pandemic | The Continuity to submitting assignments online | Supporting lectures by sending them audio or video recordings via online platforms | Provide the opportunity for students to submit their question about the curriculum online |
|--------------------------------------------------------|--------------------------------------------------------|--------------------------------|-----------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|                                                        |                                                        |                                |                                                           |                                                 |                                                                                    |                                                                                           |

|                   | %    | No. | %    | No. | %    | No. | %    | No. | %    | No. | %    | No. |
|-------------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| Strongly disagree | 25.9 | 30  | 18.1 | 21  | 37.9 | 44  | 17.2 | 20  | 6.0  | 7   | 7.8  | 9   |
| disagree          | 22.4 | 26  | 12.9 | 15  | 29.3 | 34  | 15.5 | 18  | 11.2 | 13  | 6.9  | 8   |
| neutral           | 27.6 | 32  | 22.4 | 26  | 14.7 | 17  | 23.3 | 27  | 25.0 | 29  | 24.1 | 28  |
| agree             | 19.0 | 22  | 34.5 | 40  | 10.3 | 12  | 31.9 | 37  | 35.3 | 41  | 39.7 | 46  |
| Strongly agree    | 5.2  | 6   | 12.1 | 14  | 7.8  | 9   | 12.1 | 14  | 22.4 | 26  | 21.6 | 25  |
| Total             | 100% | 116 | 100% | 116 | 100% | 116 | 100% | 116 | 100% | 116 | 100% | 116 |

## 5. Discussion and Recommendation

The study found that the most common teaching tools used during the COVID-19 pandemic was the Educational Applications (Edmodo, google classroom, etc.) and online video applications (Zoom, Google meet, etc.) with 49.1 percent. Followed by the online chat applications (Telegram, WhatsApp, etc.) with 37.9 percent. In this regard, Akour, et al. showed that the most used online teaching tools for delivering lectures or communicating was the Educational Applications (Moodle) 55.8 percent, followed by Zoom 51.8 percent, and then the online chat applications (Akour, et al. 2020).

The data showed also that the most common teaching strategies during COVID-19 pandemic were online video conference (Zoom, Google meet, etc.) 48.3 percent followed by Sending pdf lectures and power point lectures 39.7 percent. This result is in accordance with Mahdy which showed that the online study materials were available mostly through online classes and pdf lectures (Mahdy, 2020).

### 5.1 The Challenges that Faced Academic Teachers in Adapting to the Online Teaching Process During COVID-19 Pandemic

The challenges that faced academic teachers during online teaching in general included the need for more time and effort to design examinations and suitable assessment tools, lack of technological competency and training to use online teaching platforms (50.9 percent agree and 10.3 percent strongly agree), followed by Online examinations increase the probability of cheating among students with (37.9 percent agree and 47.4 percent strongly agree), anxiety about the quality of Internet service and video calls (47.4 percent agree and 25.9 percent strongly agree) and teacher privacy 37.9 percent. This is in agreement with previous studies by Akour, et al, which reported that there were some challenges and concerns that faced them. Namely, their worries about the increased likelihood of cheating among students during online examinations 83 percent, the efforts and time

needed to prepare online examinations and fair evaluation assignments 59.9 percent, the intrusion of privacy 59.2 percent, and reduced interaction with students 57.9 percent (Akour, et al. 2020).

### ***5.2 The Effect of Online Teaching on Education Level***

The current study showed the effect of online teaching on education level, the researchers noticed that the awarded grades are not an accurate reflection of students' knowledge and skills (37.9 and 34.5 percent) agree and strongly agree and its effect the students' evaluation. The same was reported by Rapanta, et al, agreed that the assessment can possibly be considered the most challenging part of distance learning for an institution used to face-to-face oral or written exam, as the control shift towards the students makes it hardly possible to ensure that students are not cheating. So agreed that a continuous assessment model must be adopted (Rapanta, et al, 2020).

### ***5.3 Teacher's Perceptions and Recommendation about Online Teaching During and after COVID-19 Pandemic***

The study of the teacher's perceptions and recommendation about online teaching during COVID-19 pandemic showed that Provide training for lecturers on online tools and computer skills provide questions during lectures to pay student attention and using multiple methods to evaluate the student (reports, daily assignments, etc.) with about 50 percent for each. Followed by Add online seminar presentations and oral exams, provide online quizzes and assignments after every lesson to measure the degree of students' understanding (with 44, 43.1, and 37.1 percent respectively). Finally Decrease the amount of classwork could help reducing students' stress with 34.5 percent. On the other hand Alqurshi reported that 13 and 18 percent only agree with oral exams and online seminars, respectively, as a suitable alternative to written exams. And agree with 41 percent to provide more assessment (Alqurshi, 2020).

In this study, in the section of the recommendation about the future of online teaching after COVID-19 pandemic study, we found that 22.4 and 25.9 percent disagree and strongly disagree with the idea of the online teaching is more flexible than ordinary classes that agree with Adnan, et al. study that reported 71.4 percent disagree about the online learning is more motivating than conventional learning (Adnan, et al. 2020).

In addition to that, the majority (34.5, 31.9 and 35.3 percent) agree with dependence on blended learning after the pandemic as a supporting lecture by sending them audio or video recordings via online platforms and submitting assignments online. The same was reported in a previous study by Ratten, as return to blended learning with more emphasis on digital methods after the pandemic as the figure bellow (Ratten, 2020).

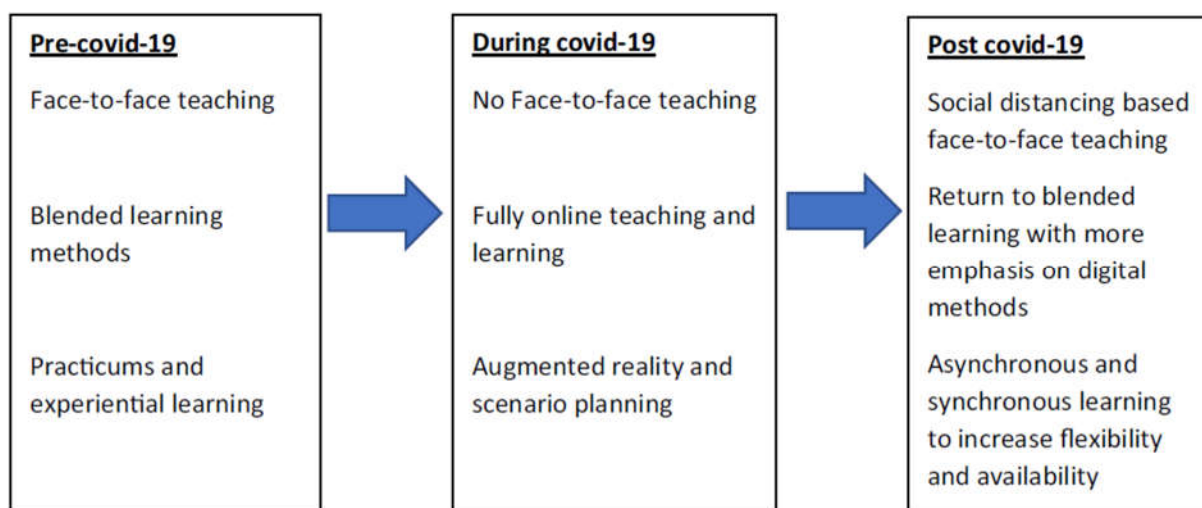


Figure 5.1 Pre and Post-COVID-19 changes in Education (Ratten, V. (2020). Corona-virus (Covid-19) and the entrepreneurship education community. Journal of Enterprising Communities: People and Places in the Global Economy.)

## 6. Recommendation

The researcher encourages the expansion of studies by future researchers to include all countries of the world. Raise and support the online teaching is sufficiently addressed in striving towards a better experience. The researchers think that we need to conduct more researches to understand the challenges in online teaching process at all levels of education to move forward in offering a better educational experience.

## 7. Conclusion

The results of the analyzed data showed that teachers need to receive more training in how to apply the online teaching, by claiming that we are talking about 'new' education process.

The necessity of quality teaching at higher education institutions, followed by adequate teaching evaluation methods, is nowadays more urgent than before, especially in the pandemic period. For higher education institutions, evidence of faculty preparedness in terms of professionalism is necessary. Online teaching is an essential part of such professional preparedness but not the only one. Universities, now more than ever, should invest in teacher professional development, for them to be updated on effective pedagogical methods with the use of online technologies.

## 8. References

- Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. *Online Submission*, 2(1), 45-51.
- Akarowhe, K. (2017). Information communication technology (ICT) in the educational system of the third world countries as a pivotal to meet global best practice in teaching and development. *American Journal of Computer Science and Information Technology*, 5(2).
- Akour, A., Ala'a, B., Barakat, M., Kanj, R., Fakhouri, H. N., Malkawi, A., & Musleh, G. (2020). The Impact of the COVID-19 Pandemic and Emergency Distance Teaching on the Psychological Status of University Teachers: A Cross-Sectional Study in Jordan. *The American journal of tropical medicine and hygiene*, 103(6), 2391-2399.
- Ameen, N., Willis, R., Abdullah, M. N., & Shah, M. (2019). Towards the successful integration of e-learning systems in higher education in Iraq: A student perspective. *British Journal of Educational Technology*, 50(3), 1434-1446.
- Assunção Flores, M., & Gago, M. (2020). Teacher education in times of COVID-19 pandemic in Portugal: national, institutional and pedagogical responses. *Journal of Education for Teaching*, 46(4), 507-516.
- Carrillo, C., & Flores, M. A. (2020). COVID-19 and teacher education: a literature review of online teaching and learning practices. *European Journal of Teacher Education*, 43(4), 466-487.
- Cosmulese, C. G., Grosu, V., Hlaciuc, E., & Zhavoronok, A. (2019). The Influences of the Digital Revolution on the Educational System of the EU Countries
- De Giusti, A. (2020). Policy Brief: Education during COVID-19 and beyond. *Revista Iberoamericana de Tecnología En Educación y Educación En Tecnología*, (26), e12-e12.
- Ebner, M., Schön, S., Braun, C., Ebner, M., Grigoriadis, Y., Haas, M., ... & Taraghi, B. (2020). COVID-19 epidemic as E-learning boost? Chronological development and effects at an Austrian university against the background of the concept of "E-Learning Readiness". *Future Internet*, 12(6), 94.
- Flores, M. A., & Swennen, A. (2020). The COVID-19 pandemic and its effects on teacher education.
- Hall, G. (2017). *Exploring English language teaching: Language in action*. Routledge.
- Al-Husseini, S., El Beltagi, I., & Moizer, J. (2019). Transformational leadership and innovation: the mediating role of knowledge sharing amongst higher education faculty. *International Journal of Leadership in Education*, 1-24.
- Johnson, R. B., & Christensen, L. (2019). *Educational research: Quantitative, qualitative, and mixed approaches*. Sage publications.
- Li, L., Gu, M., & Zhang, X. (2020, November). Research and Exploration of Network Distance Teaching of Colleges and Universities Under the Novel Coronavirus Pneumonia Epidemic. In *International Conference on Education Studies: Experience and Innovation (ICESEI 2020)* (pp. 78-83). Atlantis Press
- Mahdy, M. A. (2020). The impact of COVID-19 pandemic on the academic performance of veterinary medical students. *Frontiers in veterinary science*, 7.

- Marinoni, G., Van't Land, H., & Jensen, T. (2020). The impact of Covid-19 on higher education around the world. *IAU Global Survey Report*.
- Medina, L. C. (2018). Blended learning: Deficits and prospects in higher education. *Australasian Journal of Educational Technology*, 34(1).
- Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, 1, 100012.
- Omelchenko, I. V. Advantages and disadvantages of distance learning. *Herald pedagogiki. Nauka i Praktyka*, 17.
- Alqurshi, A. (2020). Investigating the impact of COVID-19 lockdown on pharmaceutical education in Saudi Arabia—A call for a remote teaching contingency strategy. *Saudi Pharmaceutical Journal*, 28(9), 1075-1083.
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online university teaching during and after the Covid-19 crisis: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, 2(3), 923-945.
- Ratten, V. (2020). Coronavirus (Covid-19) and the entrepreneurship education community. *Journal of Enterprising Communities: People and Places in the Global Economy*.
- Singer, B. J., Thompson, R. N., & Bonsall, M. B. (2021). The effect of the definition of 'pandemic' on quantitative assessments of infectious disease outbreak risk. *Scientific reports*, 11(1), 1-13.
- Tison, G. H., Avram, R., Kuhar, P., Abreau, S., Marcus, G. M., Pletcher, M. J., & Olgin, J. E. (2020). Worldwide effect of COVID-19 on physical activity: a descriptive study. *Annals of internal medicine*, 173(9), 767-770.
- World Health Organization. (2020). WHO Director-General's opening remarks at the media briefing on COVID-19-11 March 2020. <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19--11-march-2020>

## Appendix (1)

**Research questionnaire:**

|                                        |                                     |                                        |                                    |
|----------------------------------------|-------------------------------------|----------------------------------------|------------------------------------|
| <b>Part 1: Demographic information</b> |                                     |                                        |                                    |
| 1- Gender:                             | male <input type="checkbox"/>       | female <input type="checkbox"/>        |                                    |
| 2- Qualification:                      | master <input type="checkbox"/>     | PhD or higher <input type="checkbox"/> |                                    |
| 3- Experience of work:                 | 1- 5 years <input type="checkbox"/> | 6- 10 years <input type="checkbox"/>   | 11+ years <input type="checkbox"/> |

Note: mark with ( ✓ ) in front of each paragraph or item in the box that corresponds to your opinion or direction.

|                   |          |         |       |                |
|-------------------|----------|---------|-------|----------------|
| Strongly disagree | Disagree | neutral | Agree | Strongly agree |
| 1                 | 2        | 3       | 4     | 5              |

**Part 2:** The most common teaching strategies and tools during COVID-19 pandemic.

| No.                 | Statement                                                | good | Not good | Edit |
|---------------------|----------------------------------------------------------|------|----------|------|
| Tools               |                                                          |      |          |      |
| 1                   | Educational Applications (Edmodo, google classroom, ...) |      |          |      |
| 2                   | University platform                                      |      |          |      |
| 3                   | Online video applications (Zoom, Google meet, ...)       |      |          |      |
| 4                   | Online chat applications (Telegram, WhatsApp, ...)       |      |          |      |
| Teaching strategies |                                                          |      |          |      |
| 1                   | Sending PDF lectures, power point lectures               |      |          |      |
| 2                   | Online chat discussion (Telegram, WhatsApp, ...)         |      |          |      |
| 3                   | Online video conference (Zoom, Google meet, ...)         |      |          |      |
| 4                   | Combining both                                           |      |          |      |
| Adding Opinion      |                                                          |      |          |      |

**Part 3:** The challenges that faced academic teachers during online teaching.

| No.            | Statement                                                                              | Good | Not good | Edit |
|----------------|----------------------------------------------------------------------------------------|------|----------|------|
| 1              | The difficulties in explaining the material                                            |      |          |      |
| 2              | Lack of technological competency and training to use online teaching platforms         |      |          |      |
| 3              | Anxiety about the quality of Internet service and video calls                          |      |          |      |
| 4              | The need for more time and effort to design examinations and suitable assessment tools |      |          |      |
| 5              | Online examinations increase the probability of cheating among students                |      |          |      |
| 6              | Teacher privacy (phone number, username, ...)                                          |      |          |      |
| 7              | Reduced interaction with students                                                      |      |          |      |
| 8              | communication with large numbers of students                                           |      |          |      |
| 9              | Ensure that the student is present during the lecture                                  |      |          |      |
| 10             | Difficulties in teaching the practical lessons online                                  |      |          |      |
| 11             | Changing in the question directions                                                    |      |          |      |
| Adding opinion |                                                                                        |      |          |      |

**Part 4:** The impact of online teaching on education level.

| No.            | Statement                                                                       | Good | Not good | Edit |
|----------------|---------------------------------------------------------------------------------|------|----------|------|
| 1              | The effect of online teaching on the student's comprehensive                    |      |          |      |
| 2              | online teaching effect the students evaluation                                  |      |          |      |
| 3              | Awarded grades are not an accurate reflection of students' knowledge and skills |      |          |      |
| Adding opinion |                                                                                 |      |          |      |

**Part 5:** The teacher's perceptions and recommendation about online teaching during COVID-19 pandemic

| No.            | Statement                                                                                                  | Good | Not good | Edit |
|----------------|------------------------------------------------------------------------------------------------------------|------|----------|------|
| 1              | Provide online quizzes and assignments after every lesson to measure the degree of students' understanding |      |          |      |
| 2              | Add online seminar presentations                                                                           |      |          |      |
| 3              | Add oral exams                                                                                             |      |          |      |
| 4              | Decrease the amount of classwork could help reducing students' stress                                      |      |          |      |
| 5              | Provide training for lecturers on online tools and computer skills                                         |      |          |      |
| 6              | Using multiple methods to evaluate the student (reports, daily assignments, ...)                           |      |          |      |
| 7              | provide questions during lectures to pay student attention                                                 |      |          |      |
| Adding opinion |                                                                                                            |      |          |      |

**Part 6:** The recommendation about the future of online teaching after COVID-19 pandemic

| No.            | Statement                                                                                 | Good | Not good | Edit |
|----------------|-------------------------------------------------------------------------------------------|------|----------|------|
| 1              | Online teaching is more flexible than ordinary classes                                    |      |          |      |
| 2              | Dependence on blended learning                                                            |      |          |      |
| 3              | The Continuity of online teaching even after the pandemic                                 |      |          |      |
| 4              | The Continuity to submitting assignments online                                           |      |          |      |
| 5              | Supporting lectures by sending them audio or video recordings via online platforms        |      |          |      |
| 6              | Provide the opportunity for students to submit their question about the curriculum online |      |          |      |
| Adding opinion |                                                                                           |      |          |      |

|                                        |            |                                  |                                 |                          |
|----------------------------------------|------------|----------------------------------|---------------------------------|--------------------------|
| <b>Part 1: Demographic information</b> |            |                                  |                                 |                          |
| 1- Gender:                             | male       | <input type="checkbox"/>         | female                          | <input type="checkbox"/> |
| 2- Qualification:                      | master     | <input type="checkbox"/>         | PhD or higher                   | <input type="checkbox"/> |
| 3- Experience of work:                 | 1- 5 years | 6 <input type="checkbox"/> years | 11+ <input type="checkbox"/> rs | <input type="checkbox"/> |

**Part 2:** The most common teaching strategies and tools during COVID-19 pandemic.

| No.                 | Statement                                                    | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---------------------|--------------------------------------------------------------|-------------------|----------|---------|-------|----------------|
| Tools               |                                                              |                   |          |         |       |                |
| 1                   | Educational Applications<br>(Edmodo, google classroom, etc.) |                   |          |         |       |                |
| 2                   | University platform                                          |                   |          |         |       |                |
| 3                   | Online video applications<br>(Zoom, Google meet, etc.)       |                   |          |         |       |                |
| 4                   | Online chat applications<br>(Telegram, WhatsApp, etc.)       |                   |          |         |       |                |
| Teaching strategies |                                                              |                   |          |         |       |                |
| 1                   | Sending PDF lectures,<br>power point lectures                |                   |          |         |       |                |

|   |                                                         |  |  |  |  |  |
|---|---------------------------------------------------------|--|--|--|--|--|
| 2 | Online chat discussion<br>(Telegram, WhatsApp,<br>etc.) |  |  |  |  |  |
| 3 | Online video conference<br>(Zoom, Google meet, etc.)    |  |  |  |  |  |
| 4 | Combining both                                          |  |  |  |  |  |

**Part 3:** The challenges that faced academic teachers during online teaching.

| No. | Statement                                                                              | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|-----|----------------------------------------------------------------------------------------|-------------------|----------|---------|-------|----------------|
| 1   | The teacher confront some difficulties in explaining the material                      |                   |          |         |       |                |
| 2   | Lack of technological competency and training to use online teaching platforms         |                   |          |         |       |                |
| 3   | Anxiety about the quality of Internet service and video calls                          |                   |          |         |       |                |
| 4   | The need for more time and effort to design examinations and suitable assessment tools |                   |          |         |       |                |
| 5   | Online examinations increase the probability of cheating among students                |                   |          |         |       |                |
| 6   | Teacher privacy (phone number, username, etc.)                                         |                   |          |         |       |                |

|    |                                                                                            |  |  |  |  |  |
|----|--------------------------------------------------------------------------------------------|--|--|--|--|--|
| 7  | Reduced interaction with students                                                          |  |  |  |  |  |
| 8  | Ensure that the student is present during the lecture                                      |  |  |  |  |  |
| 9  | Difficulties in teaching the practical lessons online                                      |  |  |  |  |  |
| 10 | Changing in the question directions                                                        |  |  |  |  |  |
| 11 | The lecture time in the online schedule is not fixed, which confuses students and teachers |  |  |  |  |  |

**Part 4:** The effect of online teaching on education level.

| No. | Statement                                                                       | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|-----|---------------------------------------------------------------------------------|-------------------|----------|---------|-------|----------------|
| 1   | Online teaching has a positive effect on students comprehension                 |                   |          |         |       |                |
| 2   | Online teaching negative effect the students evaluation                         |                   |          |         |       |                |
| 3   | Awarded grades are not an accurate reflection of students' knowledge and skills |                   |          |         |       |                |

**Part 5:** The teacher's perceptions and recommendation about online teaching during COVID-19 pandemic

| No. | Statement                                                                                                  | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|-----|------------------------------------------------------------------------------------------------------------|-------------------|----------|---------|-------|----------------|
| 1   | Provide online quizzes and assignments after every lesson to measure the degree of students' understanding |                   |          |         |       |                |
| 2   | Add online seminar presentations                                                                           |                   |          |         |       |                |
| 3   | Add online oral exams                                                                                      |                   |          |         |       |                |
| 4   | Decrease the amount of classwork could help reducing students' stress                                      |                   |          |         |       |                |
| 5   | Provide training for lecturers on online tools and computer skills                                         |                   |          |         |       |                |
| 6   | Using multiple methods to evaluate the student (reports, daily assignments, etc.)                          |                   |          |         |       |                |
| 7   | provide questions during lectures to pay student attention                                                 |                   |          |         |       |                |

**Part 6:** The recommendation about the future of online teaching after COVID-19 pandemic

| No. | Statement                                                                                 | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|-----|-------------------------------------------------------------------------------------------|-------------------|----------|---------|-------|----------------|
| 1   | Online teaching is more flexible than ordinary classes                                    |                   |          |         |       |                |
| 2   | Dependence on blended learning                                                            |                   |          |         |       |                |
| 3   | The Continuity of online teaching even after the pandemic                                 |                   |          |         |       |                |
| 4   | The Continuity to submitting assignments online                                           |                   |          |         |       |                |
| 5   | Supporting lectures by sending them audio or video recordings via online platforms        |                   |          |         |       |                |
| 6   | Provide the opportunity for students to submit their question about the curriculum online |                   |          |         |       |                |

E- The sample sizes table

(Johnson, R. B., & Christensen, L. 2019. p: 367 table:10.5)

■ TABLE 10.5 Sample Sizes for Various Populations of Size 10 to 500 Million

$N$  stands for the size of the population;  $n$  stands for the size of the recommended sample. The sample sizes are based on the 95% confidence level.

| $N$ | $n$ | $N$ | $n$ | $N$ | $n$ | $N$   | $n$ | $N$         | $n$ |
|-----|-----|-----|-----|-----|-----|-------|-----|-------------|-----|
| 10  | 10  | 110 | 86  | 300 | 169 | 950   | 274 | 4,500       | 354 |
| 15  | 14  | 120 | 92  | 320 | 175 | 1,000 | 278 | 5,000       | 357 |
| 20  | 19  | 130 | 97  | 340 | 181 | 1,100 | 285 | 6,000       | 361 |
| 25  | 24  | 140 | 103 | 360 | 186 | 1,200 | 291 | 7,000       | 364 |
| 30  | 28  | 150 | 108 | 380 | 191 | 1,300 | 297 | 8,000       | 367 |
| 35  | 32  | 160 | 113 | 400 | 196 | 1,400 | 302 | 9,000       | 368 |
| 40  | 36  | 170 | 118 | 420 | 201 | 1,500 | 306 | 10,000      | 370 |
| 45  | 40  | 180 | 123 | 440 | 205 | 1,600 | 310 | 15,000      | 375 |
| 50  | 44  | 190 | 127 | 460 | 210 | 1,700 | 313 | 20,000      | 377 |
| 55  | 48  | 200 | 132 | 480 | 214 | 1,800 | 317 | 30,000      | 379 |
| 60  | 52  | 210 | 136 | 500 | 217 | 1,900 | 320 | 40,000      | 380 |
| 65  | 56  | 220 | 140 | 550 | 226 | 2,000 | 322 | 50,000      | 381 |
| 70  | 59  | 230 | 144 | 600 | 234 | 2,200 | 327 | 75,000      | 382 |
| 75  | 63  | 240 | 148 | 650 | 242 | 2,400 | 331 | 100,000     | 384 |
| 80  | 66  | 250 | 152 | 700 | 248 | 2,600 | 335 | 250,000     | 384 |
| 85  | 70  | 260 | 155 | 750 | 254 | 2,800 | 338 | 500,000     | 384 |
| 90  | 73  | 270 | 159 | 800 | 260 | 3,000 | 341 | 1,000,000   | 384 |
| 95  | 76  | 280 | 162 | 850 | 265 | 3,500 | 346 | 10,000,000  | 384 |
| 100 | 80  | 290 | 165 | 900 | 269 | 4,000 | 351 | 500,000,000 | 384 |