



An Evaluation of Remote Assessments Challenges during COVID-19 Pandemic in one of the UAE Government Colleges: A Cross-Sectional Study

Shayma Ebrahim Mohammed Alawadhi

1 PhD in Education candidate, The British University in Dubai, P. O. Box 345015, Dubai, UAE

2 Faculty of Higher Colleges of Technology, Ras Al-Khaimah Men's College, P. O. Box 4793, RAK, UAE

Email ID: Salawadhi@hct.ac.ae

Abstract. This cross-sectional research paper aims to evaluate the main challenges of remote assessments during COVID-19 in one of the UAE government colleges. The remote assessment challenges I am targeting in the papers are (1) academic honesty (2) technical issues and (3) measuring students' performance. I have conducted a questionnaire survey on 60 undergraduate students from different majors, we have also conducted a similar survey on 10 teachers by using simple random sampling. The results of the surveys are similar between teachers and students. Both groups agreed that remote assessments do not prove students' academic honesty, whereas face-to-face exams are better methods to test students' authentic knowledge. Additionally, participants believe that they had many technical difficulties during remote exams. Those technical issues included Wi-Fi issues, slow internet and apps crash. The majority of the sample group confirmed that they received help from their college's online IT help desk, received spare laptops and granted makeup exams. Finally, teachers believe that remote assessments do not show students' real performance and they encouraged in-campus exams. Students felt mostly neutral to have exams in-campus to show their authentic work and knowledge which may indicate slight biases toward remote exams.

Keywords: remote, assessments, COVID-19, remote assessments, constructivism, online, blooms' taxonomy, Vygotsky, learning

1 Introduction

Since the breakdown of COVID-19 education has shifted toward online teaching and learning. Educators and decision-makers felt the urge to modify assessments to match the new dimensions of digital teaching. As a result, teachers and students had to face several challenges due to the unexpected shift to remote assessments. This cross-sectional research aims to investigate the challenges of the assessment that a college in the UAE has faced during the COVID-19 pandemic. Those challenges are mainly (1) academic honesty (2) technical support and (3) measuring students' performance. The research will mainly target college students and faculty to gather their feedback about assessment challenges from their perspective. We have followed a mixed-method (convergent parallel design) to collect students' and teachers' responses through a questionnaire survey. The sampling method followed simple-random sampling and included 60 students and 10 teachers from different divisions. According to Creswell (2014), cross-sectional studies compare two groups' current beliefs, attitudes and actual behavior about the same matters.

The research's main aim is to evaluate the challenges of the main assessment the targeted college has faced during the pandemic. The research aims to evaluate students' academic honesty, technical support and students' performance. Other objectives are:

- What challenges students and faculty have encountered and how did they overcome them from their perspective?

- What are the best alternative assessments faculty preferred to use during the pandemic? Guangul et al. (2020) believe alternative assessments are less problematic to meet assessment outcomes.
- Investigate how faculty have taken good assessment measures to ensure the quality of their exams.
- Looking at students' perspectives about online/in-campus assessments experience during the pandemic.
- Covering students' feelings about their academic honesty, and what technological support they received during exams. Ali et al. (2021) believe remote assessments have their drawbacks which heavily rely on Wi-Fi connectivity which is not reliable.
- Asking students about how they feel about alternative methods of examination, i.e. presentations, reports ...etc.

The rationale for my choice has been inspired by a research paper done in Oman. I have read this paper and I was inspired to conduct my version here in the UAE. There are some differences in goals and methods, which I have changed to suit my cross-sectional study.

- There are not many gaps in UAE research about assessment challenges, however, I feel that this research will contribute to finding more about three aspects of assessment challenges.
- My position as a faculty in higher education will also benefit from exploring assessment challenges and how we alternate them to ensure quality and effectiveness.
- I also believe this paper will be a scope of building on my dissertation topic. It will mainly be related to COVID-19 challenges in higher education.
- Student and faculty feedback will also help me to report new solutions and ideas to my team lead for future exam purposes as we are still using the hybrid model.

The research questions are divided into three sub-questions to satisfy each aspect of remote assessments challenges:

1. What are students and faculty's perspectives on the academic honesty challenge in remote assessments during the COVID-19 pandemic in a UAE government college?
2. What are the main technical challenges in remote assessments during COVID-19?
3. What are students and faculty's perspectives on measuring students' performance in remote assessments during COVID-19?

The paper outline will start with highlighting theoretical underpinnings and thematic synthesis of online assessments. We will then cover the methodological framework to discuss the sampling method, instruments and research questions. Additionally, the findings, data analysis and discussion will cover the major part of this paper. In the end, I will conclude the paper by providing recommendations for future research practice.

2 Literature Review and Theoretical Underpinning

The literature review section will offer insight into the theoretical underpinnings and thematic synthesis. The section will start by shedding light on the Constructivist Theory and Vygotsky's sociocultural theory, both theories are related to students' assessments and learning. We will then discuss different types of assessments, how to measure their validity and go through Bloom's Taxonomy. The last theme will be about the three remote assessment challenges during COVID in the UAE which are targeted in this study. We will present different researchers' perspectives about each challenge under separate themes.

2.1 The Constructivist Theory

The constructivist theory has descended from the cognitive theory of learning, this is where children construct their learning mentally. Constructivists view learners as active agents in the process of knowledge acquisition according to Olusegun (2015). They also believe that learning (cognition) is based on the mental construction of learning. Hein (1991) also suggests that we have to focus on students thinking about learning and visualize them as the active agents in charge of knowledge acquisition. The construction of learning happens in the mind of

learners which is a crucial stage of acquiring and processing experience as Hein (1991) believes.

Both Olusegun (2015) and Hein (1991) share some benefits of implanting constructivism in learning environments which are:

- Learners learn more while they are actively engaged in their learning as agents in control.
- Learning works best when it focuses on understanding rather than memorizing.
- Constructivist learning is transferable from one learning setting to another.
- Students have ownership of their learning by engaging their interests.
- Learning is a social practice, it is associated without interaction with others.

The Constructivist Theory roots back to Dewey (1929), Vygotsky (1962) and Piaget (1980). It applauds social interaction between peers to fulfill learning and constructing knowledge. Learners learn most effectively while they are in a social environment and real-world context. Constructivism stimulates students' curiosity and makes them question things to apply what they learn in the real world (Olusegun (2015)).

Vygotsky's Sociocultural Theory. The Russian psychologist Lev Vygotsky believes that the sociocultural learning environment provides students with demands and engages their curiosity to learn. According to Turuk (2008), a learner acquires learning through interaction with adults or peers which is known as the inner psychological plane, then he later internalizes this experience by adding his values to it (intrapsychological plane). Daneshfar and Moharami (2018) also suggest that Vygotsky encourages learners to be immersed in a social environment, which includes all cultural, social and interpersonal experiences.

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Vygotsky is widely known for his notion of ZPD (Zone of Proximal Development). According to Turuk (2008), Vygotsky defines ZPD as "the distance between a child's actual development level as determined by independent problem solving, a higher level of potential development as determined through problem-solving under adult guidance or collaboration with more capable peers" (p.248). Additionally, Daneshfar and Moharami (2018) mention that Vygotsky believed that child development is not a leaner model. In each child, there are two levels of coexisting development. The first one is the actual level of development, in which a child can achieve things independently. The second is the potential level of development, which is decided based on tasks achieved with teachers or more competent peers.

2.2 Assessment Types and Overviews

There are different assessment types and purposes known to use educators, we tend to use what is most efficient to match our student's needs. Joshi et al. (2020) and Guangul et al. (2020) shared some of the assessments types:

- Formal (end of the unit) and informal (daily quizzes).
- Formative (reflections) and summative (final writing test).
- Written (report writing) and non-written (presentations).

- Proctored exams (timed exams) and open-ended assessments (portfolios).

According to Long et al. (2014), we have to assess the quality of exams and ensure their validity (meaningfulness) and reliability (dependability). The reliability of assessment means that it is reliable when repeated with the same or different group of students, which means results could be the same or almost similar. Testing reliability is necessary from time to time especially when there is fatigue in performance across different groups. The validity on the other hand is assessing what is meant to be assessed, this means measuring the useful skills and competence right. However, there always seems to be a debate on what is the correct scale of validity due to different opinions and sets of skills (Long et al. 2014).

Bloom's Taxonomy. Bloom's Taxonomy was introduced by Benjamin Bloom in 1956, it is a framework categorizing teaching and learning goals for teachers. Sivaraman and Krishna (2015) believe that Bloom's Taxonomy is a six-tiered model of progressing thinking based on six levels of complexity. In addition, Forehand (2010) explains the lower three levels of Bloom's Taxonomy are (1) knowledge (2) comprehension and (3) application. Whereas, the three highest levels are (4) analysis (5) synthesis and (6) evaluation. The Taxonomy is hierarchical, meaning that learners will proceed to the next tier once they master the first stage of thinking. However, Lorin Anderson who was a student of Bloom in 1990 has updated the Taxonomy to meet the relevance of 21st-century skills. The changes have included minor but significant changes to the thinking process. This Taxonomy is known as Revised Bloom's Taxonomy (RBT) as Forehand (2010) mentions.

2.3 Remote Assessments during COVID-19 in the UAE

Higher education in the UAE has switched to online teaching and learning since the breakdown of COVID-19 in March 2020. The necessity of remote assessments became needed to incorporate and achieve learning goals while students are in-distance. Ali and Dmour (2021) believe that remote assessments are done by students at their homes, thus they cannot be monitored or offered help if needed. As a result, stakeholders had to come up with different solutions to ensure academic honesty, avoid technical issues and measure the quality of students' performance.

Academic Honesty. Students had to learn and take exams at their homes during the pandemic. Teachers had to change their assessment strategies during the spring semester to align with online course obligations. However, teachers were concerned about students' academic honesty as they will be distantly taking their exams at home. Adkins et al. (2020) state that the development of technology offers students more methods to cheat rather than teaching them to research and study on their own. The authors conducted a study on teachers to ask about their opinions on the same issue. Their study has shown that teachers considered cheating and academic honesty as their number one issue in digital teaching. Additionally, R. Olt (2002) adds that ethical practices have taken a new twist since the switch over to distance teaching. Students have taken great advantage of not having someone watching over them physically. Both Adkins et al (2020) and R. Olt (2002) agree that action should be taken to switch assessments to written exams or alternative assessments to minimize the jeopardy of course quality.

Technical Difficulties. Students and teachers in UAE higher education have faced multiple technical difficulties, which was one of the main barriers in online classes and assessments. Joshi et al. (2022) state technical issues played a key role in universities reconsidering their infrastructure, platforms and cybersecurity. Students and teachers complained about being disconnected from exams which have led them to a series of consequences. Joshi et al (2020) explain those consequences as time-consuming and cause frustration to students. For example, students or teachers have to find help from virtual IT help desk provided by their college, which also may be affected if there is no Wi-Fi service. Ali and Dmour (2021) also add that stable internet connection and infrastructural issues are essential for universities to consider before deploying remote exams. If the internet or Wi-Fi connection ceases to work then we jeopardize students' efforts and later their grades.

Students' Performance. Teachers have expressed their concerns about how to assess the quality of their student's work in the best way. According to Rovai (2000), instructors need to design instructions and assessments relevant to the medium. Rovai (2002) also suggests that assessments are the process of gathering and quantifying

a learner's performance which is usually referred to as summative assessments. If students do not show their best knowledge (or even cheat) during distant online assessments then teachers can't know their authentic performance. Rane and MacKenzie (2020) discuss that teachers need to evaluate students' understanding of course materials, provide feedback and assess their learning. This procedure will lead to students' improved performance and quality assurance of course outcomes. On the other hand, Rane and MacKenzie (2020) suggest that students tend to prefer online distant exams as they offer them quick feedback and reduce their anxiety, these two factors control how much students perform well in exams. The authors also question some strategies to reduce dishonesty and technical issues to ensure better students' performance in distance learning.

A Alternative Remote Assessments. Arifuddin et al. (2021) and Dikli (2003) define alternative assessments as evaluating students' performance against learning outcomes, they are less problematic to achieve in a remote environment. Alternative assessment examples can be projects, presentations, portfolios, etc. According to Dikli (2003), there are three approaches to alternative assessments which are:

- **Authentic assessment:** problem-solving instructions related to the real world.
- **Performance-based assessment:** student work is observable and trackable whether it is direct or indirect.
- **Constructivist assessment:** students keep a record of their work such as writing logs and weekly reflections.

Similarly, Arifuddin et al. (2021) suggest that formative and summative assessments can be in the forms of:

- **Cognitive assessments:** focusing on measuring higher-order thinking and communication skills.
- **Performance appraisal:** related to problem-solving activities to apply knowledge skills in a real context.
- **Portfolio assessments:** document students' progress over time to revisit or review it.

3 Methodology

The methodology section will offer insight into the cross-sectional design implemented in this paper. The section will present the main cross-sectional aspects, benefits and mechanics. It will also discuss the mixed-method design (convergent parallel design). The section will also present the instruments used to collect data from the sampling group, the site of the study and the research questions. In the end, it will also go through the ethical considerations process.

3.1 Cross-sectional Research Design

This study follows the cross-sectional research design in order to collect as much data as possible in a short time. The need for the cross-sectional design came from my curiosity to try a different type of research, so after a period of readings I decided to use a cross-sectional design due to the availability of participants and feasibility of time. Creswell (2014) believes that this design has the advantage of measuring the current practices of different groups in a short time. One of the cross-sectional designs I have chosen to implement is comparing two educational groups which are teachers and students (Creswell (2014)). This will offer me a good insight into both students' and teachers' perspectives on remote assessment challenges during the pandemic. Levin (2006) claims that the purpose of cross-sectional design is descriptive and analytical which comes in a form of a survey. This design aims to a sampling group within a population concerning the risk factors as Levin (2006) suggests. According to both Creswell (2014) and Levin (2006), there are advantages and disadvantages of cross-sectional designs that researchers need to consider before starting their research journey.

I have selected the Mixed-Method Approach as part of this cross-sectional study. I decided to follow the

mixed-method design to cross-validate the relationship between students' and teachers' perspectives. In this MM design, I chose the Convergent Parallel Design. Creswell (2014) explains this design as a stimulus data collection of both quantitative and qualitative data, combining them and understanding the research problem. The rationale of this design is that both quantitative and qualitative provide support to the data set if there is a weakness in one of them (Fraenkel and Wallen (2009)).

Instruments. The type of instrument I have implemented solely in this cross-sectional study is a questionnaire survey. The same survey (with some verbs edited) was sent to both students and teachers to compare their perspectives on remote assessment challenges during COVID. The survey consisted of three sections that cover the three challenges of remote assessments. The first question is a background check of students and faculty programs to classify them. The second question is a general question about their preference for either online or face-to-face assessments. After that, the survey splits into three sections (1) academic honesty (2) technical issues and (3) students' performance. Each section includes 4 – 5 questions on the Likert scale and open-ended questions. The necessity for the open-ended question is to gather more information about students' and faculty's perspectives on those three remote assessment challenges. The survey was distributed by email through close colleagues and department heads to the target groups. Fraenkel and Wallen (2009) suggest that cross-sectional is conducted on a predetermined population which takes a short amount of time, but a good number of data. Creswell (2014) suggests that surveys are administered to describe the opinions, attitudes and behaviors of a controlled group.

Population and Sampling. The population of this cross-sectional design is students and faculty of a government college in the UAE. There are around 2000 students and 60 faculty members in that college. I have followed the simple-random sampling method to send the survey questionnaire. The sampling group then was narrowed down to those who volunteered willingly to do the survey, which are 60 students from Engineering, Education, Media, Computer Sciences, Business and Health Sciences. Also, 10 faculty members volunteered to do the survey, most of them are from general studies courses which means they have taught different programs. The sampling group has willingly taken the survey without any pressure from team leaders and myself. As a result, their answers appeared to be honest and reflect their authentic perspectives. Creswell (2014) explains that simple random sampling is selecting participants to represent the population, each one has an equal probability of being chosen for the survey. If there is any bias in participants' responses then biases will be distributed over the whole sampling group.

Research Questions. The research questions are divided into three sub-questions to satisfy each aspect of remote assessments challenges:

1. What are students and faculty's perspectives on the academic honesty challenge in remote assessments during the COVID-19 pandemic in a UAE government college?
2. What are the main technical challenges in remote assessments during COVID-19?
3. What are students and faculty's perspectives on measuring students' performance in remote assessments during COVID-19?

Ethical Consideration. Teachers and students were assured by email about keeping their identities unrevealed. I constructed detailed instructions before sending the survey to the sample group assuring them that they won't be asked for any personal information or requested sensitive information. The site of study identity has also been omitted due to long approval procedures. Creswell (2014) believes that participants should not be forced to share their opinions, otherwise we won't have authentic outcomes. Additionally, participants were given the full right to participate or withdraw from the study if they do not feel secure. Interestingly, Creswell (2014) suggests that participants of your study can be rewarded in return for being part of your research. This is because they have given you a good amount of their time during working or personal hours. I have offered two of my colleagues to help with their markings and invigilate their classes for half an hour as a note of gratitude.

4. Findings, Data Analysis and Discussion

This section will combine findings and data analysis with the discussion of results. I have divided this section into three subheadings to highlight each research question separately. Each subheading will present data analysis of each remote assessment challenge and draw final closure to each research question. Each subheading will also include my personal views as a teacher in higher education and provide related literature.

4.1 Students' academic honesty

The findings of students' academic honesty have slightly differed between faculty and students. However, the majority have voted for face-to-face assessments instead of remote assessments. At first, we asked participants if they feel that online exams do not prove students' academic honesty. There are around half of the students chose to remain neutral, whereas 80% of the faculty agreed. Also, 58% of students and 80% of faculty agreed that remote exams are the easiest way to gain good marks. This shows a contradicting point to students' first answer that may show bias toward remote exams for their benefit. Furthermore, the majority of students believed that face-to-face exams limit their attempts to cheat and test their abilities. There are more than 70% of teachers voted for the same opinions as well.

In summary, we can conclude that remote assessments do not prove students' academic honesty based on the survey results. The participants showed their preference for face-to-face assessments for multiple reasons. One faculty member mentioned that academic honesty issues are 'less likely to occur. Another two faculty mentioned that having face-to-face exams reduce students' attempts to cheat and make it easier for them to monitor their students physically. Ali and Dmour (2021) suggest that creating remote exams should be pre-planned, unlike physical exams where cheating possibilities are lower compared to remote exams. In addition, Adkins et al. (2020) state that teachers consider academic honesty as their number one issue in remote exams as technological advancement promotes new ways to cheat students. Some researchers suggested alternative assessments like presentations and portfolios to minimize cheating risks. Guangul et al. (2020) mention that academic dishonesty is a continuous issue during remote learning, so some teachers preferred to switch to alternative assessments if face-to-face attendance is not possible. Most students and faculty of this study have voted to have projects, presentations and research as alternative exams.

4.2 Technical difficulties

Technical issues were one of the major issues that students and faculty have faced according to their survey responses. The majority of participants have voted for having Wi-Fi issues, exam crashes, slow internet and other issues. Interestingly, students complained about 'not having enough time. They mentioned that during remote exams they were not given enough time to do the tests, while in-campus they have been given more time. I believe the reason for this is restricting students' time and ability to find 'extra help' due to short exam time. On the other note, participants agreed that they received help whenever they had technical difficulties. Many students (43%) and teachers (77.8%) have agreed that the IT online help desk has helped them. Some students have also reported that they received a spare laptop, and time extension or were even granted to reset exams due to technical failure.

We can assume that technical failures can lead to a pretty chaotic exam day if not handled well. Based on survey results, students and faculty believed that technical issues are one of the main challenges they have faced during COVID. Having technical issues during exams may threaten students' grades, lead to anxiety and not show accurate outcomes. Ali and Dmour (2021) also add that stable internet connection and infrastructural issues are essential for universities to consider before deploying remote exams. If the internet or Wi-Fi connection ceases to work then we jeopardize students' efforts and later their grades. Joshi et al. (2020) also add that having technical issues raises the question of assessment quality and students' authentic grades. These aspects might be judged unfairly due to the lack of good infrastructure and technical support at the university.

4.3 Students performance

The last challenge of remote assessments is to measure students' performance. Interestingly, there are around 40% of students preferred to remain neutral when we asked if remote assessments test their real performance. Around

33% agree and 25% disagree that remote assessments do not test students' real performance. Also, around 40% of students felt neutral toward moving exams back in-campus to their authentic hard work. However, more than 80% of teachers agreed that remote exams do not show their students' authentic performance and asked to bring exams back in-campus. One faculty reported that having students back in class is a relief so he can meet their needs and provide feedback for better performance.

We can conclude by assuming that remote assessments do not present students' authentic work or real performance. Based on responses, remote assessments tend to 'hide' students' real abilities behind the screen, some teachers even mentioned in the comments that they do not know their students well enough to judge their abilities. Rane and MacKenzie (2020) believe that teachers need to evaluate students' understanding of course materials, provide feedback and assess their learning. This procedure will lead to students' improved performance and quality assurance of course outcomes. Rovai (2000) also states that remote exams can be used for low-stakes exams, whereas high-stakes exams should be proctored under controlled settings to ensure the quality of students' performance.

5. Conclusion and Recommendations

In summary, this cross-sectional study aimed to evaluate three remote assessment challenges during COVID-19 in one of the UAE government colleges. The study targeted college students and teachers from five different divisions to seek their feedback about remote assessment challenges during the pandemic. The three targeted challenges are (1) academic honesty (2) technical issues and (3) measuring students' performance. The study findings were drawn based on 60 students and 10 teachers' participation in a questionnaire survey. The questionnaire survey consisted of a Likert scale, and short and open-ended questions.

The results were similar between teachers and students with some students' biases toward remote assessments. Teachers have expressed that remote assessments do not show students' academic honesty so they prefer in-campus exams. Whereas, students were mostly neutral to remote exams, however, the majority suggested that remote exams are the easiest way to gain good marks which shows biases. R. Olt (2002) offers three different approaches to minimize cheating which are virtues, preventive and police approach. Moreover, teachers and students believed that technical issues were one of the challenges during the pandemic. Most participants voted for Wi-Fi issues and slow internet, they also considered the online IT helpdesk as a vital help source. In the end, both groups believed that remote exams do not test students' real performance and prefer to have in-campus exams to minimize the risks of cheating. They also indicated having alternative exams to reduce dishonesty and technical issues such as presentations and projects.

I recommend future researchers consider broader areas for this topic. First, they might consider the longitudinal study to measure different instruments on the same sample group over a period of time. This may help researchers to gather the same participants' feedback over a lengthy period to grant they are providing valid reliable data. Longitudinal cohort studies target the same group over time to examine any change of opinion according to Fraenkel & Wallen (2009). Second, we suggest conducting interviews with both teachers and students from a certain discipline to measure precise outcomes from participants in the same course. Furthermore, I recommend using students' grade reports and cheating reports to analyze the quality of remote exams. I also believe in including IT help desk staff to gather their opinions about technical issues and the best solutions provided during the pandemic.

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