Online teaching experiences in higher education institutions of Afghanistan during the COVID-19 outbreak: Challenges and opportunities

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Abstract: Due to the outbreak of Coronavirus (COVID-19), the higher education institutions of Afghanistan shifted to online teaching. This critical situation has rendered both opportunities and challenges in online teaching. Hence, the present study aimed to investigate the opportunities and challenges of online teaching in the higher education institutions of Afghanistan during the COVID-19 outbreak. It also explored the differences in the opportunities and challenges of online teaching according to gender, academic qualification (degree), and teaching experience. A simple random sampling technique was employed to collect the data from 628 university lecturers in Afghanistan. Descriptive statistics, independent sample T-tests and ANOVA tests were employed to investigate the research questions. The findings of the study have revealed some major opportunities and challenges of online teaching. Besides, it was found that there was no significant difference in the opportunities of online teaching between genders, but a significant difference was obtained in the challenges of online teaching across genders. It was also revealed that academic qualifications and teaching experience has made a statistically significant difference in the opportunities obtained by the respondents. The
qualification and teaching experience did not have any impact on the challenges of online teaching. Some implications and limitations of the study are also presented at the end of the study.

Subjects: Middle East Studies; Gender Studies; Men’s Studies; Gender & Development; Population & Development; Adult Education and Lifelong Learning; Work-based Learning; Higher Education; Teachers & Teacher Education; Classroom Practice

Keywords: Online Teaching; COVID-19 Outbreak; Higher Education of Afghanistan; Challenges; Opportunities

1. Introduction
The outbreak of COVID-19 has disrupted the lives of people throughout the world since its emersion from Wuhan, China (Ayittey et al., 2020). Like many other sectors, this pandemic negatively affected educational institutions across the globe including Afghanistan (Hashemi, 2021). As indicated by Islam et al., (2020) all of the countries accomplished and implemented a wide range of preventive measures of anti-epidemic, such as social distancing, conditional movement control, and restrictions on traveling to foreign countries to control and measure the transmission of contagious infections from people-to-people. Almost every country around the globe has temporarily closed schools and higher education institutions to control the greater prevalence of COVID-19 in their society (Jena, 2020). According to UNESCO (2020b), 87% of the students population from 165 countries were not participating the universities and schools due to the increasing number of COVID-19 cases globally. During this time and situation, online teaching has become more popular than ever compared to the traditional methods of teaching or face-to-face learning (Orfan et al., 2021). Hence, due to the closure of higher education institutions around the globe, the demand for online teaching and learning has increased dramatically and with no doubt teachers around the globe have experienced challenges and opportunities during this pandemic (König et al., 2020).

Like any other countries around the world, this unprecedented situation has also affected the higher education institutions of Afghanistan in terms of the technology-based teaching (Hashemi, 2021). A decision was made by the ministry of higher education (MoHE) and the ministry of public health (MoPH) in a press conference confirming to lead the educational societies’ closure. As the spring academic semester left partly with no study, the demand of teaching for the compensation of the semester was raised by both MoHE and the families of the students. This unexpected situation has happened when there was no prior preparation for remote teaching and learning. Due to this distinctive demand for online teaching, the MoHE of Afghanistan established an online teaching platform called Higher Education Learning Management System (HELMS) to respond to the COVID-19 crisis in terms of compensating the higher education system of Afghanistan in its online version. The transformation of the very old and traditional system of face-to-face teaching and learning to the upgraded and online-based teaching has its opportunities and challenges in nature. However, a country like Afghanistan where all the infrastructures of information communication and technologies have collapsed, may face massive challenges to provide online teaching. Therefore, the university lecturers were required to respond to this emergency of a pandemic to ensure the continuity of the academic semester through remote online teaching.

Since the COVID-19 epidemic has had a significant impact on higher education institutions, the MoHE of Afghanistan opted for online teaching immediately. During this moment, some instructors recorded videos and uploaded to their classes online for students to access, while some other went even farther and used Google Classrooms, WhatsApp, and other online platforms, but the vast majority of teachers and students were unprepared to deal with online teaching and learning. The fact is that many higher education institutions in Afghanistan, both private and public, were not equipped and ready to implement this online teaching mode. In addition, online teaching and learning, on the other hand, was a new phenomenon in Afghanistan responding to the COVID-19
crisis in an educational setting. Therefore, enumerating these challenges and making effective use of the opportunities can eliminate this gap and can promote online teaching in the higher education institutions of Afghanistan for any other emergency epidemics in terms of distance teaching. Besides, the current study can be a considerable attempt to the growing body of the literature in Afghanistan context since no other studies have been conducted in this regard. For this purpose, the researcher formulated the following research questions to investigate the challenges and opportunities of online teaching and as well as to figure out whether there are any significant differences in the opportunities and challenges of online teaching by gender, teaching experience, and academic qualification during the COVID-19 outbreak.

(1) What were the opportunities for online teaching in higher education institutions of Afghanistan during the COVID-19 outbreaks?

(2) What were the challenges of online teaching in higher education institutions of Afghanistan during the COVID-19 outbreaks?

(3) Were there any statistically significant differences in the opportunities and challenges of online teaching by gender, teaching experience, and academic qualification during the COVID-19 outbreak?

2. Literature review

2.1. Online teaching

There are several definitions or interpretations of online teaching and learning, but the primary feature is the use of technology to enable online access to learning material for the purpose of improving learning. According to the definition of Regmi and Jones (2020), online teaching and learning is an educational technique that supports learning via the application of information technology and communication, providing learners with access to all needed education programs. Web-based learning, online learning or education, computer-assisted or -aided teaching, computer-based teaching, internet-based learning, multimedia learning, and e-learning have all been used interchangeably. In the context of this study, online teaching and learning refers to a technique of instruction and knowledge acquisition carried out in the educational environment using computers and technology over the internet (Mathew & Iloanya, 2016). As Adedoyin and Soykan (2020) indicated that effective online education happens only when there was online teaching and learning tools, devices and application. Because online teaching and learning is entirely reliant on technology gadgets and the internet, teachers and students with poor internet connections may be refused to use online teaching during the COVID-19 pandemic.

Online teaching has reached highly to its popularity in the history of teaching and learning via distance. Due to the universal and serious lockdown imposed by the COVID-19 pandemic, almost every country has revolved into a ghost and this situation solely affected the schools, colleges, and higher education institutions (Dhawan, 2020a). An unexpected pandemic of COVID-19 leads the higher education institutions to be migrated from traditional face-to-face teaching with a physical presence to online teaching mode which necessarily responds to the demands of institutions globally. Employing online teaching can have both its challenges and opportunities for teachers and stakeholders. During this pandemic, many researchers have reported the opportunities and challenges of online teaching throughout the world (Donitsa-schmidt & Ramot, 2020; Ince & Ahmet Kabul, 2020; Huang et al., 2020; Miguel & Marco, 2019; Mouchantaf, 2020; Ogbomo, 2011; Pegu, 2014; Sepulveda-escobar et al., 2020; Rahiem, 2020; Shehzadi et al., 2020).

2.2. Factors that can facilitate online teaching

During the implementation of online teaching and learning, there may be a tendency to over-emphasize the relevance of soft-factors such as schedule flexibility or pedagogical problems. While such variables are undoubtedly significant and therefore, Surry et al. (2009) clearly suggests that enough financial resources, effective training, prudent resource allocation, and the
establishment of a technical infrastructure are the most essential facilitators for the adoption of online teaching and learning. According to Almaiah et al., (2020), the success of every information system is determined on how people use it. Hence, the Internet and websites, as part of modern technology, are one of the most efficient and effective means of online teaching and learning. When compared to traditional communication methods, Internet-based communication may provide information in a synchronous or asynchronous manner (Chokri, 1857). On the other hand, it is crucial that software applications and operating systems remain available for successful online teaching and learning. According to Almazova et al. (2020), another important technological factor, which can be beneficial for successful online teaching and learning is technical skills and institutional support, which are defined as knowledge, understanding, and abilities used to complete tasks related to the maintenance and upgrade of computer, network, and communications infrastructure, as well as providing support to users when they encounter technical problems.

2.3. Challenges of online teaching during the COVID-19 pandemic
A reflective study on online teaching was carried out by Perrotta and Bohan, (2020) among two faculty members conducted to explore the experiences of online teaching in the higher education context to highlight the challenges. Their findings revealed some major challenges such as having access to mentoring, professional-pedagogical training, and isolation from the students and the campus life, and controlling the curriculum and academic honesty. As G, C.-P. Y (2020) considered this pandemic a vibrant circumstance that nobody has well prepared properly in responding to the crisis of COVID-19 and therefore any challenges that comes during this period is normal and common. However, the challenges of online teaching during the COVID-19 pandemic have been reported variously in terms of its availability and accessibility in higher education institutions. As a researcher, Mouchantaf (2020) found the following major challenges in a study conducted: students complain about the technical complications, internet connection, lack of time in preparing to handle each student's need, lack of institutional support, lack of pedagogical training in the transition to online teaching. Additionally, Lack of internet, lack of infrastructures of ICT, and lack of pedagogical training in handling online teaching is still problematic in Afghan contexts and should be considered in advance to promote online teaching (Hashemi & Kew, 2021). While another study conducted by Donitsa-schmidt and Ramot (2020) reported that spending long hours in front of computers, and the workload of assignments are intolerable, lack of interest in turning on their cameras are the major challenges where the teachers do not know whether the students are listening to the lectures or not.

Almost every study conducted concerning the challenges and opportunities of online teaching during the COVID-19 outbreak has reported a lack of time in preparing teachers for adapting online teaching, the isolation of teacher/student for a long time since they have been left alone, and lack of effective pedagogical training to encourage student’s participation and engagements in online teaching (Huang et al., 2020; Noori et al., 2020). Similarly, Adnan and Anwar (2020) conducted research exploring the perceptions of students concerning online learning during the COVID-19, and their study revealed some major challenges such as lack of Wi-Fi facilities, teacher/student isolation, effective pedagogical training in using online teaching tools, and applications. Unlike the aforementioned studies, Ince and Ahmet Kabul (2020) considered technological applications and tools such as computers and the internet as the opportunities of having access to online teaching during the COVID-19 outbreak. Online teaching has resulted in students paying the high cost of the internet, the connectivity of the Wi-Fi, and the poor connections of the internet discouraged the students from participating in online teaching (Demuyokor, 2020). Furthermore, lack of technological tools and applications, economical situations such as poverty imposed by COVID-19, student assessments, the workload of the assignments on both teachers and students, and effective pedagogical training in employing online teaching have been identified in a study by (Adedoyin & Soykan, 2020).
2.4. Opportunities of online teaching during the COVID-19 pandemic

Concerning the opportunities of online teaching during the COVID-19 pandemic in higher education institutions, there are many studies conducted related to the present study globally.

The transition from traditional face-to-face teaching to online teaching provides the opportunity of training potential specialists concerning the production of high-quality online teaching materials and improving the online platforms of teaching in responding to the COVID-19 crises (Dhawan, 2020a). Experiencing online teaching applications and tools allow the teachers to acquaintance with various software and platforms and as well as and improving their digital literacy skills (Novikov, 2020). Another opportunity that can be effectively considered in online teaching during this critical moment is teachers have free hands in designing new materials and provide flexible teaching platforms for the students (Dhawan, 2020a). Employing online teaching provides fearless communication and engagements between teachers and students and improves the sense of collaboration between students and teachers and students vs students (Mporananayo & Mbonyubuyo, 2020). Similarly, Shin and Hickey (2020) indicated that there is an opportunity for collaboration raised between teachers and students in online teaching when the COVID-19 pandemic emerged and spread throughout the world. Hence, the opportunities for online teaching have been considered as the vital and essential factor in implementing technology-based teaching during the COVID-19 outbreak.

The rapid conversion from face-to-face teaching to online teaching provides numerous opportunities in real-time in terms of adapting online teaching experiences (Bryson et al., 2020). Adedoyin and Soykan (2020) resembled the opportunities and advantages of online teaching as self-pacing, interactivity, and flexibility. In this context, the findings of another study revealed that teacher competence in online teaching has a remarkable impact during the COVID-19 outbreak. Hence, pedagogical training and competence in ICT-based teaching tools and blended learning environment paved the ground for the rapid transformation of face-to-face teaching to online teaching/distance teaching (Hashemi and Kew, 2020). Since almost every country around the world was experiencing the lockdown and movement order, there was a need to have a rapid response to online teaching (König, et al., 2020). According to Kaloo et al. (2020), the readiness for the quick response of online teaching during the COVID-19 pandemic resulted in the familiarity of both teachers and students in advancing the technological tools and application for online teaching. In other words, the successful implementation and rapid response of online teaching concerning the COVID-19 pandemic is the ease of ICT tools and applications. Therefore, concerning all the aforementioned opportunities there is another study conducted by Sepulveda-escobar et al. (2020) exploring the challenges and opportunities of online teaching during the COVID-19 pandemic. The findings of their study revealed that discoveries of learning and adopting modern technological tools and applications allowed both the learners and teachers to experience responding to the COVID-19 crisis imposed on the teaching and learning process.

During the COVID-19 pandemic and crisis, the opportunity of collaboration between peers contributor and other higher education institutions increased to get inspiration and have a clearer insight in fighting the crisis of COVID-19 concerning online teaching (Stone et al., 2020). Such intra-collaboration within the peer academic contributor and higher education institutions will surely provide the opportunity for effective online teaching environments. According to Dhawan (2020b), great flexibility, ease of use, and efficient teaching and learning environment are considered a vital opportunity for reweaving the process of innovative digital transformation. Dhawan believes that online teaching and learning during this quarantine time imposed by COVID-19 provides the opportunity to enhance the skills of employing various technological tools and applications and as well as provide the opportunity to improve critical thinking and problems solving skills. Therefore, the challenges and opportunities for online teaching during this critical moment have impacted both positively and negatively on the life of higher education institutions throughout the world. The opportunities impacted positively whereas the challenges caused negative impacts on online teaching concerning the higher education institutions.
3. Methodology
The present study employed a quantitative research design in which the researcher conducted a survey to explore the challenges and opportunities of online teaching in higher education institutions of Afghanistan during the COVID-19 outbreak. The survey contained both close-ended and open-ended questions. Descriptive and inferential statistical analyses were employed to analyze the obtained data. The descriptive statistical analysis was used to identify the frequency, percentage, mean, and standard deviation of the data. According to Conner and Johnson (2017), descriptive statistical analysis is used to provide background information about the variables. The inferential statistical analysis (independent sample t-test and ANOVA) was employed to analyze the significant difference of challenges and opportunities in online teaching during the COVID-19 outbreak across gender.

3.1. Participants
The present study was carried out in Afghanistan context where the lecturers of the public universities were targeted as the respondents of the study. A simple random sampling technique was employed to select 628 respondents including male and female from 25 public universities of Afghanistan. This technique allows the respondents of having an equal chance of selection (Ratham et al., 2016). Therefore, the researcher used this technique to ensure that each of the respondents has an equal chance of selection to confidentially respond to the survey.

3.2. Data collection instruments
A survey questionnaire was employed based on a review of the literature. There were 33 items adapted from the works of (Mouchantaf, 2020; Mporananayo and Mbonyuburyo, 2020). The survey questionnaire consisted of four sections. The first part containing 6 items seeks to explore the demographic profile of the respondents. While the second part containing 11 items explores the opportunities of online teaching in higher education institutions of Afghanistan during the COVID-19 outbreak. These items were five-points Likert scale ranging from 1 strongly disagree to 5 strongly agree. Considering the third part of the questionnaire, 14 items were focusing on the challenges of online teaching experiences in higher education institutions of Afghanistan during the COVID-19 pandemic. The items were based five-points Likert scale ranging from 1 strongly disagree to 5 strongly agree. In addition, the final part of the questionnaire containing 6 items were the open-ended questions aimed to elicit major challenges of online teaching during the COVID-19 outbreak.

3.3. Validity and reliability
The researcher sent the survey to the research experts in the research committee of Takhar university and as well as in the English department. The expert's clarifications and suggestions were incorporated into the instrument to improve the design of the instruments. For the reliability, the researcher piloted the survey among 40 lecturers from different universities with the same context of education and background before the actual day of conducting the study.

According to Kothari, (2005) the determination of piloting the research instruments was to ensure and assess the clarity, relevance, confidentiality, and the suitability of the survey questionnaire designed. As shown in Table 1, the analysis of the piloted study for the opportunities of online teaching were .933 and for the challenges of online teaching .988 which was greater than 0.07. Bonett and Wright (2015) indicated that Items are discarded solely when the Cronbach’s alpha sample value was less than 0.7. Therefore, the questionnaire was considered appropriate for the study.

3.4. Data collection procedure
The researcher constructed the survey through Google form in its online version for many reasons. Due to this critical situation imposed by COVID-19, the researcher decided to spread out the questionnaire online to collect the data more easily and safely. It was considered to be more cost-saving and effortless for the researcher to collect the data. Moreover, it is hoped to be confidential
and reachable to hundreds of university lecturers as of their groups on social media platforms. Hence, the link of the survey questionnaire was shared with the respondents through different groups of social media platforms such as Facebook Messenger, WhatsApp, Viber, Mails, and Telegram. The questionnaire was shared and sent to various groups of the lecturer through different messengers, for instance, one group which was containing more than two hundred of member were requested to participate in the survey questionnaire. 15 days were given and allocated for the respondents to answer the questionnaire. Besides, the respondents were assured of their privacy and confidentiality through a consent form attached to the questionnaire indicating that the provided information can only be used for academic and research purposes. Additionally, for the individual who take part many times in the study submitting their responses were requested to prevent this fraud action and as well as some method of prevention was taken to consideration for instance: checking for consistent responses, locked the back button of the Google forms and making each items as required.

3.5. Data analysis

As indicated earlier, the present study employed descriptive and inferential statistical analysis to analyze the data obtained from the respondents. The process of data analysis was accomplished through the Statistical Package of Social Science (SPSS) software, version 26. Means, standard deviation, percentage, and frequency were computed through the application of descriptive statistical analysis. Inferential statistical analysis was used to examine the gender difference in online teaching in terms of the availability and accessibility and as well as the opportunities they experienced during the COVID-19 outbreak. In addition, the researcher explored the differences in the opportunities and challenges by academic qualification and experience of teaching towards online teaching during the COVID-19 outbreak. Hence, an independent sample-test and ANOVA test were employed to identify the differences. The data obtained from the open-ended questionnaire was quantified and codified through the theme coding approach, in which the main themes were detected and categorized in Microsoft Excel. This approach was done by Sepulveda-escobar et al. (2020) wherein they read and examined the obtained data and then generated the themes.

4. Findings

A descriptive statistical analysis was employed to measure the respondent's demographic profile in terms of frequency and percentage. The distribution of each item in the demographic profile of the respondents has been presented in Table 2.

4.1. Demographic profile of the respondents

Table 2 illustrates the different variables of Afghanistan’s university lecturers. There were 519 male respondents which were 82.6% and 109 female respondents with 17.4%. 357 respondents were aged 25–35 and 162 respondents were above 35 years old. While 53 female respondents were aged between 30–35, and 56 respondent’s ages were recorded above 35. Their teaching experience ranged from 0 to above 10 years. There were 245 respondents with teaching experience of 0–5 years (39%), 356 respondents ranging 6–10 years of teaching experience (56.7%) and 27 respondents (4.3%) had recorded above 10 years of teaching experience. 128 respondents (20.4%) holding a bachelor’s degree, 426 respondents (67.8%) having a master’s degree and 74 respondents (11.8%) hold

| Table 1. The Reliability Test of the Survey Questionnaire |
|--------------------------------------------------------|
| **Reliability Statistics**                              |
| **Opportunities of Online Teaching**                    |  .933 | 11 |
| **Challenges of Online Teaching**                       |  .988 | 14 |
| **Total**                                               |       | 25 |
Ph.D. degree. Hence, their position in the faculty also varies from respondent to respondent. 464 respondents (73.9%) were lecturers, 144 respondents (22.9%) were head of the department and 19 respondents (3%) participated as the dean of faculty. While 175 respondents (27.9%) were teaching 5–10 hours per week, 337 respondents (53.7%) recorded teaching 11–15 hours and there are 116 respondents (18.5%) were teaching online more than 15 hours per week during the COVID-19 outbreak.

### Table 2. Respondent’s Distribution in terms of their Demographic Profile

| Gender       | Age          | Frequency | Percent |
|--------------|--------------|-----------|---------|
| Male         | 25–30        | 157       | 82.60%  |
|              | 30–35        | 200       |         |
|              | 35 and above | 162       |         |
| Total        |              | 519       |         |
| Female       | 30–35        | 53        | 17.40%  |
|              | 35 and above | 56        |         |
| Total        |              | 109       | 100%    |

| Teaching Experience of the Respondents | Frequency | Percent |
|----------------------------------------|-----------|---------|
| 0–5 Years                              | 245       | 39      |
| 6–10                                   | 356       | 56.7    |
| 10 and above                           | 27        | 4.3     |
| Total                                  | 628       | 100     |

| The Academic Qualification of the Respondents | Frequency | Percent |
|-----------------------------------------------|-----------|---------|
| Bachelor                                     | 128       | 20.4    |
| Master                                       | 426       | 67.8    |
| PhD                                          | 74        | 11.8    |
| Total                                        | 628       | 100     |

| Respondents Position in the Faculty | Frequency | Percent |
|------------------------------------|-----------|---------|
| Lecturer                           | 464       | 73.9    |
| Head of department                 | 144       | 22.9    |
| Dean of Faculty                    | 19        | 3       |
| Other                              | 1         | 0.2     |
| Total                              | 628       | 100     |

| Teaching Hours per Week | Frequency | Percent |
|-------------------------|-----------|---------|
| 5–10                    | 175       | 27.9    |
| 11–15                   | 337       | 53.7    |
| More than 15            | 116       | 18.5    |
| Total                   | 628       | 100     |

4.2. Result of the opportunities in online teaching during COVID 19 outbreak

Table 3 illustrates the overall opportunities for online teaching during the COVID-19 pandemic in the higher education institutions of Afghanistan. The result obtained in Table 3 shows the overall mean score (3.1879) of the opportunities in online teaching during the COVID-19 pandemic. While the mean score for each item resulted in almost above 3 and this shows that the majority of the respondents agreed on the opportunities created by COVID-19 in online teaching. Meanwhile, the highest mean score of the opportunities in online teaching is obtained at 3.74 with a standard deviation of 1.08 in terms of the accessibility to online teaching resources foster the processes in item 2. And the lowest
### Table 3. The Opportunities of Online Teaching

| Items                                                                 | Frequency and Percentage % |
|----------------------------------------------------------------------|-----------------------------|
|                                                                      | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Mean  | S.D   |
| 1. Teaching in online-based education provide the opportunity of students regular guidance | 78               | 143      | 160     | 137   | 110            | 3.09  | 1.12  |
| 2. Online teaching provides the opportunity for student-teacher engagement | 40               | 50       | 82      | 318   | 138            | 3.74  | 1.08  |
| 3. Online teaching provides the opportunity to promote innovation and problem-solving skills among learners. | 76               | 134      | 161     | 134   | 123            | 3.15  | 1.12  |
| 4. Online teaching is cost-effective in the sense that there is no need for me to travel to and from school. | 51               | 87       | 121     | 230   | 139            | 3.51  | 1.720 |
| 5. Online teaching offers me the opportunity of following online courses regularly. | 92               | 104      | 125     | 152   | 155            | 3.28  | 1.38  |
| 6. Online teaching provides the opportunity of recording live lectures for reflection. | 62               | 95       | 102     | 235   | 134            | 3.45  | 1.25  |
Table 3. (Continued)

| Opportunities for Online Teaching | Frequency and Percentage % |
|----------------------------------|----------------------------|
|                                  | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Mean | S.D |
| 7 Online teaching provides the opportunity to get acquainted with using many social media platforms. | 92 | 104 | 125 | 152 | 155 | 3.28 | 1.38 |
| 8 Online teaching provides the opportunity of engaging the students in each session quickly | 56 | 96 | 122 | 233 | 121 | 3.43 | 1.21 |
| 9 Online teaching provides the opportunity of designing online teaching model to reduce the workload | 66 | 113 | 104 | 226 | 119 | 3.35 | 1.26 |
| 10 Provide the opportunity to review the process of digital transformation | 63 | 139 | 127 | 130 | 169 | 3.32 | 1.34 |
| 11 Online teaching provides the opportunity to promote research based teaching | 60 | 128 | 160 | 134 | 146 | 3.28 | 1.28 |
| Overall Mean | 3.1879 |
mean score of the opportunities in online teaching was 3.09 with a standard deviation of 1.12 concerning the ease and usefulness of online-based education in item 1.

4.3. Result of the challenges in online teaching during COVID-19 outbreak
Concerning Table 4, the overall mean score for the challenges of online teaching in the higher education institutions of Afghanistan during the COVID-19 outbreak was 3.1895. The highest mean score of 3.74 with a standard deviation of 1.08 was obtained in item 2 in terms of academic transparency and integrity. Meaning that the majority of the respondents agreed that academic transparency and integrity during online teaching in the COVID-19 era was a challenging issue. For the lowest mean score, the technical complication such as password issues and platforms not working with other related issues to online teaching was obtained 3.08 with a standard deviation of 1.28. Hence, compared to the opportunities of online teaching in the higher education institutions of Afghanistan during the COVID-19 outbreak, the mean score for the challenges is higher. The same as to the opportunities obtained, the mean score for each item was higher than 3.

4.4. Major challenges of online teaching
The result in Table 5 shows that 230 respondents, which are 36.62%, considered lack of internet/Wi-Fi as a major challenges towards the use of online teaching during the COVID-19 pandemic. The respondents agreed that the lack of internet and Wi-Fi was one of big challenge that hindered the use of online teaching. On the other hand, electricity was considered as the second major challenges of online teaching after the internet in this study, as 197 respondents with a percentage of 31.36% stated that lack of electricity can cause to prevent using online platforms and applications. Likewise, 54 respondents with 8.59% reported that lack of technological devices like computers, LCDs, and projectors, smartphones, tablets are all counted as the common challenges towards the use of online teaching. Similarly, 37 respondents with 5.89% indicated that the lack of infrastructure can also be considered as the common challenges of online teaching. In addition to that, there were 33 respondents with the percentage of 5.25% and 30 others with the percentage of 4.77% believed that lack of time and lack of confidence are the common barriers towards the use of online teaching. Among them, 27 respondents with 4.32% and 20 respondents with the percentage of 3.20% believed that lack of effective training and lack of support respectively are the major challenges towards the use of online teaching during the COVID-19 pandemic.

4.5. Results of the inferential statistical analysis on gender difference
Table 6 illustrates the differences between gender in terms of the challenges and opportunities created by COVID 19 in the higher education institutions of Afghanistan. To determine this, the researcher carried out an independent sample T-test to identify whether there is any significant difference in the challenges and opportunities across genders. As can be seen in Table 6, the result of the T-test shows that the P-value for the opportunities in online teaching was greater than the alpha level $P = 0.06 > 0.05$. Hence, the null hypothesis is failed to reject and the alternative hypothesis is accepted. Therefore, it can be concluded that there is no statistically significant difference in the opportunities experienced by males and females for online teaching during the COVID 19 outbreak. Concerning the challenges of online teaching, the P-value based on Levene’s Test for equality of variance is less than the alpha level $P = 0.007 < 0.05$. The null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, it can be concluded that there is a significant difference in the challenges created by COVID 19 for online teaching across gender.

4.6. The effects of academic qualification on the opportunities and challenges of online teaching
According to Table 7, the researcher carried out a one-way ANOVA test to investigate the differences in the opportunities and challenges obtained during COVID-19 outbreak by academic qualification in online teaching. Hence, the P-value for the opportunities in online teaching is less than the alpha level $P = 0.001 < 0.005$. The null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, it can be concluded that there is a significant difference in the opportunities created by
Table 4. The Challenges of Online Teaching during COVID-19 outbreak

| Challenges of Online Teaching | Frequency and Percentage % |
|------------------------------|-----------------------------|
|                              | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Mean | S.D |
| 1 Technical complications (e.g., Password issues, platforms not working) | 81 12.9% | 142 22.6% | 160 25.0% | 138 22.0% | 107 17.0% | 3.08 | 1.28 |
| 2 Concerns about academic transparency and integrity | 40 6.4% | 50 8.0% | 82 13.0% | 318 50.6% | 138 22.0% | 3.74 | 1.08 |
| 3 Lack of training for teachers and/or institutional support | 66 10.5% | 134 21.3% | 161 25.0% | 140 22.3% | 127 20.0% | 3.20 | 1.27 |
| 4 Students missing online sessions, or not completing required work | 51 8.1% | 87 13.9% | 121 19.0% | 230 36.6% | 139 22.0% | 3.51 | 1.20 |
| 5 Too much preparation required from the teacher side | 92 14.6% | 104 16.6% | 125 19.0% | 152 24.2% | 155 24.0% | 3.28 | 1.38 |
| 6 The difficulty for the teacher in managing teaching duties and personal obligations | 62 9.9% | 95 15.1% | 102 16.0% | 235 37.4% | 134 21.0% | 3.45 | 1.25 |
| 7 Lack of equipment hardware, and software | 62 9.9% | 95 15.1% | 102 16.0% | 235 37.4% | 134 21.0% | 3.30 | 1.36 |
| 8 A reduction in working hours and/or pay for teachers | 83 13.2% | 112 17.8% | 125 19.0% | 152 24.2% | 156 24.0% | 3.30 | 1.36 |
### Table 4. (Continued)

| Challenges of Online Teaching | Frequency and Percentage % |
|------------------------------|----------------------------|
|                              | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Mean | S.D |
| 9   | Student confusion when introduced to new material | 66 10.5% | 98 15.6% | 123 19% | 227 36.1% | 114 18% | 3.36 | 1.24 |
| 10  | lack of interest in turning on their cameras is the major challenge | 80 12.7% | 138 22% | 162 25% | 131 20.9% | 117 18% | 3.11 | 1.29 |
| 11  | Confusion in introducing the new platforms to students (HELMS, Google Classroom, WhatsApp, etc.) | 40 6.4% | 55 8.8% | 84 13% | 316 50.3% | 133 21% | 3.71 | 1.09 |
| 12  | Lack of internet (Wi-Fi) made the learning process difficult and challenging | 55 8.8% | 150 23.9% | 159 25% | 125 21.5% | 129 20% | 3.21 | 1.25 |
| 13  | Lack of power supply during my online lectures is challengeable | 31 4.9% | 82 13.1% | 122 19% | 239 38.1% | 154 24% | 3.64 | 1.13 |
| 14  | The inequity in access to ICT-based teaching across gender has the negative effect | 76 12.1% | 121 19.3% | 124 19% | 151 24% | 156 24% | 3.20 | 1.35 |

**Overall Mean** | 3.1895
Table 5. Illustrates Major Challenges of Online Teaching during the COVID-19 Outbreak

| Number | Challenges of Online Teaching                           | Frequency | Percentage |
|--------|--------------------------------------------------------|-----------|------------|
| 1      | Locking internet/Wi-Fi                                 | 230       | 36.62%     |
| 2      | Locking electricity                                     | 197       | 31.36%     |
| 3      | Locking technological devices                          | 54        | 8.59%      |
| 4      | Lack of ICT infrastructures                            | 37        | 5.89%      |
| 5      | Lack of time in using online resources                 | 33        | 5.25%      |
| 6      | Lack of confidence in using technological devices      | 30        | 4.77%      |
| 7      | Lack of effective training in using online teaching   | 27        | 4.32%      |
| 8      | Lack of support from the MOHE and institution          | 20        | 3.20%      |
| Total  |                                                        | 628       | 100%       |

academic qualification of the respondents through online teaching. While the P-value for the challenges of online teaching is greater than the alpha level $P = 0.112 > 0.05$ and the researcher fails to reject the $H_0$. Therefore, it can be concluded that there is no statistically significant difference in the challenges of online teaching affected by academic qualification (degree)

4.7. The effects of teaching experience on the opportunities and challenges of online teaching

Table 8 shows the result of teaching experience on the opportunities and challenges of online teaching. To figure out whether there is any significant difference created by teaching experience in the opportunities and challenges of online teaching, the researcher carried out a one-way ANOVA test. As can be seen in Table 8, the P-value for the opportunities of online teaching is less than the alpha level $P = 0.001 < 0.05$, and the null hypothesis is rejected. Therefore, it can be concluded that there is a statistically significant difference in the opportunities created by teaching experience. The more who has experience of teaching the less he has the more opportunities. As for the challenges of online teaching, the P-value is greater than the alpha value $P = 0.112 > 0.05$, and the null hypothesis is failed to reject. Hence, it can be concluded that there is no statistically significant difference in the challenges created by teaching experience.

5. Discussion

This study aimed at investigating the opportunities and challenges experienced by university lecturers through online teaching in the higher education institutions of Afghanistan during the COVID-19 outbreak. Besides, the study also explored the (a) differences between genders in terms of having the opportunities and encountered the challenges, (b) to explore the impact of academic qualification in the opportunities challenges obtained (c) and to figure out whether there are any differences in the opportunities and challenges obtained by teaching experience. Thus, the findings of the study showed that the majority of the respondents agreed and strongly agreed on each item represented and highlighted the opportunities gained during the COVID-19 outbreak through online teaching in the higher education institutions of Afghanistan. As of student’s regular guidance through online teaching applications and tools, student-teacher engagement, and promoting innovation and problem-solving skills among students are the key opportunities of online teaching confirmed and agreed by the majority of the respondents. The findings of this study supported those of the studies carried out by (Dhawan, 2020a; Mporananaya & Mbonyuburyo,
Table 6. Differences of the Opportunities and Challenges across Gender

|                      | Independent sample t-test | F     | Sig.  | t      | df  | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
|----------------------|----------------------------|-------|-------|--------|-----|-----------------|-------------------|-----------------------|
| Opportunities        | Equal variances assumed    | 3.386 | 0.066 | −0.05  | 626 | 0.958           | −0.00576          | 0.10951               |
|                      | Equal variances not assumed|       |       | −0.05  | 143.047 | 0.962          | −0.00576          | 0.12123               |
| Challenges           | Equal variances assumed    | 7.256 | 0.007 | −0.09  | 626 | 0.927           | −0.00939          | 0.10198               |
|                      | Equal variances not assumed|       |       | −0.08  | 143.419 | 0.934          | −0.00939          | 0.11252               |
Table 7. ANOVA Test based on Academic Qualification of the Respondents

|              | Sum of Squares | df | Mean Square | F      | Sig. |
|--------------|----------------|----|-------------|--------|------|
| Opportunities|                |    |             |        |      |
| Between Groups | 15.276          | 2  | 7.638       | 7.222  | .001 |
| Within Groups   | 661.052          | 625| 1.058       |        |      |
| Total             | 676.328          | 627|             |        |      |
| Challenges       |                |    |             |        |      |
| Between Groups   | 4.099           | 2  | 2.050       | 2.200  | .112 |
| Within Groups    | 582.351          | 625| .932        |        |      |
| Total            | 586.451          | 627|             |        |      |

Besides, the findings of the study revealed that online teaching offers opportunities for recording live lectures for reflection. As teachers assess their quality of teaching through recording their lecturers and strengthening their weaknesses. It supports the findings of a study carried out by Kim (2020) whose findings indicated that COVID-19 provided the opportunity for preservice teachers to ensure that reflection with online teaching during the COVID-19 promoted learning outcome. The study also revealed that online teaching during the COVID-19 pandemic provided the opportunity to get acquainted with using various social media platforms. This finding confirmed that of a study by Gudmundsdottir et al. (2020) who found out that online teaching offered the opportunity to get acquainted with different technological tools during the pandemic. This indicates that most teachers in the Afghanistan context were less equipped with technological applications, tools, and skills of using in educational contexts and therefore, it is considered as the opportunity of online teaching during this critical moment. The outbreak of COVID-19 in terms of online teaching, on the other hand, has created the opportunity of designing a model to reduce the workload of teachers. It was also found that online teaching during the COVID-19 outbreak created the opportunity to review the process of digital transformation from face-to-face teaching to online teaching immediately after the spread of COVID-19. These findings are in line with several studies carried out by (Adedoyin & Soykan, 2020; Dhawan, 2020b; Marinoni et al., 2020; Morreale et al., 2021).

Table 8. ANOVA Test based on the teaching experience of the Respondents

| ANOVA Test         | Sum of Squares | df | Mean Square | F      | Sig. |
|-------------------|----------------|----|-------------|--------|------|
| Opportunities      |                |    |             |        |      |
| Between Groups     | 15.276          | 2  | 7.638       | 7.222  | .001 |
| Within Groups      | 661.052         | 625| 1.058       |        |      |
| Total              | 676.328         | 627|             |        |      |
| Challenges         |                |    |             |        |      |
| Between Groups     | 4.099           | 2  | 2.050       | 2.200  | .112 |
| Within Groups      | 582.351         | 625| .932        |        |      |
| Total              | 586.451         | 627|             |        |      |
The analysis of the study concerning the challenges of online teaching encountered by university lecturers has revealed that the technical problem such as password errors, platforms not working and applications complication are the challenges of online teaching during the COVID-19 outbreak in the higher education institutions of Afghanistan. These findings are similar to the study of Mishra et al. (2020) who noted the technical issues as a challenging matter in online teaching during these critical situations. On the other hand, the majority of the respondents agreed on stating their concerns about academic transparency and integrity as the challenges of online teaching during the COVID-19 pandemic in the higher education institutions of Afghanistan. This finding supports the finding of the research by Gamage et al. (2020) who found academic transparency and integrity as a challenging issue with online teaching during the COVID-19 outbreak. On the other hand, Lack of skills and internet/Wi-Fi in employing technological applications and institutional support is also considered a challenge for online teaching. These findings are similar to the studies conducted by (Dhawan, 2020a; Moralista & Oducado, 2020) concerning the challenges of online teaching during the COVID-19 outbreak. The majority of the respondents agreed that student’s absences in-class participation and failing to complete the required task is challengeable during online teaching in the ear of the COVID-19 pandemic. This finding supported the study of Mouchantaf (2020) who studied the challenges of online teaching in higher education institutions during the COVID-19 outbreak.

The finding of the study concerning to the major challenges of online teaching also showed that the majority of the respondents indicated that they lack internet/Wi-Fi while teaching online. This finding is similar to the findings of studies carried out by (Chawinga & Zinn, 2009; Rasheed et al., 2020) who found poor internet connectivity as the major challenges of online teaching. Moreover, the findings revealed that lack of electricity was considered as the second major challenges of online teaching. This finding is consistent with a finding of a study conducted by (Clement, 2012; Donitsa-schmidt, 2013; Tauray & Salminen, 2013; Adarkwah, 2020; Sarwar et al., 2020) where they found lack of electric supply as the major challenges of online teaching. Furthermore, lacking technological tools and devices as tablets, smartphones, Laptops, LCDs, and projectors. This findings supports the studies carried out by (Güzer & Caner, 2014; Lockee & Gros, 2016) who found out lack of technological devices and tools as the major challenges of ICT in online teaching. The findings of the study also revealed that there is a need to have more time to be prepared and settled with the technological tools and applications. These findings are consistent with the findings of the study conducted by Huang et al. (2020) who suggested that the time required for preparation in online teaching is typically longer than anticipated. Furthermore, lack of equipment both in software and hardware along with a huge reduction in working hours, lack of interest in turning on cameras during an online session, and the workloads of assignments on the teachers during the crisis of COVID-19 have been reported by the majority of the respondents as the challenges of online teaching in the higher education institutions of Afghanistan. These findings are also similar to the findings reported in the literature by various researchers. As Donitsa-schmidt and Ramot (2020) confirmed that lack of interest in turning on the cameras and workload on assignments could hinder online teaching during the COVID 19 pandemic.

Despite the aforementioned challenges obtained, the confusion towards the introduction of new platforms for online teachings such as using HELMS, Google classroom, and WhatsApp application is also found as the challenging issues that hindered the online teaching during the COVID-19 pandemic in the higher education institutions of Afghanistan. Most importantly, the inequality by genders in access to ICT-based teaching is also considered a challenging case during the COVID 19 pandemic. This shows that there are differences in the availability of ICT tools and applications between males and females. Similar findings were found by (Biagi et al., 2020; Orfan, 2021) indicating that the COVID-19 crisis has strengthened social inequality in online teaching.

Surprisingly, in this research, it was shown that there was a substantial differences in terms of age, academic qualification, and teaching experience. The lecturers possibly have appeared to be more in favor of online teaching with more teaching experience, and higher academic qualifications (degree). This is in contrast and inconsistent with the outcomes of a study carried out before the COVID-19
pandemic. A study conducted in the Kingdom of Saudi Arabia found a greater understanding of e-learning for those who were younger, had less teaching experience, and had a Bachelor’s degree (Maajoon & Alenezi, 2012). Research among the faculty teachers in the Philippines also showed that younger lecturers had higher ICT competence (Obrero, 2012). In this research, older lecturers with more teaching experience have more online pedagogy experience.

As expected, there were differences between genders in the opportunities and challenges highlighted by the respondents, it was figured out that there was no statistically significant difference in the opportunities obtained by males and females. While there was a statistically significant difference in the challenges of online teaching by male and female respondents in online teaching during the COVID-19 outbreaks? This means that the challenges of female respondents are huge over male respondent and this is because there is inequality in access to the technological applications and tools between males and females in the Afghanistan context (Orfan, 2021). These findings is similar to a study conducted by Moralis and Oducado (2020) who found a significant difference in the perceptions of lecturers toward online education by genders, teaching experience, and degree. Concerning the differences in the opportunities and challenges of online teaching based on academic qualification (degree), it was found that there is a significant difference in the opportunities of online teaching during the COVID-19 pandemic. Since there is no statistically significant difference in the challenges of online teaching affected by the academic qualification (degree). In other words, those who have the highest academic qualification have more opportunities in online teaching during the COVID-19 crisis, and those who are holding the lowest degree (bachelor) have fewer opportunities in online teaching during the COVID-19 outbreak.

Lastly, to consider the result of teaching experience over the opportunities and challenges of online teaching during the COVID-19 pandemic, it is found that there is a statistically significant difference in the opportunities created by teaching experience. And thus, there is no statistically significant difference in the challenges created by teaching experience during the COVID-19 pandemic. For further elaboration, those who are equipped with more teaching experience surely have more opportunities in online teaching during the COVID-19 pandemic. And those who are equipped with less teaching experience have more challenges towards online teaching during this critical situation in the higher education institutions of Afghanistan.

6. Conclusion
The outbreak of COVID-19 has disrupted all the educational systems around the world and paved the ground for teachers to move from the traditional method of teaching to more up-to-date and modern online teaching. Hence, online teaching during this critical situation had left its challenges and opportunities to any higher education institutions systems around the world. The purpose of this study was to investigate the opportunities and challenges of online teaching in the higher education institutions of Afghanistan during the COVID-19 outbreak. The study also sought to identify the differences between genders in terms of experiencing the opportunities and challenges of online teaching in the higher education institutions of Afghanistan. Besides, the study also explored the differences in the opportunities and challenges of online teaching by the respondent’s academic qualification (degree) and teaching experience. Thus, the findings revealed that there were greater opportunities in online teaching gained by the respondents and the findings of the study also showed that the challenges encountered by the respondents were significant to be recorded for the plan in such emergency closure. It was also revealed that there was no significant difference in the opportunities obtained by males and females but it was found that there was a significant difference in challenges for online teaching between genders. In addition to that, both academic qualification and teaching experience had a great impact on the opportunities of online teaching during the COVID-19 outbreak. Unlike, the academic qualification and teaching experience did not have any impact on the challenges of online teaching during the COVID-19 pandemic.
Based on the findings of this research study, a number of implications and limitations can be presented to the ministry of higher education of Afghanistan and other cooperative stakeholders to consider it as a key initiative for immediate action towards the unexpected and such critical situations. For both the MOHE and lecturers, it is necessary to create an emergency plan for such critical situations and to ensure that a precise mechanism is ready to be implemented. The MOHE should be ensured that the lecturer’s performance in face-to-face teaching is identical to the performance of online teaching. Continuous pedagogical training in the technological advancement of the lecturers and equipping the infrastructures for online teaching should be in consideration to provide better opportunities for online teaching during unexpected and emergencies.

This study was limited in investigating the challenges and opportunities of online teaching based on the experiences of only university lecturers. And it could be also conducted among the students as well, but due to lack of time and inaccessibility of the students during the lockdown, the researcher conducted this study only between lecturers. More studies could be done observing these limitations for providing better solutions for the challenges raised in this study. In this regard, exploring the challenges and opportunities of online teaching and the gender differences of challenges and opportunities imposed by the COVID-19 outbreak in the higher education institutions of Afghanistan can be useful and productive for the MOHE and other stakeholders to put a value on the existing literature concerning to COVID-19 pandemic. This study may also be significant to the public awareness concerning to immediate response of transforming from traditional method to online teaching concerning COVID-19 crisis in higher education institutions.

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