

جامعة حمدان بن محمد الذكية
Hamdan Bin Mohammed Smart University

The Impact of Transforming to Online and Distance Education in the United Arab Emirates

School's Performance: A Multi-Agent Perspective

Research Report

2020

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EXECUTIVE SUMMARY

Between 15th and 30th of July 2020, a large cohort of 2,692 participants from the K-12 educational communities across the United Arab Emirates (UAE) took part in a survey. The survey was designed to measure the impact of transforming regular classrooms to online and distance education during COVID-19 pandemic and the outcome of schools' performance. The survey generated valuable and current insights from a multi-agent perspective across all school sectors, both public and private. The findings highlighted new realities, unprecedented challenges faced by the institutions, and opportunities that could be attributed to enforced distance teaching and learning methods.

The survey was conducted by a team of full-time faculty, part time faculty, postgraduates' learners, and alumni from the School of e-Education (SEED) at Hamdan Bin Mohammed Smart University (HBMSU), Dubai - UAE. The survey was designed to ask the target participants a series of questions about their experiences with the online and distance education during the COVID-19 mandatory school lockdown and sought their views about the impacts on school performance and educational outcomes. The survey results provide revealing insights and reflections into the ground realities of online and distance education, for a vast gamut of stakeholders like the schoolteachers, students, principals, and parents as a part of the educational communities and members from government as everyone involved continued to face difficult choices about education during this unprecedented crisis.

A total sample of 983 students, 767 teachers, 164 school principals, and 778 parents responded to the survey questions on issues related directly to current COVID-19 era experience and practice, including:

- The impact of online and distance learning (ODL) during the COVID-19 schools lockdown on students' performance.
- The impact of online and distance learning during the COVID-19 schools lockdown on the effectiveness and psychological wellbeing of students and teachers.

- The efficacy of online and distance learning classrooms compared with the conventional classrooms.
- The extent to which online and distance learning meets the needs of all students across the UAE public and private schools.
- The extent to which online and distance learning increases or decreases principals' ability to assess the effectiveness of instruction and monitoring their schools.
- The extent to which the UAE students, teachers, principals, and parents are satisfied with the implementation of online and distance learning during the COVID-19 schools lockdown.
- The extent to which the participants agree to continue implementing the online and distance learning strategy in the next academic year.

Almost 100 percent of participants who took part in the survey had already begun teaching the Spring 2020 semester on an online, distance learning mode as a response to the UAE ministry of education directives, instructions and strategy initiated by them during the COVID-19 schools lockdown.

ملخص تنفيذي

شاركت مجموعة كبيرة مكونة من 2692 مشارك من مجتمعات التعليم المدرسي (K-12)، في الفترة ما بين 15 و30 يوليو 2020 ومن جميع أنحاء دولة الإمارات العربية المتحدة، في استطلاع للرأي، والذي صُمم لقياس مدى تأثير التحوّل من الفصول الدراسية العادية إلى التعلّم عن طريق الإنترنت والتعلّم عن بُعد خلال جائحة كوفيد-19، إضافة لقياس مخرجات أداء المدارس. نتج عن الاستطلاع رؤى قيّمة للوضع الحالي من منظور متعدد المستويات يغطّي جميع القطاعات المدرسية، الحكومية والخاصة. كما سلّطت نتائج الاستطلاع الضوء على الحقائق الجديدة والتحديات غير المسبوقة التي تواجهها المؤسسات، والفرص التي يمكن أن تُعزى إلى تطبيق أساليب التدريس والتعلّم عن بُعد.

أجرى الاستطلاع فريق مكوّن من أعضاء هيئة التدريس المتفرّغين، وأعضاء هيئة التدريس بدوام جزئي، وطلاب الدراسات العليا وخريجي كلية التعليم الإلكتروني (SEED) في جامعة حمدان بن محمد الذكية بدبي - دولة الإمارات العربية المتحدة. حيث قام الفريق بتصميم الاستطلاع بطريقة طرح سلسلة من الأسئلة على المشاركين المستهدفين عن تجاربهم مع التعلّم عن طريق الإنترنت والتعلّم عن بُعد أثناء فترة إغلاق المدارس الإلزامي بسبب كوفيد-19، ومعرفة وجهة نظرهم عن تأثيرات ذلك على الأداء المدرسي والنتائج التعليمية.

عكست نتائج الاستطلاع رؤى وأفكارًا تكشف حقائق من أرض الواقع للتعلّم عن طريق الإنترنت والتعلّم عن بُعد، لمجموعة واسعة من أصحاب المصلحة؛ كمعلمي المدارس، والطلاب، ومديري المدارس، وأولياء الأمور، كجزء من المجتمعات التعليمية، إضافة إلى أعضاء من الحكومة، حيث واجه كلّ شخص معني خيارات صعبة بالأمور ذات الصلة بالتعلّم خلال هذه الأزمة غير المسبوقة.

أجاب 983 طالبًا، و767 معلمًا، و164 مدير مدرسة، و778 ولي أمر (كعينة الاستطلاع الإجمالية) على أسئلة الاستطلاع عن القضايا المتعلقة مباشرة بفترة كوفيد-19 وما رافقها من تجارب وممارسات، بما في ذلك:

- تأثير التعلّم عن طريق الإنترنت، والتعلّم عن بُعد أثناء إغلاق المدارس خلال كوفيد-19 على أداء الطلاب.
- تأثير التعلّم عن طريق الإنترنت، والتعلّم عن بُعد أثناء إغلاق المدارس خلال كوفيد-19 على الفاعلية والرفاهية النفسية للطلاب والمعلمين.

FINDINGS AND HIGHLIGHTS

Students' Perspective

- Students in the public and private schools were divided about the impact of online and distance learning when compared with conventional classroom settings. Almost 52% of the surveyed students believed that in spite of transformation to online and distance education, they were learning as much or more than if they were in a conventional school setting.
- When students were asked if they feel comfortable working independently when a teacher is not, physically present, 61% of them answered in the affirmative.
- Almost 60% of the surveyed students from the public and private schools were highly satisfied with the online teaching method and learning strategy implemented during the COVID-19 schools lockdown.
- When students in the public and private schools were asked if they would like to continue learning through online and distance learning strategy, only 45% were positive and the rest preferred to go back to conventional school settings.

Teachers' Perspective

- Almost 58% of the surveyed teachers from the public and private schools responded that the online and distance learning strategy implemented during the COVID-19 schools lockdown was as effective as conventional classroom learning.
- During the COVID-19 schools lockdown, the UAE schoolteachers' efficacy was found reasonable. Almost 45% of the surveyed schoolteachers believe that online and distance education decreases their instructional effectiveness because of difficulties in balancing their home-life with the needs of teaching online.

- Almost 55% of the surveyed teachers from the public and private schools were highly satisfied with the online teaching and learning strategy implemented during the COVID-19 schools lockdown.
- When teachers in the public and private schools were asked if they would like to continue teaching through online and distance learning strategy, only 60% of the respondents were positive and the rest prefers to go back to conventional classroom settings.

Principals' Perspective

- School principals were very reflective about the online and distance learning. Almost 73% of the surveyed school principals from the UAE public and private schools responded that the online and distance learning strategy implemented during the COVID-19 schools lockdown meets the needs of all students in their schools.
- School principals' efficacy was also very high. Almost 68% of the surveyed school principals from the UAE public and private schools answered that the implementation of online and distance education during the COVID-19 schools lockdown increases their ability to assess the effectiveness of instruction and monitoring their schools' performance.
- Almost 83% of the surveyed school principals were highly satisfied with the online teaching and learning strategy implemented during the COVID-19 schools lockdown.
- When school principals were asked if they would like to continue implementing the online and distance learning strategy, 72% of them exhibited positive response, and the rest preferred to go back to conventional classroom settings.

Parents' Perspective

- Parents of school going children were divided about the impact of online and distance learning on their children performance. Almost 56% of the surveyed parents voiced that their children were able to learn at their own pace during the transformation to online distance education.
- When parents were asked about the level and quality of the administrative support offered from schools during the transformation to online distance education, 70% answered that online teaching and administrative support was adequate and relevant. However, only 58% of the surveyed students' parents expressed satisfaction with the online teaching and learning strategy implemented during the COVID-19 schools lockdown.
- When students' parents were asked if they would like to continue implementing the online and distance learning strategy, only 45% of them answered in the affirmative.



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INTRODUCTION

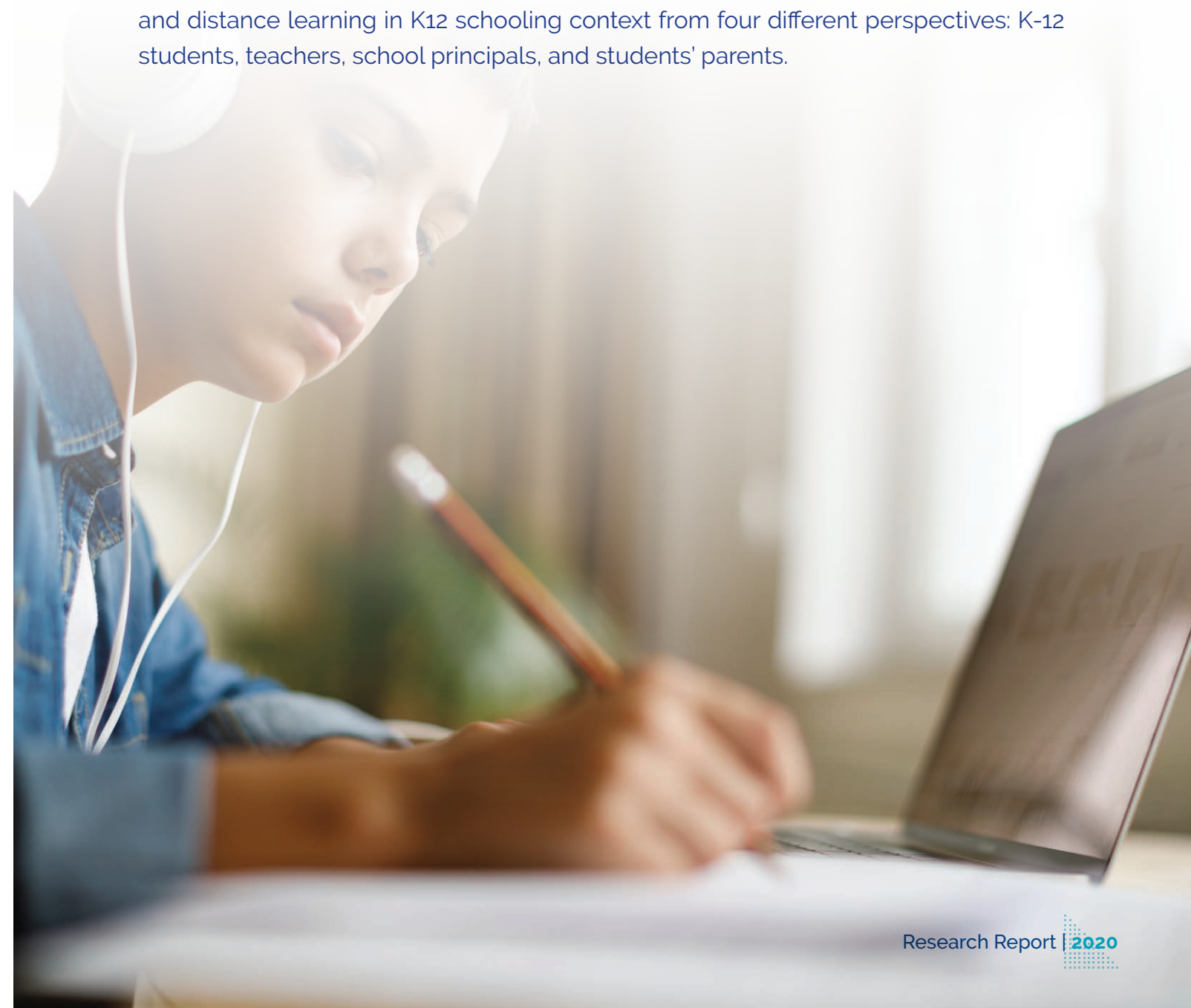
Due to COVID-19 Pandemic, many countries across the world have implemented school closures affecting over 1.2 billion students who were not allowed to attend regular schools with the purpose to prevent the spread of the epidemic (Li & Lalani, 2020). The decision was sudden and educational institutions had no alternative but to introduce online distance learning to maintain and transmit its services to all educational stakeholders (ÖZER, 2020; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2020). The rapid response includes different forms of learning such as distance learning solutions and home-based distance learning during the pandemic, and tech-enhanced school systems after the pandemic (Miao, 2020).

According to UNESCO statistics (2020), the closures of schools all over the world in order to prevent the spread of the COVID-19 has affected 91% of the student population. National exams have been canceled, schools and universities are locked down, and learning has moved from classroom settings to homes. Teachers, school principals, and parents are now tasked with home schooling, aided by online learning technologies to provide education.

In the United Arab Emirates, as in countries worldwide, there has been a widespread shutdown of non-essential businesses and schools to encourage social distancing and ensure a high safety rate. Therefore, like 1.5 billion students across 165 countries, students in the UAE have been either asked or required to stay home from school (UNESCO, 2020). The UAE's government mandated the closure of all schools and universities on March 8, bringing the school holidays forward and requiring approximately 1,100,000 K-12 students to transition to distance learning. Distance learning was further extended until June 2020, the end of the academic year. Meanwhile, the government began to work closely with school principals and teachers to immediately start pursuing online and distance education (Houalla, 2020).

As hundreds of thousands of teachers and students around the world, log into teaching and learning cyberspaces, we explore how this transition could change the educational landscape for decades to come. As teachers deliver education through online mode, students are at the receiving end of online education and so the resistance towards online education may be considerably reduced. There has been a paradigm shift in the concept of schools, which need modern methods of management.

Due to COVID-19, the UAE schools, teachers, and K12 students in both public and private sectors have moved radically in using technology to teach and learn. They have begun to change the existing method of pedagogy... This study explores the impact of this sudden transition to technology-driven forms of learning and the status of online and distance learning in K12 schooling context from four different perspectives: K-12 students, teachers, school principals, and students' parents.



BACKGROUND AND LITERATURE REVIEW

Although there was already a high increase in the adoption of educational technology before the pandemic (Graham, 2006; Ichsan et al., 2020; Li & Lalani, 2020; Wargadinata, Maimunah, Dewi & Rofiq, 2020), the significant demand for online learning, as a result of the pandemic led many countries, especially technologically advanced countries to quickly enhance their online education platforms (Adobe, Blackboard, Desire2Learn, Moodle, cloud systems, etc.). This helped in facilitating effective teaching and learning through virtual classrooms and provide stakeholders access to variety of e-resources (Azzi-Huck & Shmis 2020). The online platforms were used to provide and facilitate excellent features including e-learning resources, smart classes, virtual labs, question banks and learning and assessment centers. Those features were accessible by teachers and students at all education levels (Abidah, Hidaayatullaah, Simamora, Fehabutar & Mutakinati, 2020). Even those countries who are less technologically advanced and do not have adequate technology infrastructure turned to traditional technologies to compensate the loss of school closures. Television and Radio channels have been used to provide live and recorded educational lessons for students (IAU, 2020).

With such unplanned and rapid change, some questions were raised in relation to the impact of online distance learning, the readiness of educational systems for this innovative transformation, and the affordability and challenges associated with it. The related existing studies and reports yielded show mix findings about the rapid shift to online learning.

Several published reports or studies documented that the online mode of delivery will continue to emerge and become an integral component of school education with significant benefits (Dhawan, 2020; Ferdig, Baumgartner, Hartshorne, Kaplan-Rakowski & Mouza, 2020; Goh & Sandars, 2020; Li & Lalani, 2020; Reimers, Schleicher & Ansah, 2020; Saxena, 2020; Sintema, 2020; Verawardina et al., 2020; Wargadinata et al., 2020). As stated by Ferdig et al. (2020), the pandemic of COVID-19 has significantly affected education by forcing schools to embrace digital technologies to deliver online and remote instruction. Despite of the existing challenges, the situation

resulted in creating success stories of innovation in preparing well-qualified, current and future schoolteachers. In another study conducted by Reimers et al (2020), senior administrators, other school administrators and teachers from 59 countries participated in the survey have positively responded to the new strategies deployed to maintain teaching and learning. The study also indicated that the strategies provided flexible access to at least part of the curriculum for a considerable number of students in extremely challenging conditions as a result of the COVID-19 pandemic.

Stating that online teaching and learning "is no more an option, it is a necessity", Dhawan (2020) concluded that this type of student centered method has several strengths including offering a great deal of flexibility in terms of time and place, enabling schools to customize learning processes and procedures according to their students' needs, providing a variety of instructional tools to facilitate an effective, efficient, collaborative and interactive learning environment. In terms of studying students' views towards the using of online learning during COVID-19 pandemic, Wargadinata et al. (2020) found that using the WhatsApp Group as a tool for online learning is very effective. Participants perceived the WhatsApp as an easy, simple, and cost-effective mode of communication and shared learning platform.

On the other hand, some researchers and educators reported that the sudden and quick move to online learning without sufficient training, adequate infrastructure, and appropriate preparation would lead to a poor learning experience that will affect the sustained growth (Li & Lalani, 2020). For instance, Reimers et al. (2020) indicated that there is an agreement among participants representing 59 countries that only part of students have been able to engage effectively and consistently in the alternative learning opportunities developed under these unexpected conditions. More specifically, participants estimated that about 50% of students were able to access most or all components of the educational curriculum. Additionally, it was reported that only 61% of the government representatives participated in this survey indicated that teachers in their countries were provided some types of professional training. In their attempt to investigate the impact of COVID-19 pandemic on the Nepalese school education system, Dawadi, Giri, and Simkhada (2020) provided a critical analysis of the impact of pandemic on digitalization of the school system based on published reports

and commentaries. The study findings indicated that COVID-19 has had negative impact on students' learning and has contributed to widen the gaps between students in terms of access to quality learning opportunities. The study also found that defective implementation approaches and failure to implement the already existing ICT related policies were the main factors that led to several challenges.

Moreover, Reimers and Schleicher (2020) stated that there are other factors that will increase the already existing gaps in learning experience across jurisdictions. Those include differences among students in parents' support during their online learning, differences across school systems and capacity to design and deploy effective online learning, and differences in students' capability, motivation, and flexibility to learn online at their own pace. Empirical evidence with the help of the data provided by the program for International Student Assessment (PISA) managed by the Organization for Economic Co-operation and Development (OECD) shows that most of the education systems participating in a 2018 survey are not ready to offer online learning opportunities to most students (Organization for Economic Co-operation and Development [OECD], 2018). In this regard, Andreasyan (2020) summarized the challenges for ensuring continuity of education during COVID-19 as follows:

- Technological readiness: This includes lack of technological devices and lack of internet access.
- Content readiness: availability of teaching and learning materials aligned with national curricula that can be delivered through online platforms.
- Pedagogical readiness for delivering online classes.
- Monitoring and evaluation: Lack of comprehensive monitoring and evaluation system for online learning.

For these reasons, it is imperative that education leaders and researchers should delve in the issues further to be able to develop and implement strategies to enhance student learning during and after COVID-19 pandemic. As such, the purpose of this study is to explore and investigate the impact of the transformation to online and distance education on the UAE school's performance from rectangular - multi-agent perspective: Students, schoolteachers, principals and parents.



METHODS

The research team, which consisted of full-time and associate instructors, alumni and current enrolled learners in the master and PhD programs at the school of e-Education, developed and distributed an online survey to ascertain the target population's responses to online and distance learning during the COVID-19 pandemic. The research team also shared the survey link on social media platforms and through advertisements on social media, including Facebook and WhatsApp. The team encouraged respondents to share the link to the survey with colleagues, encouraging a broader group of responses. The survey was open for fifteen days, from 15 to 30 July 2020.

Target Population

The target population of this study consisted of all UAE public and private schools associated with the Ministry of Education (MoE). The number of public and private schools in the UAE was 1262 during the academic year 2019/2020. Table 1 shows the number of schools, teachers, and students in the UAE public and private education sectors.

Table 1. The number of schools, teachers, and students in the UAE public and private education sectors

	Public	Private	Total
Number of Schools	619	643	1,262
Number of Teachers	21,153	50,869	72,022
Number of Students	288,794	810,537	1,099,331

Taken from (<https://www.moe.gov.ae/Ar/OpenData/Pages/Home.aspx>)

Questionnaire Details

The online survey consisted of 16 closed ended items. The survey instrument was designed based upon recently published literature, and worldwide best practices of deploying online and distance learning strategies during the COVID-19. It was developed both in Arabic and English; the ethical approval was secured from the research committee at HBMSU. The questionnaire adopted a five-point rating scale (1-5) to gauge the level of target participants' agreement to a particular question: 1 = Strongly disagree, 2 = Disagree, 3= Moderately agree, 4 = Agree and 5 = Strongly agree. The researcher avoided using a neutral option in the Likert Scale to reduce the neutrality and to encourage the participants to provide a specific opinion. The survey consisted of four parts to explore the impact of the transformation to online and distance learning during COVID-19 school lockdown from:

01

Students' perspective
(4 items)

02

Schoolteachers' perspective
(4 items)

03

School principals' perspective
(4 items)

04

Students Parents' perspective
(4 items)

Data Analysis

A total of 2,692 participants responded to the survey, 1,192 from public schools, and 1,500 from private schools. Almost 100% of the survey respondents completed the questions in full. There were no partial responses.

After cleaning and sorting responses by question and by educational sectors, the researchers conducted a range of statistical analyses. Tables of frequencies and percentages, and cross-tabulations were used to present categorical variables; chi-square tests of independence were used to test for relationships between pairs of categorical variables.

Sample

The study sample included all 2,692 responses to the survey, of which approximately 45% of the responses were from the public education sector and 55% from the private education sector. All Emirates in the UAE were represented in the sample. Table 2 shows the number of responses in each category.

Table 2. The distribution of respondents across educational sectors

	Public	Private	Total
Students	467	516	983
Teachers	315	452	767
Principals	78	86	164
Parents	332	446	778
Total	1,192	1,500	2,692



KEY FINDINGS

Findings emerging from the analysis of the survey data encompassed the key themes of impact generated due to online and distance education during the COVID-19 school lockdown and that of UAE's school performance from a multi-agent perspective: students, teachers, school principals, and parents. In the following sections, the data have been presented from each perspective, and provide recommendations when appropriate.

1. Students' Perspective of the Impact of Online and Distance Learning

The survey sample included students in a range of elementary, middle, and secondary schools. The percentage of the public school students was 48% (n=467) and 52% (n=516) of the participants were from the private schools. Figure 1 shows the distribution of respondents of students according to the educational sectors and levels.

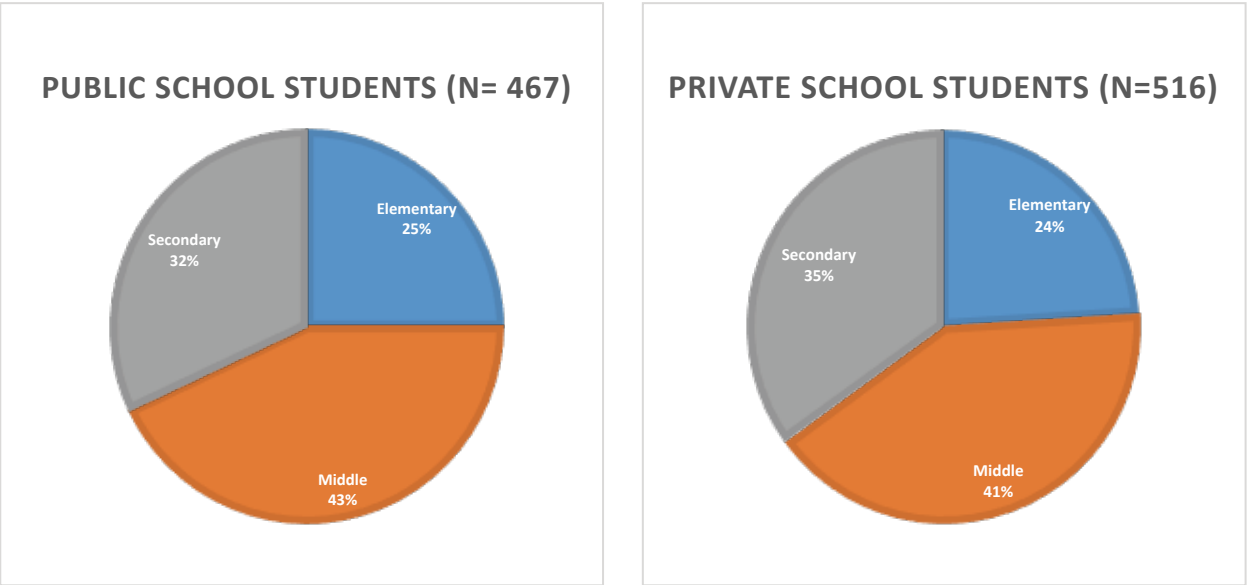


Figure 1. Respondents by Education Sectors and School Levels (Students' Perspective)

1.1 The impact of online and distance learning on students' achievement when compared with conventional classroom settings.

Students surveyed were divided regarding the impact of online and distance learning when compared with conventional classroom settings. Almost 52% (the computed average of the percentage of Strongly Agree and Agree) of the surveyed students in both public and private school sectors believed that during the transformation to online and distance education, they were learning as much or more than if they were in a conventional school setting. Table 3 shows a comparison between the percentage of students in public and private schools who responded to this item.

Table 3. Students' responses to the impact of ODL on their achievement

Item #1	Public Schools (n=467)					Private Schools (n=516)				
	SA*	A	MA	D	SD	SA	A	MA	D	SD
The impact of online and distance learning on students' achievement compared with conventional classroom settings	27%	29%	14%	12%	18%	25%	23%	14%	16%	22%

* SD = Strongly Agree, A = Agree, MA = Moderately Agree, D = Disagree, SD = Strongly Disagree

1.2 The impact of online and distance learning (ODL) on students' level of independency when classroom teachers are not available during the COVID-19 schools lockdown.

When students were asked if they feel comfortable working independently when a teacher is not physically present, 61% of both public and private schools' students were highly positive (strongly agree) in their response. Table 4 shows a comparison between the percentage of students in public and private schools who responded to this item.

Table 4. Students' responses to the impact of ODL on their level of independency studying at home

Item #2	Public Schools (n=467)					Private Schools (n=516)				
	SA	A	MA	D	SD	SA	A	MA	D	SD
The of online and distance impact learning (ODL) on students' level of independency	35%	27%	10%	15%	13%	34%	25%	10%	15%	16%

1.3 The impact of online and distance learning (ODL) during the COVID-19 schools lockdown on students' level of satisfaction.

When students were asked if they feel satisfied about the implementing of online and distance learning during the COVID-19 schools lockdown, almost 60% (the computed average of the percentage of Strongly Agree and Agree) of the students surveyed in both public and private schools were highly satisfied with the online teaching and learning strategy deployed during the COVID-19 pandemic. Table 5 shows a comparison between the percentage of students in public and private schools who responded to this item.

Table 5. Students' level of satisfaction concerning the ODL during the COVID-19 pandemic

Item #3	Public Schools (n=467)					Private Schools (n=516)				
	SA	A	MA	D	SD	SA	A	MA	D	SD
The impact of online and distance learning (ODL) during the COVID-19 schools lockdown on students' level of satisfaction	38%	25%	12%	12%	14%	35%	21%	15%	11%	18%

1.4 Students' perspective about the continuity of online and distance education next year.

When students were asked if they would like to continue learning through online and distance learning strategy, only 45% (the computed average of the percentage of Strongly Agree and Agree) of the surveyed students in both public and private schools were highly supportive (strongly agree). Table 6 shows a comparison between the percentage of students in public and private schools who responded to this item.

Table 6. Students' perspective about the continuity of online and distance education next year

Item #4	Public Schools (n=467)					Private Schools (n=516)				
	SA	A	MA	D	SD	SA	A	MA	D	SD
Students' perspective about the continuity of online and distance education next year	25%	21%	12%	17%	25%	22%	21%	13%	16%	28%

In addition, the research team has made a holistic comparison between the percentage of agreement or disagreement between the public and the private schools' students concerning two main items (item#1 and Item#4) in the students' survey. These two item items were selected intentionally by the research team to investigate the impact of ODL on students' achievement and students' willingness to continue learning through online teaching and learning strategy adopted during the COVID-19 schools lockdown. Table 7 shows a summary of the percentage of students respondents based on their education sector and school level.

Table 7. Summary of the percentage of public and private schools students respondents on items 1 and 4 based on their education sector and school level

Item #4	Public Schools (n=467)						Private Schools (n=516)					
	Elementary (n=118)		Middle (n=205)		Secondary (n=144)		Elementary (n=124)		Middle (n=211)		Secondary (n=181)	
	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree
Item#1: the impact of ODL on students' achievement*	56%	30%	55%	30%	55%	30%	48%	38%	48%	38%	47%	38%
Item#4: the impact of ODL on students' willingness to continue**	48%	41%	49%	39%	49%	42%	43%	38%	43%	44%	42%	44%

* Pearson Chi-Square = 3.279, p 0.05

**Pearson Chi-Square = 1.95, p 0.05

From table 7, we can generally notice that ODL has greater impact on the elementary, middle, and secondary public school students' achievement (56%, 55%, 55%) than their peer in the private schools (48%, 48%, 47%) respectively, however, these differences are not significant ($\chi^2 = 3.279$, $p = 0.195$). Besides, there were no significant differences in the distribution of views on students percentages about the continuity of online and distance education in the next year between public and private schools students ($\chi^2 = 1.95$, $p = 0.907$).

2. Teachers' Perspective of the Impact of Online and Distance Learning

The percentage of the public school teachers was 41% (n = 315) and 59% (n=452) from the private schools. Figure 2 shows the distribution of respondents of teachers according to the educational sectors and school levels. Table 8 shows a comparison between the percentage of teachers in public and private schools who responded to this item.

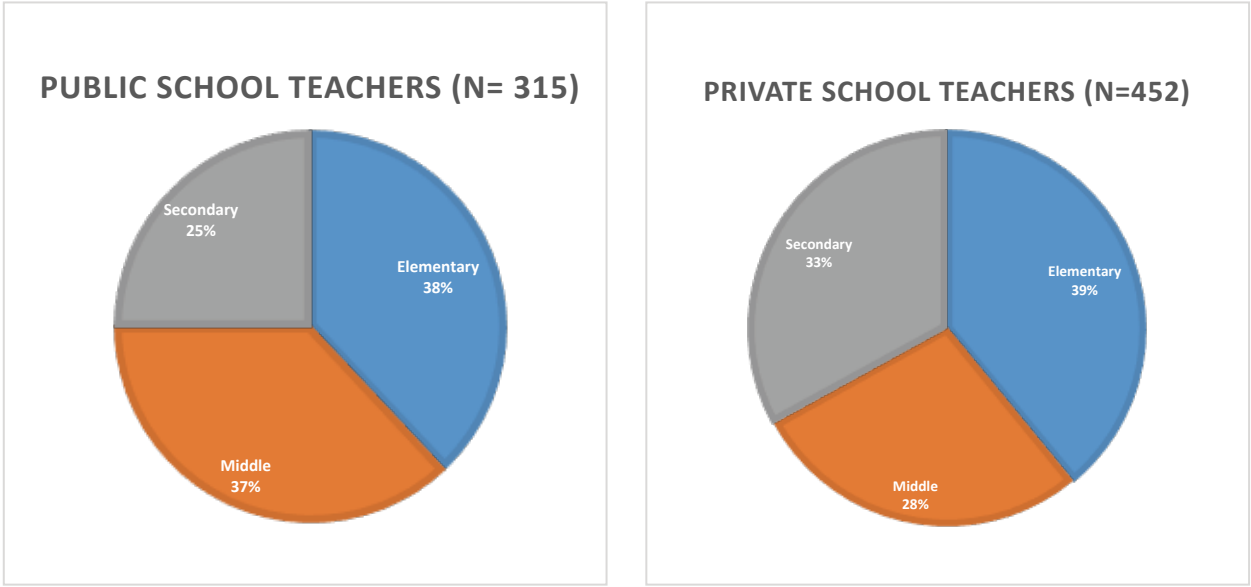


Figure 2. Respondents by Education Sectors and School Levels (Teachers' Perspective)

Teachers surveyed were divided about the effectiveness of online and distance learning if it is compared with conventional classroom settings. Table 8 summarizes the data collected from both public and private school teachers concerning the impact of ODL as they were reflected in four main items in the teachers survey.

Table 8. Teachers' responses about the impact of ODL adopted during the COVID-19 schools lockdown

Item #4	Public Schools (n=315)					Private Schools (n=452)				
	SA*	A	MA	D	SD	SA	A	MA	D	SD
I think that Online Learning was as effective as in-classroom learning	15%	41%	11%	17%	4%	21%	40%	12%	21%	6%
I think that online distance education decreases my instructional effectiveness because of difficulties balancing my home-life with the needs of teaching online	31%	5%	27%	15%	31%	13%	36%	9%	30%	12%
Overall, I am satisfied with my student's performance in online education in this school	26%	23%	13%	7%	26%	23%	44%	15%	12%	5%
I would suggest an online education to continue next year	43%	11%	10%	7%	43%	24%	35%	11%	18%	11%

* SD = Strongly Agree, A = Agree, MA = Moderately Agree, D = Disagree, SD = Strongly Disagree

Based on the percentage presented in table 8, we can conclude that:

- Almost 58% (the computed average of the percentage of Strongly Agree and Agree) of the surveyed teachers from the public and private schools believed that the online and distance learning strategy implemented during the COVID-19 schools lockdown was as effective as conventional classroom learning.
- During the COVID-19 schools lockdown, the UAE schoolteachers' efficacy was reasonable. Only 45% (the computed average of the percentage of Strongly Agree and Agree) of the surveyed schoolteachers believed that online and distance education decreases their instructional effectiveness because of difficulties balancing their home-life with the needs of teaching online.
- Almost 55% (the computed average of the percentage of Strongly Agree and Agree) of the surveyed teachers in both public and private schools were highly satisfied with the online teaching and learning strategy implemented during the COVID-19 schools lockdown.
- When public and private school teachers were asked if they would like to continue teaching through online and distance learning strategy, only 60% were positive and the rest preferred returning to their conventional classroom settings.

3. School Principals' Perspective of the Impact of Online and Distance Learning

The survey sample included school principals in a range of elementary, middle, and secondary schools. The percentage of the public school principals was 48% (n=78) and 52% (n=86) were from private schools. Figure 3 shows the distribution of respondents of school principals according to the educational sectors and school levels.

School principals surveyed were divided about the effectiveness of online and distance learning if it is compared with conventional classroom settings. Table 9 summarizes the data collected from both public and private schools principals concerning the impact of ODL as they were reflected in four main items in the principals survey.

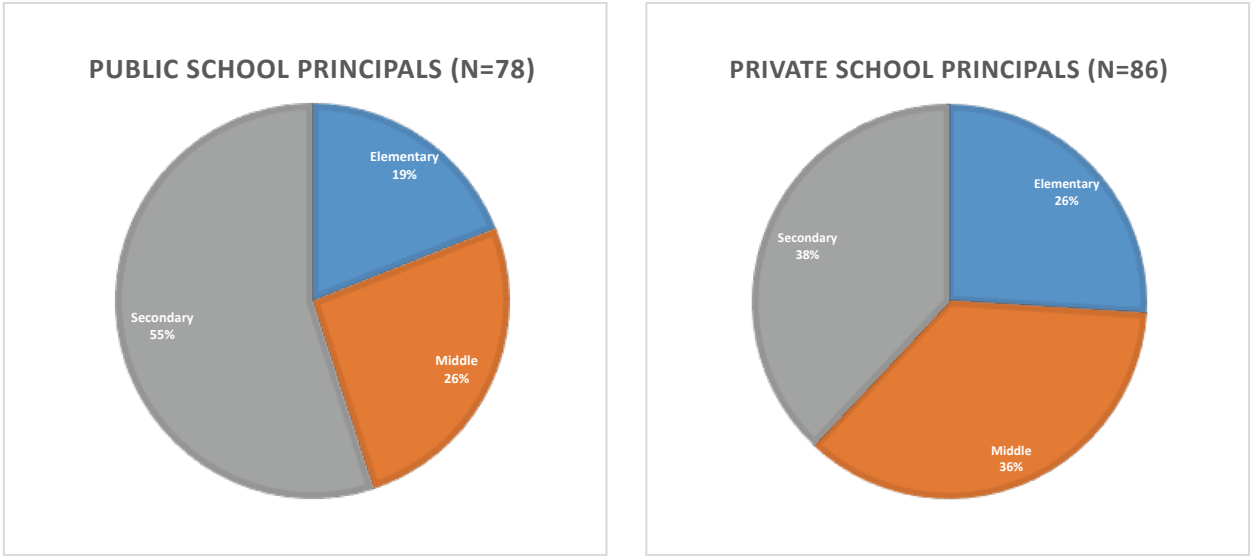


Figure 3. Respondents by Education Sectors and School Levels (Principals' Perspective)

Table 9. School principals' responses about the impact of ODL adopted during the COVID-19 schools lockdown

Items	Public Schools (n=78)					Private Schools (n=86)				
	SA*	A	MA	D	SD	SA	A	MA	D	SD
I think that the adopted online distance learning meet the needs of all students in my school	46%	26%	9%	10%	9%	40%	33%	7%	14%	7%
Online and distance education decreases my ability to assess the effectiveness of instruction and monitoring my school	12%	19%	0%	32%	37%	8%	15%	5%	41%	31%
Overall, I am satisfied with my school's performance during the transformation to online distance education	56%	27%	3%	8%	6%	50%	33%	5%	6%	7%
I would suggest an online education to continue next year	38%	36%	9%	14%	3%	31%	38%	7%	20%	3%

* SD = Strongly Agree, A = Agree, MA = Moderately Agree, D = Disagree, SD = Strongly Disagree

Based on the percentage presented in table 9, we can conclude that:

- School principals were positive about the online and distance learning. Almost 73% (the computed average of the percentage of Strongly Agree and Agree) of the surveyed school principals in both the public and private schools believed that the online and distance learning strategy implemented during the COVID-19 schools lockdown meets the needs of all students in their schools.
- School principals' efficacy was also very high. Almost 68% (the computed average of the percentage of Strongly Agree and Agree) of the surveyed school principals in both the public and private schools believed that the implementation of online and distance education during the COVID-19 schools lockdown increases their ability to assess the effectiveness of instruction and monitoring their schools' performance.
- Almost 83% (the computed average of the percentage of Strongly Agree and Agree) of the surveyed school principals in both the public and private schools were highly satisfied with the online teaching and learning strategy implemented during the COVID-19 schools lockdown.
- When school principals were asked if they would like to continue implementing the online and distance learning strategy, 72% of them were positive, and the rest preferred to return to their conventional classroom settings.

4. Parents' Perspective of the Impact of Online and Distance Learning

The survey sample included students' parents in the range of elementary, middle, and secondary schools. The percentage of the public school students' parents was 43% (n = 332) and 57% (n=446) from the private schools. Figure 4 shows the distribution of respondents of students' parents according to the educational sectors and school levels.

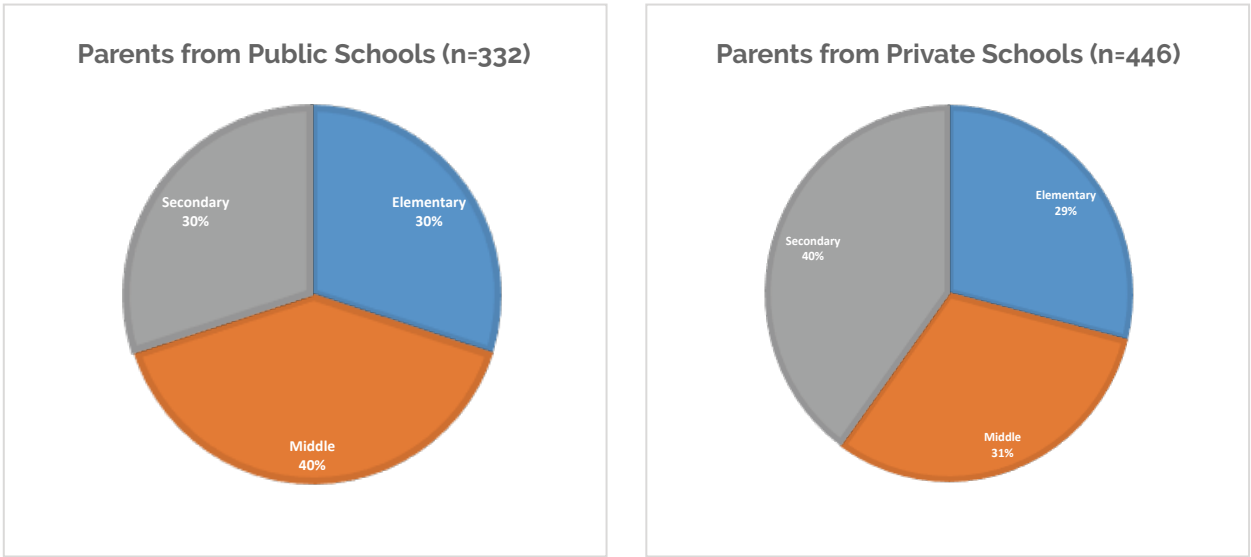


Figure 4. Respondents Education Sectors and School Levels (Parents' Perspective)

Parents surveyed were divided about the effectiveness of online and distance learning if it is compared with conventional classroom settings. Table 10 summarizes the data collected from both public and private schools students' parents concerning the impact of ODL as they were reflected in four main items in the parents survey.

Table 10. Student parents' responses about the impact of ODL adopted during the COVID-19 schools lockdown

Items	Public Schools (n=332)					Private Schools (n=446)				
	SA*	A	MA	D	SD	SA	A	MA	D	SD
My child is able to learn at his or her own pace during the transformation to online distance education	24%	33%	10%	22%	10%	21%	33%	12%	22%	12%
Administrative and teaching support at my child's school during the transformation to online distance learning was adequate	36%	30%	18%	9%	6%	33%	40%	11%	10%	6%
Overall, I am satisfied with my child's experience in online education in this school	30%	26%	22%	13%	9%	26%	34%	15%	15%	10%
I would suggest an online education to continue next year	28%	17%	22%	14%	19%	23%	21%	17%	18%	20%

* SD = Strongly Agree, A = Agree, MA = Moderately Agree, D = Disagree, SD = Strongly Disagree

Based on the percentage presented in table 10, we can conclude that:

- Parents of the students were divided about the impact of online and distance learning on their children performance. Almost 56% (the computed average of the percentage of Strongly Agree and Agree) of the surveyed parents from both public and private schools believed that their children were able to learn at their own pace during the transformation to online and distance education.
- When parents were asked about the level and quality of the administrative support offered by the schools during the transformation to online distance education, 70% (the computed average of the percentage of Strongly Agree and Agree) were of the opinion that online teaching and administrative support was adequate and relevant. However, only 58% (the computed average of the percentage of Strongly Agree and Agree) of the surveyed students' parents were satisfied with the online teaching and learning strategy implemented during the COVID-19 schools lockdown.
- When students' parents were asked if they would like to continue implementing the online and distance learning strategy, only 45% of them agreed in the affirmative.

5. Participants overall satisfaction about the implementation of Online and Distance Learning from the perspective of the surveyed samples.

To achieve one of the main purposes of this research project, the research team compared between the levels satisfaction of all participants participated in this this research. Figure 5 summarizes the participants' responses in the four categories: Students, Teachers, Principals, and Parents.

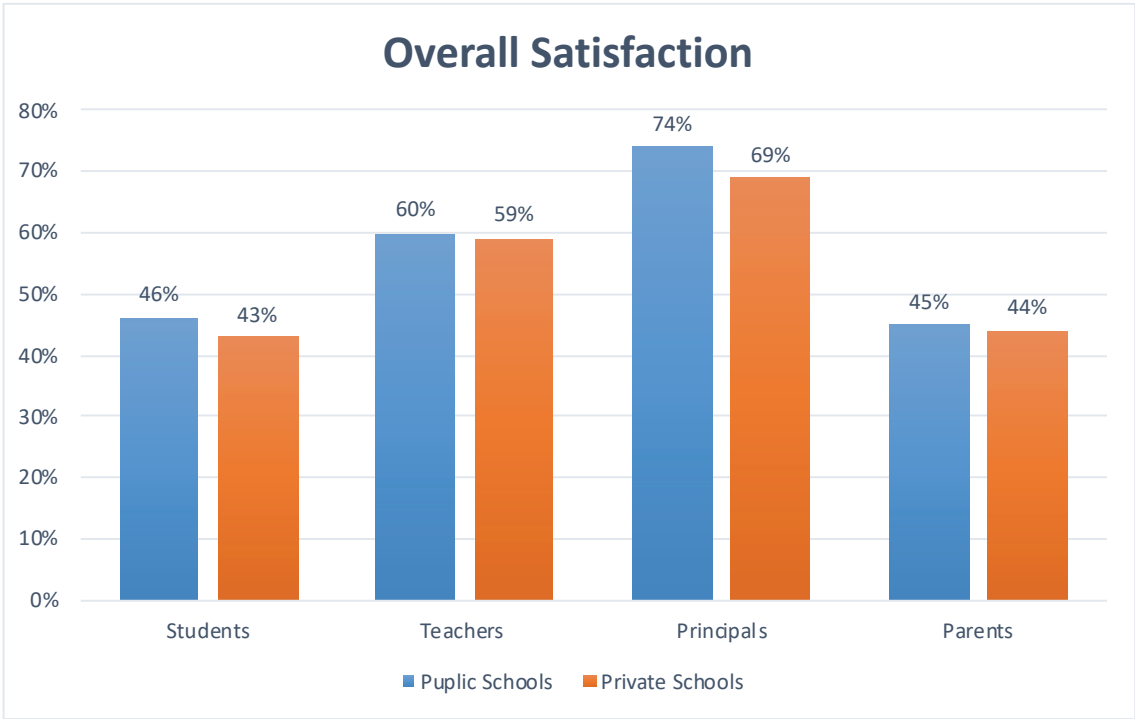


Figure 5. A comparison between the levels satisfaction of all participants

Based on the percentage presented in figure 5, we can conclude that:

- School principals tend to be more satisfied about implementing the ODL during the COVID-19 schools lockdown than other stakeholders who participated in this research.
- In general, students who belong to the public schools system seem to be more satisfied than their peer is in the private school system. However, the difference are not quite high and thus not significant.
- In general, public schools' teachers tend to be less satisfied about implementing the ODL during the COVID-19 schools lockdown than their peer is in the private schools sector.
- In general, parents in the private schools sector tend to be more satisfied than their peer is in the public school system. However, the difference are not quite high to be significant value.

6. The participants interest in the continuity of ODL next year 2020-2021.

To achieve one of the main purposes of this research project, the research team compared between the agreements or acceptance of all participants participated in this this research concerning the continuity of ODL in the next academic year 2020-2021. Figure 6 summarizes the participants' responds in the four categories: Students, Teachers, Principals, and Parents.

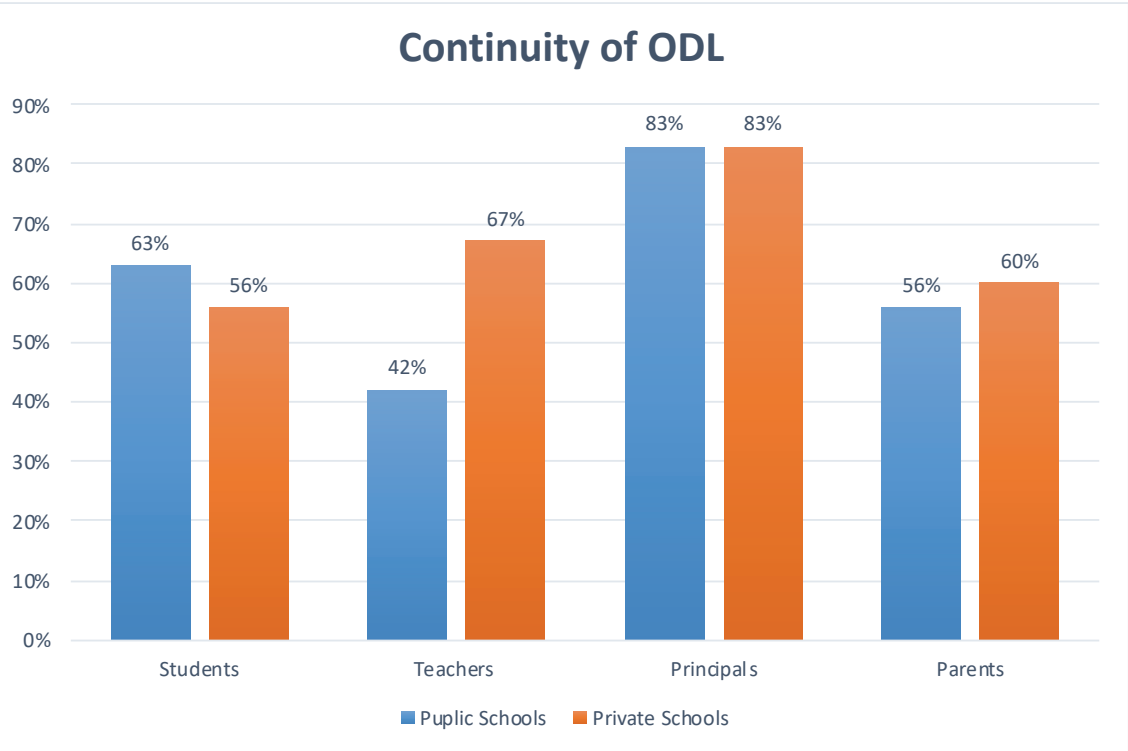


Figure 6. A comparison between the levels of interest in implementing the ODL in the next year

Based on the percentage presented in figure 5, we can conclude that:

- School principals tend to be more positive towards implementing the ODL in the next academic year 2020-2021 than the other stakeholders who participated in this research.
- In general, students who belong to the public schools system are interested to implement the ODL in the next academic year 2020-2021 than their peer is in the private school system. However, the difference are not quite high to be of any significance.
- In general, schoolteachers in the public and the private school sectors have almost an equal interest (60% - 59%) respectively, to implement the ODL in the next academic year 2020-2021.
- In general, students' parents in the public and the private school sectors have almost an equal interest (45% - 44%) respectively, to implement the ODL in the next academic year 2020-2021.



RECOMMENDATIONS

Based on the research findings and indicators analysis presented in the previous sections, the research team recommends the following recommendations to be consider from the interested groups in the UAE ministry of education and the Knowledge and Human Development Authority (KHDA):

Online Learning Pedagogy:

- Although most of the public and private schools' learners participated in this research was highly satisfied about their academic performance during the COVID-19 schools lockdown, an in-depth analysis is needed to investigate the pedagogical and technological factors that made them satisfied so that the ministry of education and KHDA can repeat the effective pedagogical practices.
- A high percentage (61%) of students participated in the research were comfortable working independently when a teacher is not physically present in the classroom during the COVID-19 schools lockdown. There is a need to undertake a large-scale research about personalized learning design across schools curricula and assessment.
- Almost 55% of the schoolteachers in the public and private schools system were able to maintain personal balance between their home-life and the needs of teaching online. This is a very important indicator to conduct a qualitative research inquiry about teacher well-being to improve the online pedagogical effective practices.

Leadership of Online and Distance Learning:

- School principals in both public and private sectors were able to guide and monitor the implementation of ODL during the COVID-19 schools lockdown. They also were high satisfied with their schools performance. Therefore, there is a need to conduct a qualitative inquiry to investigate the effective practices adopted in some schools in the public and private school system.
- A high percentage (72%) of school principals participated in the survey are interested in implementing the ODL in the next academic year. Therefore, there is a need to develop a clear policy, procedures, and guidelines for them to keep to this level of interest and ensure high performance level.
- There is a need to design and develop a quality framework with clear standards and criteria that support school principals and teachers in assuring the quality of online and distance learning for the post COVID-19 effective educational practices.

Online and Distance Learning Community Network:

- The research team believe that parents' participation in this research was one of the comparative advantages of this research. Therefore, there is a need to continue exploring parents' refection and perspective so that a feedback system about the effective practices can be created and utilized to face and overcome unexpected problems or issue that might affect students' performance while studying from home.
- Student parents' interest to continue implementing the ODL in the next year was below average (45%). Therefore, there is a need for a qualitative study exploring the factors that may lead to an increase in the level of trust of adopting ODL among students' parents.
- To increase the effective practices of ODL, there is a need to establish virtual research zones or micro-research centers in each cluster of schools to build a collective research minds and networks between schools and societies/communities.

CONCLUSION

The purpose of this collaborative research was to measure the impact of transforming regular classrooms to online and distanced education during COVID-19 pandemic and the outcome of schools' performance. The survey generated valuable and current insights from a multi-agent perspective (students, teachers, principals, and parents) across all school sectors, both public and private. A total sample of 983 students, 767 teachers, 164 school principals, and 778 parents responded to the survey questions on issues related directly to current COVID-era experience and practice. The findings highlighted new realities, unprecedented challenges faced by the institutions, and opportunities that could be attributed to enforced distance teaching and learning paradigm. Based on the findings of this research, the following implications were generated to be considered in any future work in this regards.

IMPLICATIONS FOR RESEARCH

Given the fact that very few research studies related to the impact of transforming to online and distance education in K-12 schools during the COVID-19 Pandemic are existing especially in the Arab World, the results of this current study open up new lines of further research studies. For example, more research is needed to validate the results of this study by carrying a similar but wider study, which would collect both quantitative and qualitative data aiming for a deeper understanding of the impact of this transmission to online and distance education on schools' performance. It is also recommended that other research studies examine the type of support needed to promote students, teachers, principals and parents success in such an environment. This may include technological readiness, content readiness and pedagogical readiness. Within this context, another research could focus on examining the challenges of the online and distance education experienced by students, teachers, principals and parents and propose solutions for such challenges. It is also suggested that other research consider assessing the potential impact of transmission to online and distance education on educational planning, educational policies, assessment of learning, and monitoring and evaluation system.



IMPLICATIONS FOR PRACTICE AND POLICY

Policy makers have begun to ask whether students and schools can actually meet education policy expectations, how are schools able to provide adequate support for students, particularly those with special educational needs, and how can school leaders and teachers work with the government and other stakeholders to meet student needs.

School leaders, being on the front line have been under great pressure to make radical decisions to ensure a smooth transition over a very short period of time; from leading traditional school set ups, to literally leading virtual schools. School leaders have been criticized by some as not being able to make decisions on staffing, school operations, expectations and readiness for online learning. School leaders in both the private sector and the public sector have faced tremendous pressure over the past few months and will probably continue to face tough times in being able to lead schools nowadays effectively.

The role of universities has also come into question, in looking at how universities provide support to schools and to the school leaders by sharing expertise in order to help schools respond to education during the COVID19 pandemic.

As is evident the COVID19 pandemic has caused great school disruption. School leaders, in order to respond to such disruption need to be able to take stringent decisions and measures, where many students may be out of school for the near future. Policy makers and teachers have always respected school leaders due to the personal and close relationships they have with the parent community and so they tend to be seen as frontiers in helping to support students and their families at times of crisis.

COVID19 has highlighted that educator experts need opportunities to reflect together on how school leadership and governance can be improved in order to address the challenges posed by the coronavirus pandemic. The school community also needs a platform to reflect on the role of school leadership to ensure that there is continuity of teaching and learning amidst the COVID19 pandemic.

Policy makers need to further explore with students, teachers, parents and their communities the challenges school leaders have faced in leading effective schools during the COVID19 pandemic. In order to better respond to the emerging education needs and challenges particularly in the GCC region amidst the COVID19, we need to explore strategies and policies to improve the efficiency and effectiveness of school leadership and governance at the national level. In order to better respond to the policy makers we need to also look at how we build resilient school leaders that can lead effectively at times of crisis.

Local and federal governments in the UAE have done some excellent work in helping to ensure that school leaders are supported. Now, the biggest challenge for school leaders will be to stay focused on keeping students well educated and to rethinking the value in delivery of a new education.



REFERENCES

- Abidah, A., Hidaayatullaah, H. N., Simamora, R. M., Fehabutar, D., & Mutakinati, L. (2020). The Impact of Covid-19 to Indonesian Education and Its Relation to the Philosophy of "Merdeka Belajar." *Studies in Philosophy of Science and Education*, 1(1), 38–49.
- Andreasyan, Z. (2020, April 17). Who are learning and what they are learning: Distance learning solutions of Armenia. Retrieved from: <https://en.unesco.org/events/distance-learning-strategies-what-do-we-know-about-effectiveness-covid-19-education-webinar5->
- Azzi-Huck, K. & Shmis, T. (2020). Managing the impact of COVID-19 on education systems around the world: How countries are preparing, coping, and planning for recovery. Retrieved from: <https://blogs.worldbank.org/education/managing-impact-COVID-19-education-systems-around-world-how-countries-are-preparing>
- Dawadi, S., Giri, R., & Simkhada, P. (2020). Impact of COVID-19 on the Education Sector in Nepal: Challenges and Coping Strategies. Sage Submissions. Preprint. Retrieved from <https://doi.org/10.31124/advance.12344336.v1>
- Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 0 (0), 1-18.
- Goh, P.-S., & Sandars, J. (2020). A vision of the use of technology in medical education after the COVID-19 pandemic. *MedEdPublish*, 9, 1-8.
- Graham, C. R. (2006). Blended learning systems: Definition, current trends, and future directions. In *Handbook of blended learning: Global perspectives, local designs*.
- Ferdig, R.E., Baumgartner, E., Hartshorne, R., Kaplan-Rakowski, R. & Mouza, C. (2020). Teaching, Technology, and Teacher Education during the COVID-19 Pandemic: Stories from the Field. Association for the Advancement of Computing in Education (AACE). Retrieved July 21, 2020 from <https://www.learntechlib.org/p/216903/>.
- IAU (2020). The impact of COVID-19 on higher education worldwide Resources for Higher Education Institutions. International Association of Universities. Retrieved from: https://www.iau-aiu.net/IMG/pdf/COVID19_and_he_resources.pdf
- Ichsan, I. Z., Rahmayanti, H., Purwanto, A., Sigit, D. V., Singh, C. K. S., & Udhaya Mohan Babu, R. (2020). HOTS-AEP-COVID-19: Students knowledge and digital worksheet of ILMIZI environmental learning model. *International Journal of Advanced Science and Technology*, 29(6), 5231–5241.
- Li, C., & Lalani, F. (2020). The COVID-19 pandemic has changed education forever. This is how. Retrieved from <https://www.weforum.org/agenda/04/2020/coronavirus-education-global-covid-19online-digital-learning/>
- Miao, F. (2020, April 17). Distance learning strategies: what do we know about effectiveness? Retrieved from: <https://en.unesco.org/events/distance-learning-strategies-what-do-we-know-about-effectiveness-covid-19-education-webinar5->
- Organization for Economic Co-operation and Development [OECD]. (2018). PISA 2018 Database. Retrieved from <https://www.oecd.org/pisa/data/2018database/>
- Özer, M. (2020). Educational policy actions by the ministry of national education in the times of COVID-19. *Kastamonu Education Journal*, 28(3), 1124-1129. doi: 10.24106/kefdergi.722280
- United Nations Educational, Scientific and Cultural Organization (UNESCO). (2020, March 3). COVID-19 Educational Disruption and Response. Retrieved from <https://en.unesco.org/news/covid-19-educational-disruption-and-response>
- Saxena, K. (2020, April 17). Coronavirus accelerates pace of digital education in India. EDII Institutional Repository. Retrieved from <http://library.ediindia.ac.in:8181/xmlui/bitstream/handle/10145/123456789/EdTechReview20%by20%Dr:20%Kavita20%saxena2017%Apr2020.pdf?sequence=1&isAllowed=y>
- Sintema, E. J. (2020). Effect of COVID-19 on the Performance of Grade 12 Students: Implications for STEM Education. *Eurasia Journal of Mathematics, Science and Technology Education*, 16(7), 1–6.
- Reimers, F., & Schleicher, A. (2020). Framework to guide an education response to the COVID-19 Pandemic of 2020 Retrieved from https://globaled.gse.harvard.edu/files/geii/files/framework_guide_v2.pdf
- Reimers, F., Schleicher, A., & Ansah, G. (2020). Schooling Disrupted, Schooling Rethought: How the Covid-19 pandemic is changing education. Retrieved from https://globaled.gse.harvard.edu/files/geii/files/education_continuity_v3.pdf

Verawardina, U., Asnur, L., Lubis, A. L., Hendriyani, Y., Ramadhani, D., Dewi, I. P., Darni, R., Betri, T. J., Susanti, W., & Sriwahyuni, T. (2020). Reviewing online learning facing the Covid-19 outbreak. *Journal of Talent Development and Excellence*, 12(3s), 385-392

Wargadinata, W., Maimunah, I., Dewi, E., & Rofiq, Z. (2020). Student's Responses on Learning in the Early COVID-19 Pandemic. *Jurnal Keguruan dan Ilmu Tarbiyah*, 5 (1): 141-153.



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