ONLINE LEARNING™ CONSORTIUM

The State of Online Learning in the Kingdom of Saudi Arabia

K-12

A COVID-19 IMPACT STUDY

An evaluation of K-12 contexts and structures affected by COVID-19 and framework for high-quality online development

The State of Online Learning in the Kingdom of Saudi Arabia

Overview

With the COVID-19 pandemic disrupting education across the globe in early 2020, many educators found themselves rapidly transitioning to remote learning without the appropriate knowledge, skills or resources. For many K-12 students, this resulted in less than optimal learning experiences.

To ensure that high quality online learning is being offered in the future, the Kingdom of Saudi Arabia commissioned a study to understand the state of online learning pre-, peri- and post-COVID based on the academic period from March 9-May 14, 2020. The intention was to determine opportunities for improvement while identifying areas of excellence that could be highlighted against an evaluation framework for quality online learning. Using this information, K-12 programs within the Kingdom of Saudi Arabia would be positioned to make improvements to the overall student learning experience.

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Executive Summary

To ensure that high quality online learning is being offered in the future, the Kingdom of Saudi Arabia commissioned a study to understand the state of online K-12 education pre-, peri- and post-COVID. The intention was to determine opportunities for improvement while identifying areas of excellence that could be highlighted against an evaluation framework for quality K-12 online learning. Using this information, K-12 education within the Kingdom of Saudi Arabia would be positioned to make improvements to the overall student learning experience.

The study focused on eight dimensions, each with several subdimensions, and included survey and interview data, contextualized within the KSA K-12 environment for both development and analysis. Dimensions included Leadership, Curriculum Design and Planning, Online Teaching and Learning, Assessment, Technology, Student Support, Training and Support, and Evaluation and Continuous Improvement. Each of these dimensions and their associated subdimensions are discussed at length in the report, but there were several overarching themes that emerged.

Themes

Clear themes and trends, which can be best understood in the context of the rapid shift to emergency remote teaching (ERT) following the pandemic, emerged throughout the study.

Prior to COVID, online education supporting K-12 in the Kingdom of Saudi Arabia was largely supplementary to traditional instruction, though increasing infrastructure, capacity, and capability was a priority as part of Vision 2030. The pandemic forced a rapid shift in the delivery of K-12 education, including significantly increased demands on schools and infrastructure to support online learning. The study results illuminated areas of preparedness as well as opportunities for improvement to support large-scale online education for K-12 moving forward.

Following COVID, several dimensions and subdimensions showed clear signs of improvement in responses to both survey and interview data provided by administrators, staff, teachers, and students. This could be an indication that communications regarding these areas increased or were more clear and understood, and/or that priority was placed on these items to enable as successful a transition to online learning as possible. Of particular note, though opportunities for further improvement are indicated and provided in the report, the following items resulted in increases in positive perception post-COVID.

- The Leadership dimension results indicated that post-COVID, stakeholders' perceptions of and experiences with governance and strategies related to online learning were more positive. Communications and opportunities for stakeholder involvement appear to have effectively increased in the management of the pandemic. Other measures in this dimension (i.e. policies, processes, and both

fiscal and human resources) indicate increased positivity regarding implementation of leadership initiatives for online learning that suggest a positive trajectory, though they may have been unevenly implemented due to circumstances created by and/or pre-existing to the pandemic.

- COVID-19 presented a pressing opportunity for teachers to evaluate the communication and implementation of learning objectives, review content and materials including OER for currency and engagement format, and to enhance overall communication, engagement, and course interaction in a digital environment. The study suggests that their immediate actions resulted in increased success in these areas, and that they are well-positioned for continual evaluation and improvement moving forward.
- Student support is critical in the educational environment, and moreso during the COVID environment, when needs may have changed quickly and prior methods of providing student support are no longer available. Study results indicate that stakeholders are aware of these needs and have taken steps to both evaluate needs and provide remote support. Ongoing efforts to both assess and address student support needs and solutions are evident, and continued efforts will further allow schools to provide necessary resources.

These areas indicate preparedness for online education, though further developments may be made through the recommendations in this report. In addition, there were some areas that require attention based on study results.

- The pandemic likely revealed important pedagogical considerations that may not have been originally included in the curriculum as well as the social-emotional needs that learners may have. Key areas of focus include:
    - Ensuring that instructional design follows quality standards and presents equitable opportunities for all students.
    - Ensuring that course elements such as alignment of outcomes/objectives with materials, content and assessment as well as expectations and provision of feedback are provided in a consistent and effective manner, and that academic support is available to and accessed by students.
    - Reviewing and implementing solutions to address issues of internet access, reliability, coverage, and operability. Each of these issues was included in online education needs prior to COVID, but challenges were exacerbated and immediate needs accelerated in the wake of the pandemic. Attention to this is critical for continued success in online education.

Emerging Needs

Survey and interview analyses resulted in recommendations across all eight dimensions that will allow for the development and implementation of higher capacity and quality in online learning. Themes throughout, and particularly related to communication and technology indicate that though some challenges existed prior to COVID-19, the rapid shift to online learning following the pandemic resulted in increased visibility of challenges (both prior to and following COVID-19) as well as increased need in these areas. Study results indicate that immediate action was taken on these items, though challenges remain. Moving forward, building on the pre- and peri-COVID solutions as well as directing attention to areas critical for the provision of effective online education is essential.

Scenarios

The two scenarios presented from this data include online teaching and learning goals outside of consideration for COVID, and implementing effective online teaching and learning as influenced by COVID.

Recommendations provided encompass both scenarios, although some present long-term strategies for increasing the capacity and effectiveness of online teaching and learning (such as long-range strategic planning and development of processes for evaluation and continuous improvement). Others, while no less important for long-term solutions, are a higher priority to manage effective learning experiences as well as support needs during COVID (for example, ensuring that technology is sufficient to support high-volume online courses and providing clear expectations for communication, assessment, and interactions in the online environment). All recommendations are discussed in detail in the report, and summarized (including identification of COVID priorities) in Appendix IV: Future Action Framework.

Implications

Prior to COVID-19 and the commissioning of this study, the Kingdom of Saudi Arabia included online teaching and learning as a need and goal of Vision 2030, and invested in the development and success of online education as a key component of attaining long-term K-12 goals. These investments included a variety of offerings (online platform, OER, e-Content, YouTube, satellite television) and continuous improvement efforts, and resulted in a quick response to the pandemic and immediate shift to remote instruction. This study illuminated overall needs to enhance country-wide solutions related to accomplishing these goals. The pandemic required rapid acceleration in the development and delivery of fully online courses for a high volume of students, and in addition to existing needs, this study further illuminated critical needs to support success.

The recommendations resulting from this study are designed to support both long-term and immediate needs to develop and deliver effective online teaching and learning in both scenarios. While many elements necessary to support online education were evident pre-COVID, and clear efforts have been made to provide effective online learning during the pandemic, implications resulting from this study indicate that there are many actions that may be implemented to better support Vision 2030 goals and address needs that emerged with COVID-19 and persist throughout the shift resulting from the pandemic.

Introduction

Traditional education for K-12 educators primarily focuses on how to teach students in a face-to-face environment. In late 2019 and early 2020, the world became aware of a new threat to society, COVID-19. Over the course of a few months, this disease spread around the world until it was deemed a pandemic. This forced many K-12 educators into unfamiliar territory where they needed to quickly shift from teaching students in the classroom to a remote experience. Too few were adequately prepared to teach in this modality since professional development for teachers has typically revolved around the needs of teaching in a classroom.

To ensure that high quality online learning is being offered in the future, the Kingdom of Saudi Arabia commissioned a study to understand the state of online K-12 education pre-, peri- and post-COVID. The intention was to determine opportunities for improvement while identifying areas of excellence that could be highlighted against an evaluation framework for quality K-12 online learning. Using this information, K-12 education within the Kingdom of Saudi Arabia would be positioned to make improvements to the overall student learning experience.

Given their vast network and expertise, the Online Learning Consortium (OLC) was asked to lead this project with the assistance of several key partners from around the world. This included experts from ISTE, UNESCO IITE, Quality Matters, the University of Wisconsin-Milwaukee Center for Distance Education and Technological Advancement (DETA), Michigan Virtual, and the Illinois Virtual School. Partners were included at different stages of the study but primarily provided feedback and input into the analysis and recommendations provided within this report.

This report has been organized into four primary sections as well as several appendices. The introduction provides context for the study, the methodology section provides information regarding the development and analysis of both quantitative survey instrumentation and qualitative protocols, and includes a summary of participants, the recommendations section provides data interpretation and recommendations by dimension and subdimension (aligned with the Future Action Framework), and the considerations for future study section contains recommendations for further research based on this study as well as findings indicating potential future expansion. Finally, the appendices provide the Future Action Framework summary of recommendations, the literature review, survey and interview protocols, and a list of figures.

Methodology

The K-12 study began with the development of an eight-dimension framework, designed by the National eLearning Center (NELC) and collaboratively finalized by NELC and OLC. The framework, including dimensions and subdimensions, is attached in Appendix I: NELC Evaluation Framework, and was used to inform both survey and interview protocols.

The Evaluation Framework was used to design Appendix II: Research Methodology Framework Mapping as well as the reported Research Findings. Appendix IV: Future Action Framework, is the culmination of the evaluation and research frameworks with recommendations summarized as described later in this section.

Drawing on the eight dimensions and subdimensions, and informed by policy documents provided by NELC, descriptive surveys were developed for K-12 administrators, staff, teachers, parents, and students by DETA and OLC. The purpose of the surveys was to understand the national position to provide quality online learning across institutions during the COVID-19 pandemic in the Kingdom of Saudi Arabia (KSA) and to identify areas for future investment and improvement. The recommendations resulting from survey responses provide information to support capacity and quality in online education throughout the country to enhance the potential for Vision 2030 excellence in a diversified and knowledge-based economy. Survey instrumentation was developed based on a scan of other instrumentation and tools, including national and international products, literature, and recent research relevant to the dimensions and subdimensions. Survey items were developed to measure the participants' attitudes, opinions, and beliefs about online learning at their institutions, to assess the performance of the institutions and different functions of the institutions to support online learning and quality, and to identify areas of challenge and opportunities for improvement in future academic terms. All survey items are considered to have both construct and content validity.

The survey was delivered through Survey Monkey and was designed as one survey with branching logic to ease data collection and data set management. Items were individually coded by stakeholder group and dimension for analysis and storage. The survey was sent to educational offices throughout the country, and they provided it to school principals, who distributed the request to staff, teachers, parents and students.

Survey analysis included descriptive statistical analysis completed in SPSS, disaggregated by stakeholder group (administrators, staff, teachers, parents, and students) as well as by each dimension.

There were 318,243 completed surveys. Participants included 24,809 (7.8%) administrators, 17,163 (5.4%) staff members, 108,505 (34.1%) teachers, 112,891 (35.5%) parents, and 54,875 (17.2%) students. Please note that a number of respondents chose not to answer demographic questions beyond their role, and the figures described below represent those that did provide responses.

Administrator, Staff, and Teacher Participants

Respondents from this stakeholder group represented 13 regions in the Kingdom of Saudi Arabia, and included governmental, national, and international school representation. There were 43,375 (72.9%) governmental, 12,612 (21.7%) national, and 3,175 (5.5%) international school participants. The majority of administrator, staff, and teacher participants, 50,912 (87.1%) indicated Saudi nationality with 7,520 (12.9%) identifying as non-Saudi. There were 23,672 (40.6%) male and 34,690 (59.4%) female respondents. Respondents represented a range of experience in education, elearning, and time at their current schools (Table 1) as well as a diversity of specializations (Table 2).

Table 1: Administrator, Staff, and Teacher Years of Experience

	Years of Education Experience		**Years of eLearning Experience**		**Years at Current School**	
0-5 years	9,830	17.6%	29,692	65.3%	26,877	48.9%
6-10 years	12,781	22.9%	8,321	18.3%	14,834	27.0%
11-15 years	9,067	16.3%	3,681	8.1%	5,466	9.9%
16-20 years	9,167	16.4%	1,926	4.2%	3,604	6.6%
21-25 years	8,652	15.5%	933	2.1%	2,365	4.3%
26-30 years	4,193	7.5%	385	0.8%	1,024	1.9%
31+ years	2,054	3.7%	547	1.2%	774	1.4%

Table 2: Teacher Specialization

Administration Science	209	0.5%
Arabic Language	8,175	18.7%
Art Education	1,252	2.9%
Biology	1,565	3.6%
Chemistry	1,381	3.2%
Chinese Language	41	0.1%
Computers	1,526	3.5%
Earth Science	176	0.4%
English Language	4,219	9.6%
Family Education	1,550	3.5%
Islamic Education	7,145	16.3%
Kindergarten	1,555	3.6%
Library	261	0.6%
Mathematics	5,752	13.1%
Physical Education	747	1.7%
Physics	1,221	2.8%
Psychosocial Skills	387	0.9%
Science	2,541	5.8%
Social and National Education	2,759	6.3%
Special Education	959	2.2%
Student Counseling	378	0.9%

Parent Participants

Parent respondents represented 13 regions in Saudi Arabia, and included 23,799 (71.6%) whose children attended governmental, 6,919 (20.8%) national, and 2,543 (7.6%) international schools. The majority of parents, 28,364 (84.8%) indicated Saudi nationality, with 5,082 (15.2%) identifying as non-Saudi. Participants included 13,996 (42.0%) male and 19,355 (58.0%) female parents with a range of educational levels (Table 3).

Table 3: Parent Education Levels

Secondary and below	5,469	16.4%
High School	6,573	19.8%
Diploma	3,215	9.7%
Bachelor's	14,662	44.1%
Master's	2,354	7.1%
Doctorate	982	3.0%

Student Participants

Student respondents represented 13 regions of Saudi Arabia, with 17,705 (81.3%) attending government, 2,876 (13.2%) national, and 1,201 (5.5%) international schools. The majority of students, 17,477 (80.1%) identified as Saudi, with 4,347 (19.9%) indicating non-Saudi nationality. There were 5,369 (24.6%) male and 16,455 (75.4%) female student respondents, representing a range of grade levels (Table 4). It should be noted that the grade level distribution represented in this survey indicates a limitation in the interpretation of student responses below the elementary level, as these participants make up a small percentage of the overall student sample.

Table 4: Student Grade Levels

KG1	26	0.1%
KG2	24	0.1%
KG3	26	0.1%
Elementary 1	199	0.9%
Elementary 2	283	1.3%
Elementary 3	301	1.4%
Elementary 4	314	0.6%
Elementary 5	381	1.8%
Elementary 6	689	3.2%
Middle School 1	1,168	2.1%
Middle School 2	2,490	11.4%
Middle School 3	3,465	15.9%
High School 1	2,938	13.5%
High School 2	5,128	23.6%
High School 3	4,332	19.9%

Following survey development, several dimensions were identified as valuable for gathering more in-depth and nuanced information, and interview protocols were developed for administrators, staff, teachers, and parents. Interviews were semi-structured, with each protocol containing background information, a number of questions organized by dimension, and with opportunities for participants to provide detailed information as well as any additional comments.

NELC staff selected participants and conducted interviews via Zoom or telephone calls. Interview responses were provided in text, and uploaded to a shared drive. Interviews were then coded using case classifications to identify participant characteristics and gather baseline data on interview questions. In-text coding was completed by dimension and subdimension to provide detailed information about participants' attitudes, opinions, beliefs, and experiences with interview questions.

Interview participants included 30 administrators/staff, 30 teachers, and 9 parents.

Quantitative and qualitative results were analyzed to develop recommendations aligned to the Future Action Framework and organized by dimension and subdimension. Recommendations are described below, and are summarized in Appendix IV: Future Action Framework. These recommendations include narrative, target audience, needs, initiatives, goals, action lines, critical success factors (to be written as "CSFs" in all following tables), and key performance indicators (to be written as "KPIs" in all following tables).

Recommendations

The K-12 study resulted in description of both survey and interview findings, including a number of recommendations.

Recommendations are organized by dimension, sub-dimension, and target audience, and include all relevant factors including needs, initiatives, goals, actions, critical success factors, and key performance indicators. Recommendations are described below, and are summarized in Appendix IV: Future Action Framework.

Dimension I: Leadership

The Leadership dimension measures six subdimensions including: Governance, Strategies, Policies, Processes, Resource Allocation, and Staffing/Innovation.

Leadership readiness appears to have been commensurate with the pace of online learning development and delivery in a pre-COVID environment. Post-COVID, survey and interview results indicate that although leadership related to online learning was not fully prepared for the shift due to the pandemic, foundational elements of each subdimension were sufficient to provide positive direction. Areas most in need of readiness improvement included the alignment and inclusion of online learning in strategic planning, more even implementation of policies and processes, and adequate resources and staffing to support a fully-online environment.

Within the surveys, this dimension was examined from the perspective of administrators, staff and teachers. Students and parents were not asked to rate items from these subdimensions since it would be unlikely that they would have appropriate insight into these areas.

Through the interviews that were conducted, more depth of information was acquired regarding the school's strategy around online learning as well as the sufficiency of resources to adequately support and sustain online learning. Within the interviews for the Leadership dimension, it was noted that there is a wide variance in the level of preparedness found at the institutions within the Kingdom of Saudi Arabia. A definite difference was noted regarding the needs identified by administrators, staff and teachers. While not identified directly through the interview questions, these differences may be due in part to communications and level of involvement in online activities by the various parties.

Overall findings indicate strong agreement from administrators, staff, and teachers alike that leadership subdimensions of governance, strategy, and policy are in place to support quality online learning throughout the Kingdom. These findings are further supported by the OECD report *How the COVID-19 Pandemic is Changing Education: A Perspective from Saudi Arabia*, in their finding that schools were well-positioned to manage the pandemic, though internet access was a concern. With respect to processes, resource allocation, and innovation, there is also broad agreement from these stakeholders, yet there is also opportunity to more equitably allocate resources, pursue process improvement, and open innovation opportunities. A review of the data and recommendations for each of these subdimensions follows.

Subdimension: Governance

A review of the survey findings for the governance subdimension reflect that the majority of survey participants agreed or strongly agreed that their institution has the appropriate governance structure in place to support online education. Across the three questions for this subdimension, all three role groups -- administrators, staff, and teachers -- indicated an increase post-COVID related to leadership governance. Interviews with administrators, staff, and teachers did not yield particular insights that suggested a departure from the survey data, outside of a desire to receive more timely communication about decisions related to online learning in a fluctuating context of COVID-19 and the rapid shifts it can create for school-level actors.

With respect to leadership governance structures that enable “clear, effective, and comprehensive decision making related to online education,” survey respondents indicated a pre-COVID satisfaction of 63.9%. This number increased by nearly 7% to 70.5% across all three groups post-COVID, with a consistent distribution of satisfaction within role groups (Figure 1).

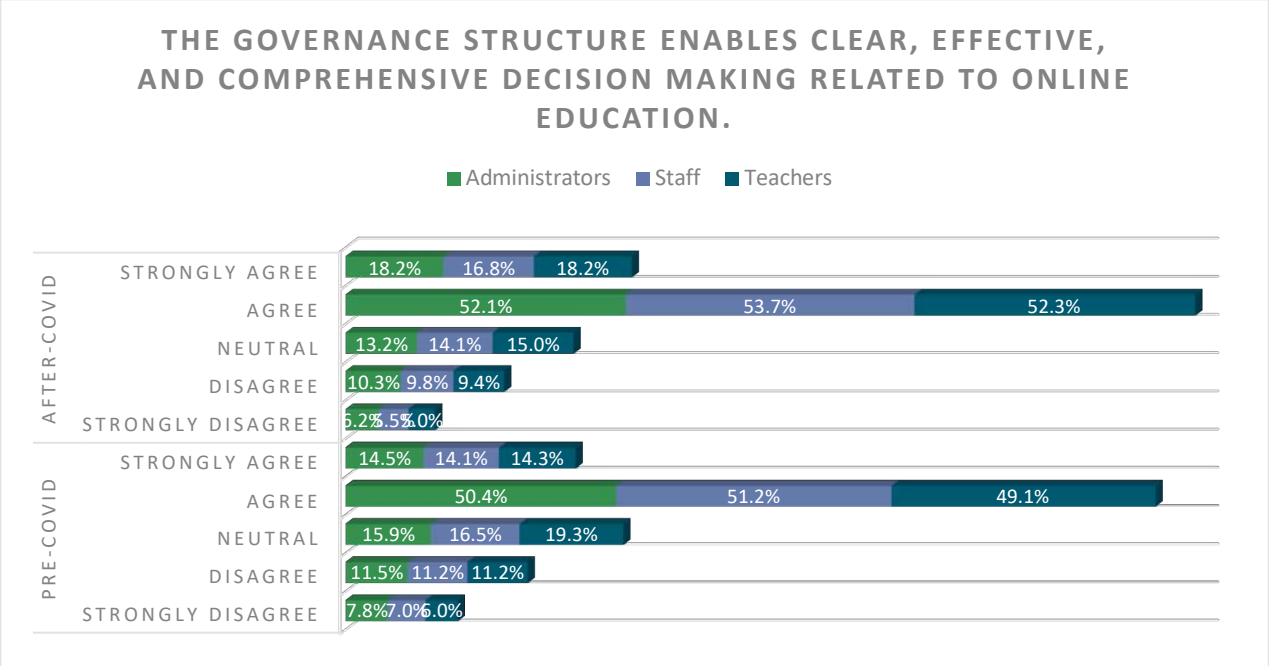


Figure 1

Similar to responses about leadership governance providing clear decision making, a preponderance of survey respondents agreed that "the governance structure incorporates a diverse body of decision-makers, including teachers and staff, and those who are knowledgeable about K-12 online learning." Pre-COVID, the agreement across all three groups was 64.1%, and jumped to 67.7% post-COVID. Again, all three role groups had relatively consistent responses across the agreement ranges (Figure 2).

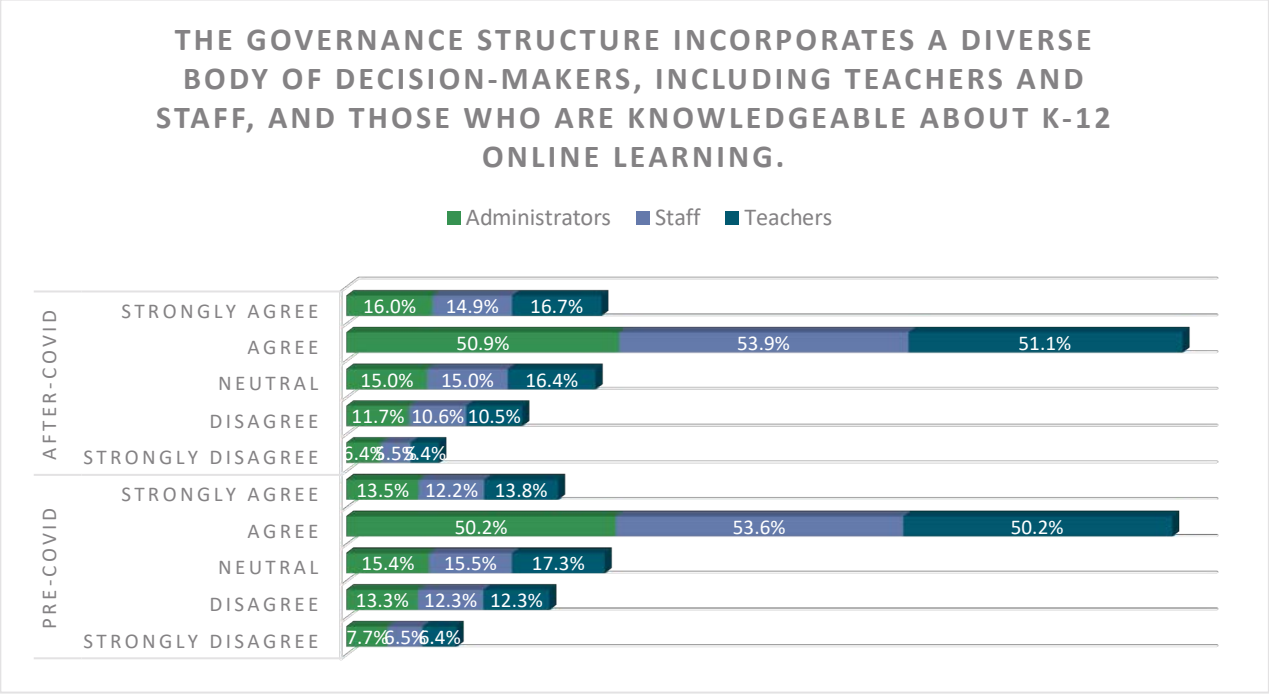


Figure 2

Related to incorporating a diverse body of knowledgeable decision-makers, the minority of teacher respondents who disagreed or strongly disagreed decreased from pre-COVID to post-COVID, from 18.7% to 15.8%. The number of administrators also decreased from 21.0% to 18.1%. Broadly, this decrease in disagreement indicates that the transition through the COVID pandemic showed both administrators and teachers that the governance structure is incorporating a more diverse body of knowledgeable stakeholders in decision-making.

In line with the first two questions on leadership governance, a majority of respondents agreed or strongly agreed that current governance structures "requires and enables systematic and continuous improvement related to online education." While the three groups had a total agreement response of 69.7% pre-COVID, this question saw an increase in agreement with the teaching subgroup post-COVID, with overall satisfaction at 73.7%. Commensurate with the other questions in this subdimension, the responses across role groups were consistent (Figure 3).

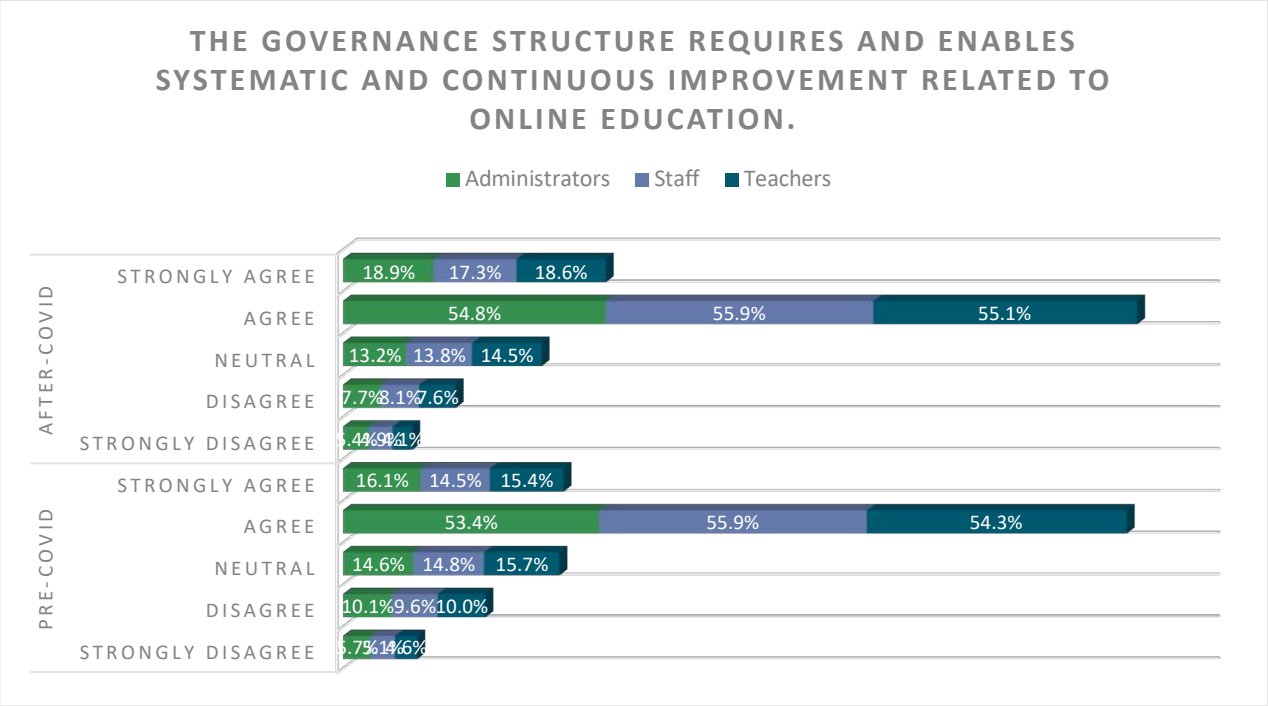


Figure 3

Expert Recommendation: Share and communicate decision-making rationale and processes with local school stakeholders.

Target Audience	Administrators
Needs	Frequent and timely communication with local school stakeholders
Initiatives	Provide specific and timely communication related to fluidity with COVID and online learning

Goals	To communicate decision-making rationale and processes with local school stakeholders
Actions	• Identify existing communication strategies and channels • Explore possibilities for ongoing communication with school-level stakeholders • Solicit feedback from school-level stakeholders • Evaluate effectiveness of communications
CSFs	Schools receive timely communication as COVID fluidity may influence decision-making
KPIs	• Frequency of regular communication channels and flows • Percentage of resources aligned to communication channels

Subdimension: Strategies

Survey results indicate broad satisfaction with the institution's strategic planning and alignment for online learning across administrators, staff, and teachers, both pre- and post-COVID. One prominent finding across all of the survey items related to this subdimension relates to the increased satisfaction post-COVID. What's more, of the five questions posed for this subdimension, four revealed satisfaction rates above 70% post-COVID across all three role groups.

With respect to the extent to which "a mission, vision, and strategic plan is developed addressing the importance of quality in online learning," respondents expressed 63.5% satisfaction pre-COVID, which increased to 70.1% post-COVID. Satisfaction rates were relatively stable among role groups (Figure 4).

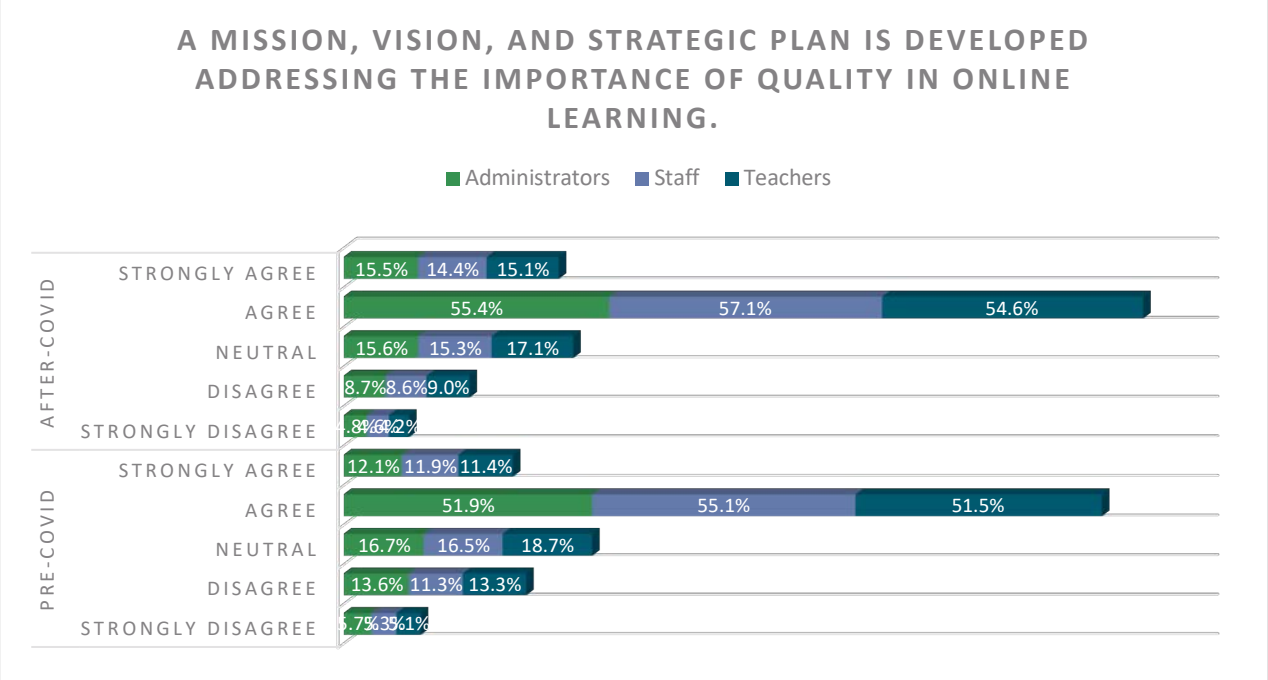


Figure 4

Survey respondents also indicated satisfaction with the ways in which the institution's strategy for online learning is articulated and updated regularly, and the extent to which it incorporates emerging educational and business trends and requirements. A majority expressed satisfaction both pre-COVID (66.1%) and post-COVID (71.4%) (Figure 5). As with the other facets of this subdimension, satisfaction increased post-COVID.

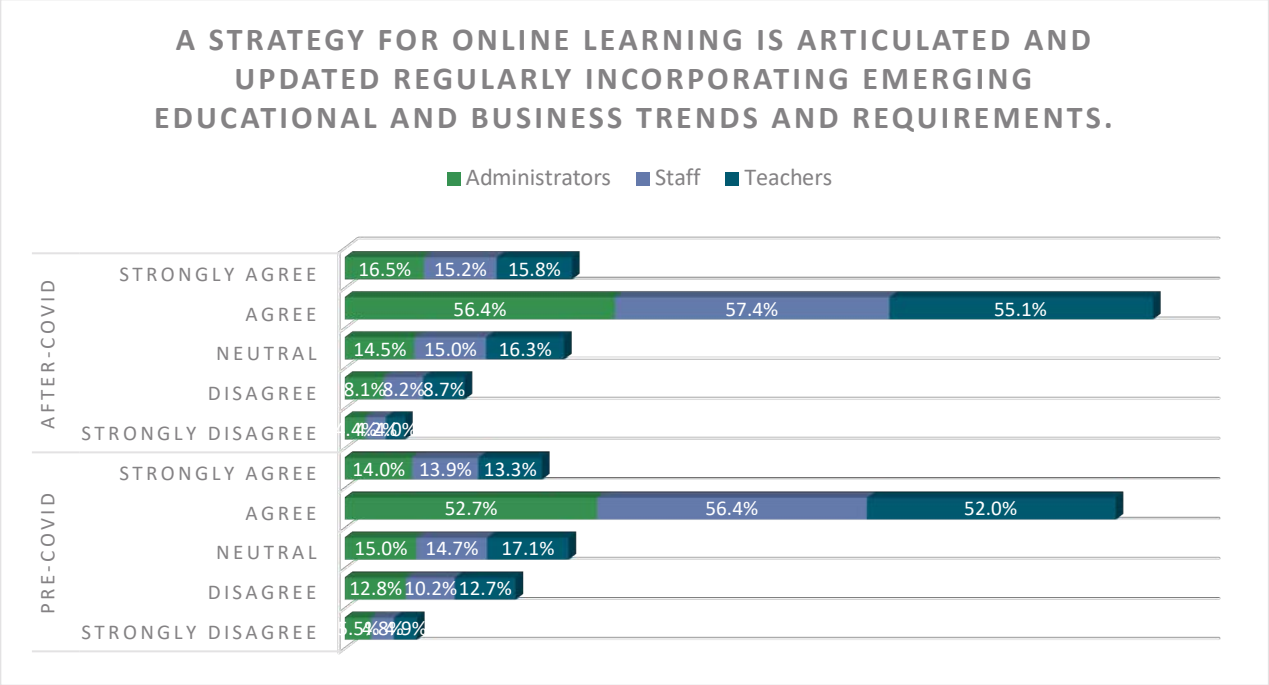


Figure 5

Strategic alignment between an organization's strategy and its goals is imperative for large scale leadership in education. A majority of survey respondents indicated satisfaction both pre- and post-COVID in this area, with 70.7% of respondents agreeing that leadership has developed goals that align with the strategy for online learning, post-COVID (Figure 6).

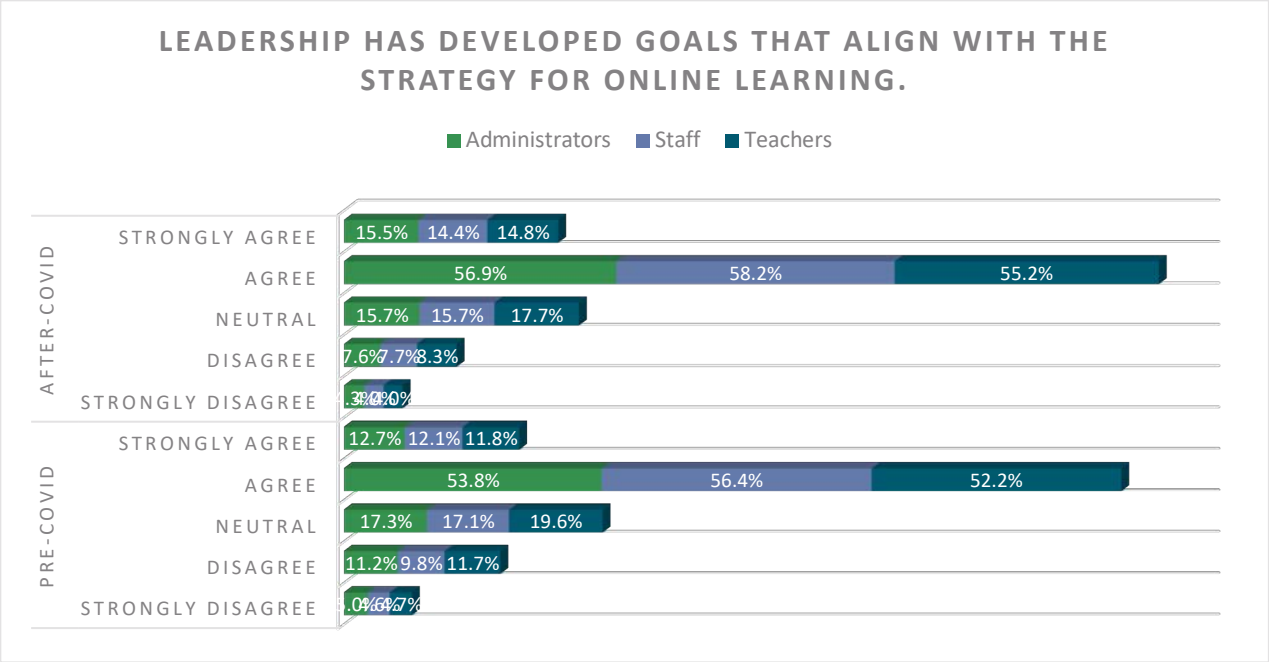


Figure 6

Likewise, a majority of respondents agreed that leadership identifies measures of goals and collects timely data to ensure quality and identify areas of improvement (66.4% pre-COVID; 70.5% post-COVID) (Figure 7).

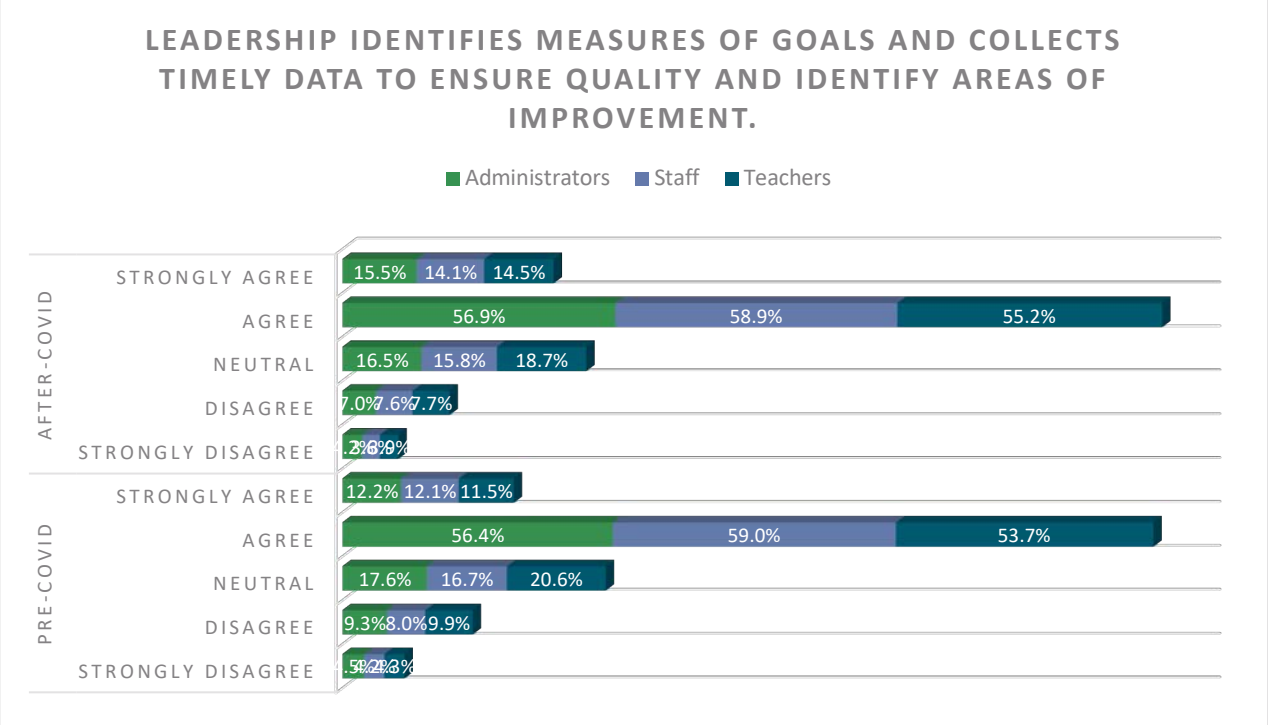


Figure 7

While all of the items indicated a majority sense of agreement with respect to leadership's strategic alignment, one item generated noticeably smaller majority. That is, when surveyed on the extent to which the institution's strategic plan for online learning aligns with other strategic plans (e.g., academic, technology) within the school or district, the pre-COVID agreement across all groups was just 57.4%. However, this agreement did increase to 64.3% post-COVID (Figure 8).

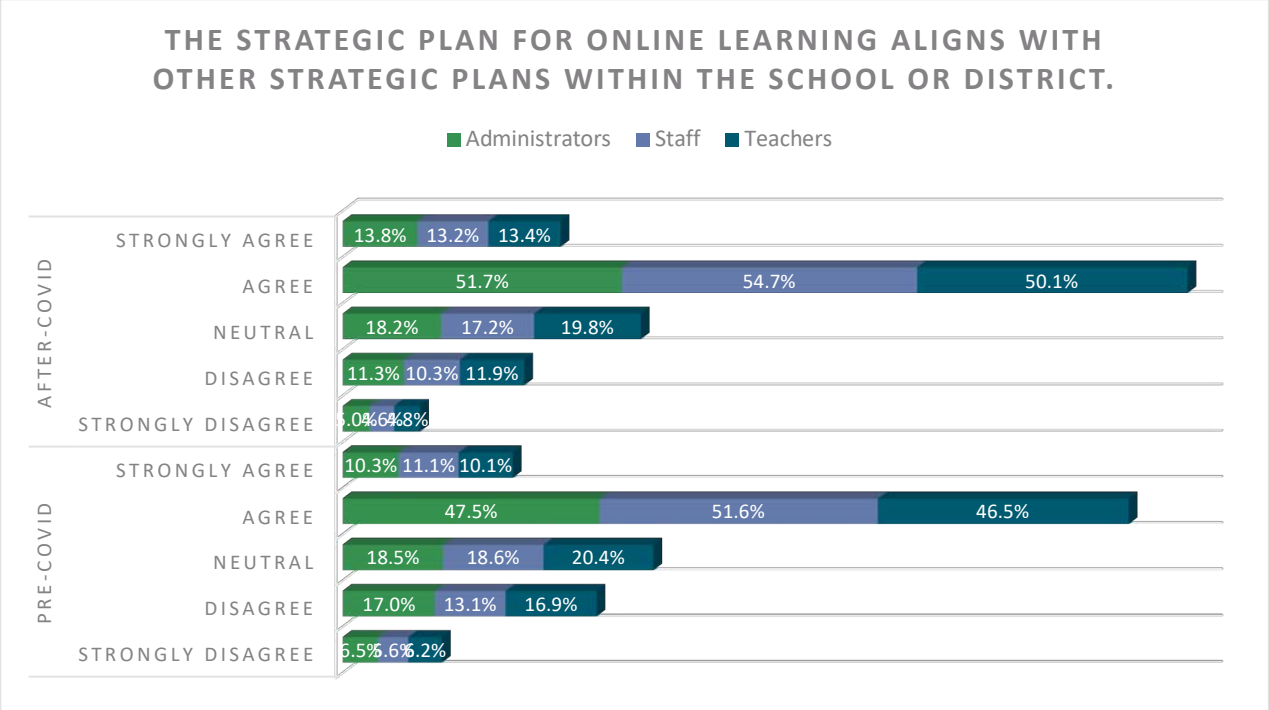


Figure 8

Interestingly, pre-COVID both administrators and teachers responded with disagreement above 20%, but both groups saw a post-COVID decrease to 16.3% for administrators and 16.7% for teachers.

The triangulated interview data did seem to support the lower rate of agreement related to the survey item about strategic alignment between plans for online learning and other strategic plans within schools and districts. For example, one respondent indicated that while a plan for online learning did exist at their school prior to COVID, the resources and time needed to allocate toward building out the details of that plan were placed elsewhere.

Recommendation: Create alignment with and between the institution's strategic plan for online learning with other strategic planning components.

Target Audience	Administrators
Needs	Articulation of and resource allocation for strategic alignment between online learning plans and other strategic planning components
Initiatives	Comprehensive strategic planning to account for any discrepancies or disparities between planning goals and organizational alignment
Goals	To articulate a coherent, congruent strategic plan that accounts for online learning in a way that aligns with other priorities and plans
Actions	• Review current strategic planning across the organization -- including but not limited to online learning, technology, and assessment. • (Re)Establish strategic planning team and schedule regular reviews for congruences and discrepancies across strategic planning efforts • Establish congruent and aligned strategic plan, accounting for online learning
CSFs	Sensemaking and synthesizing planning at various school sites and contexts
KPIs	• Strategic plan action items are aligned with short- and long-term goals • Strategic plan is communicated to relevant stakeholders

Subdimension: Policies

At a policy level, survey items for this subdimension reveal a strong sense of agreement from respondents that leadership has enacted policies that have been reviewed and updated to encourage online learning, taking care to address issues of academic integrity and to support online teaching, learning and innovation. Broadly, respondents along each item in the subdimension increased their sense of agreement from pre-COVID to post-COVID, and responses across role groups remained fairly consistent.

The majority of survey respondents across all three role groups agreed that policies and procedures for online learning are reviewed and updated regularly. Further, this question saw a notable jump from the pre-COVID agreement (61.4%) to post-COVID (70.4%), suggesting that stakeholders noticed leadership's responsiveness to the pandemic and policies related to online learning (Figure 9).

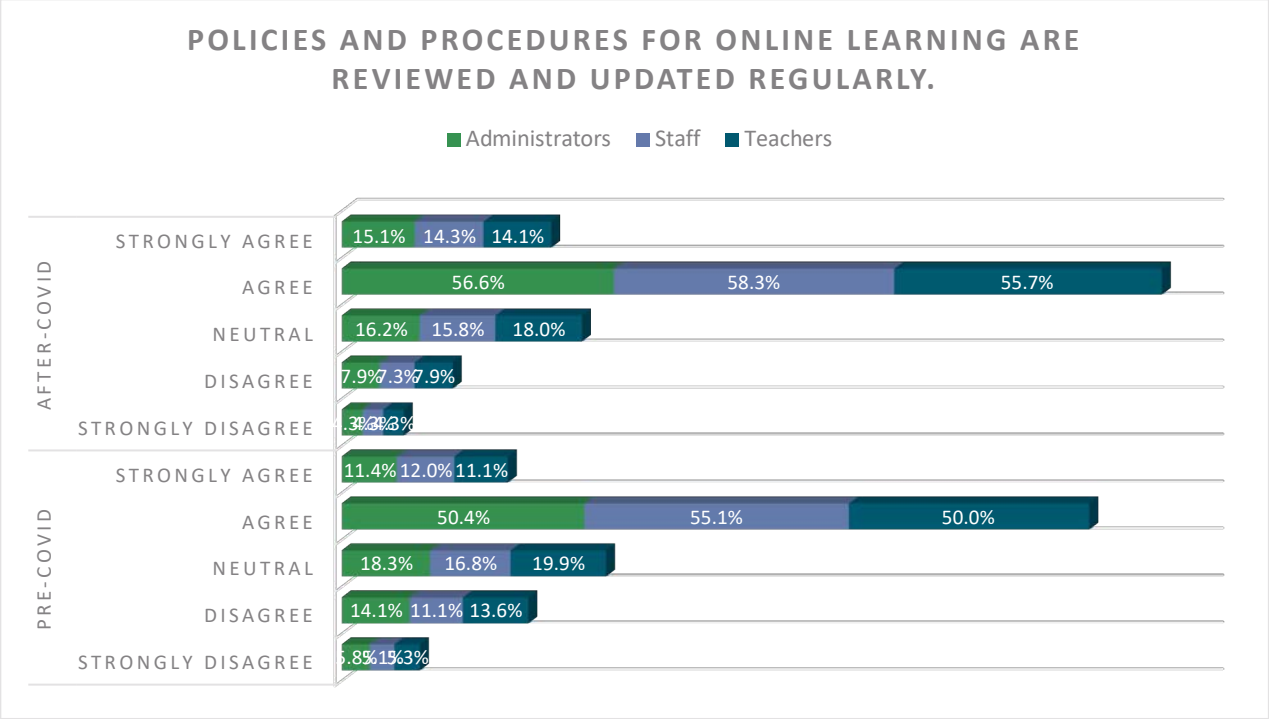


Figure 9

Survey results also indicated that a majority of respondents agreed with the notion that leadership established policies that encourage the development of online classes and programs (e.g., a policy for intellectual property of class materials). This was true both pre-COVID (62.9%) and post-COVID (68.2%), with all three role groups responding with increased agreement from pre- to post-COVID (Figure 10).

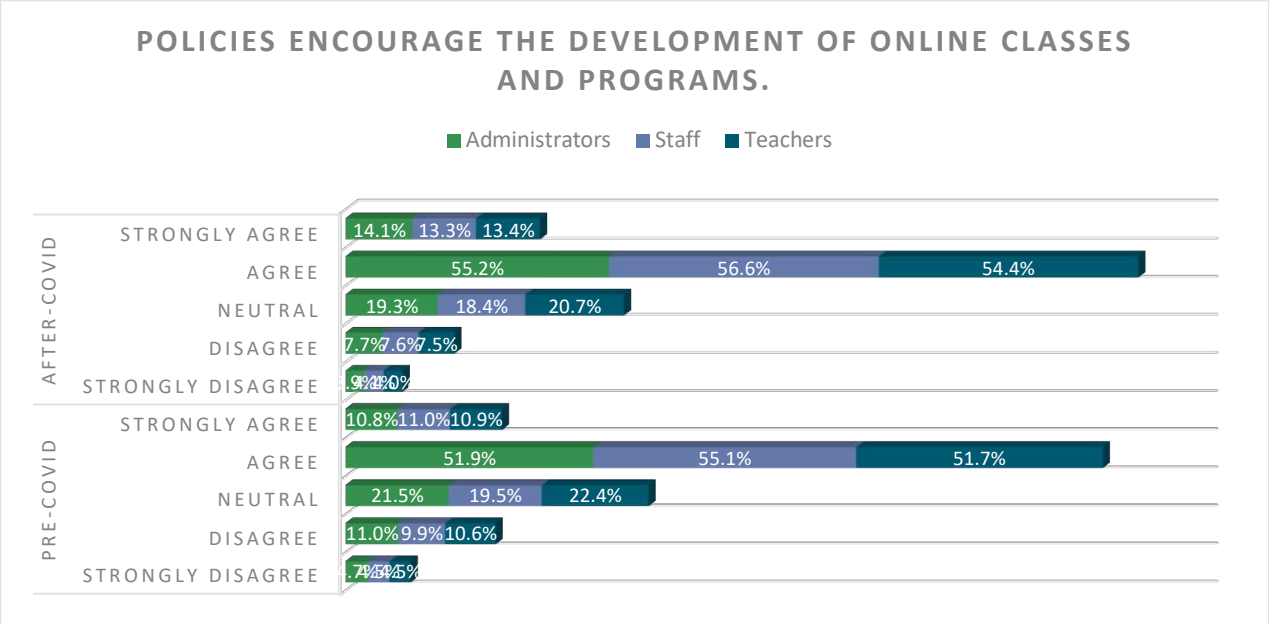


Figure 10

Like previous items for this subdimension, a majority of survey respondents agreed that leadership pursued policies which address academic integrity of online class assignments and assessments. While the pre-COVID majority was among the smallest of the items for this subdimension (59.9%), it made a significant jump to 67.3% post-COVID (Figure 11).

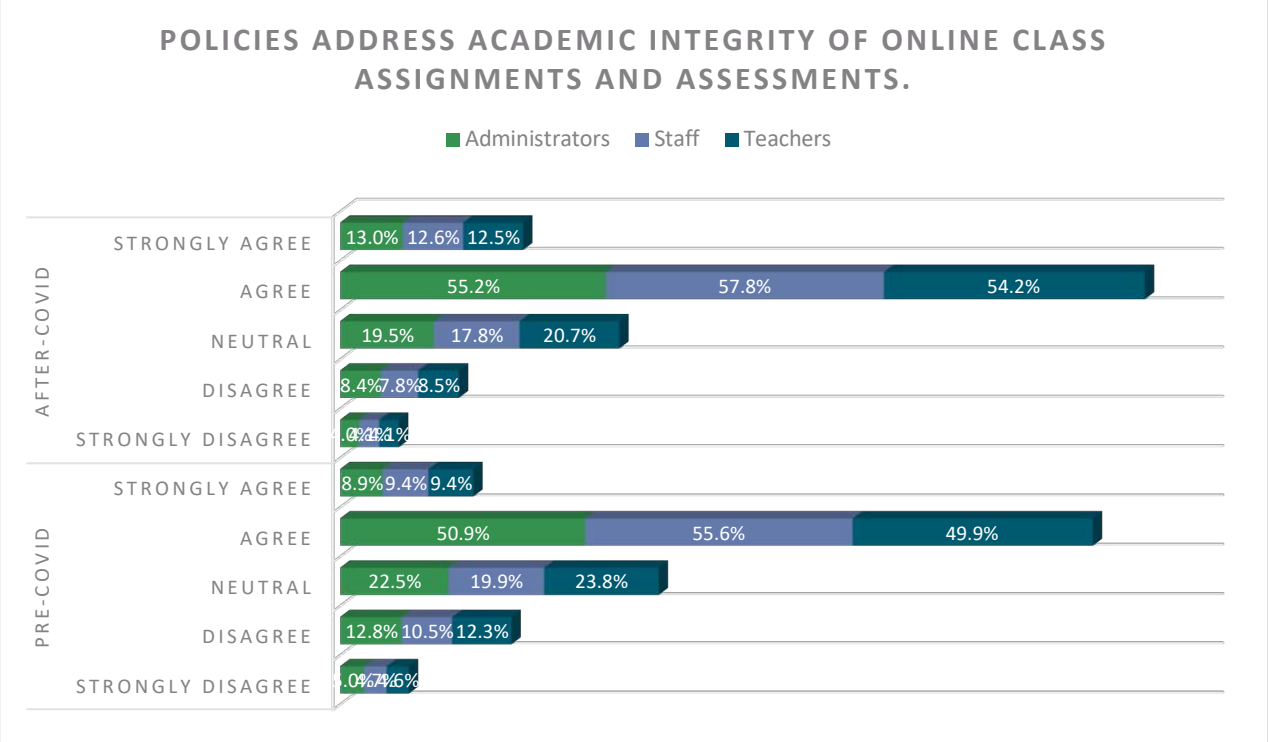


Figure 11

With respect to the promotion policies toward teachers and staff including criteria supporting online teaching, learning, and innovation, there was majority agreement from all three respondent groups both pre- and post-COVID. It is notable that this item had the lowest agreement pre-COVID at 54.1%, with 52.3% of teachers agreeing or strongly agreeing with the item, while administrators (58.0%) and staff (60.4%) agreed at a higher rate. However, post-COVID, all three groups responded with a higher rate of agreement at 59.6%. Still, teachers had the lowest rate of post-COVID agreement (57.8%), while both administrators and staff had agreement responses above 60%) (Figure 12).

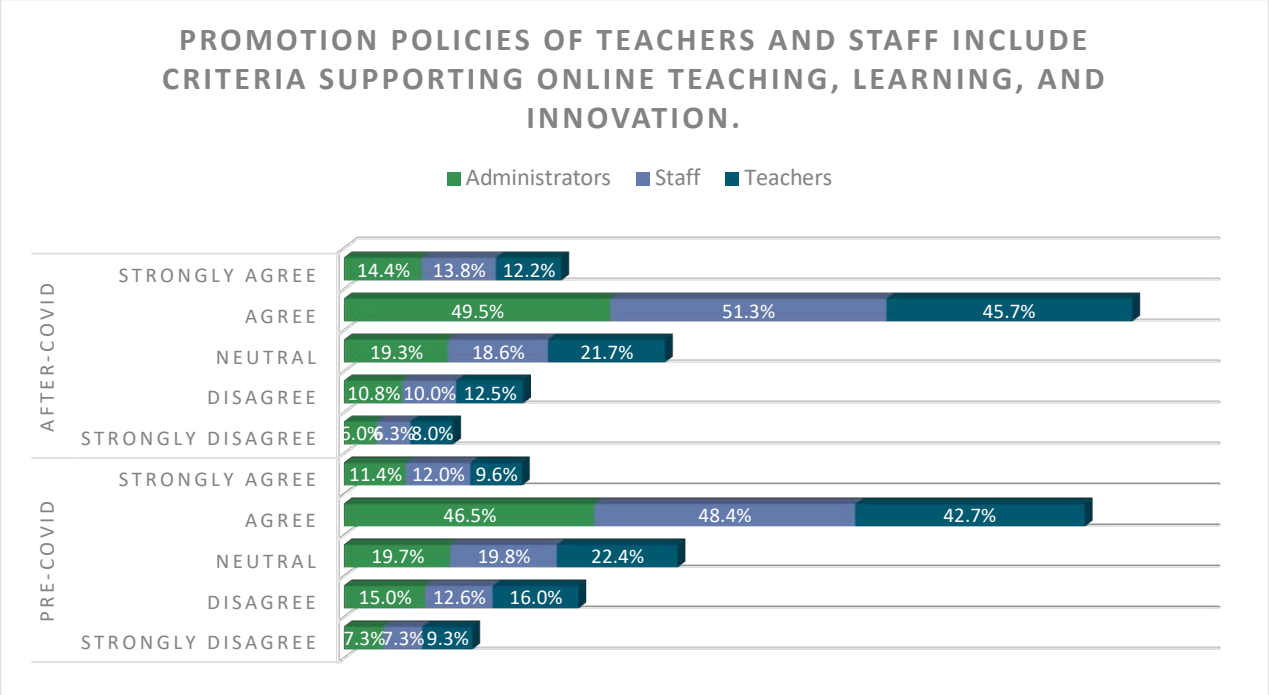


Figure 12

Narrative data from the teacher interviews tended to indicate that teachers vary in their views on the extent to which policies toward them offered support for online teaching, learning, and innovation. For example, one teacher noted that their school needs better training for the teachers and technical support for the teachers and students, while another suggested that these things are in place and strongly supported.

Recommendation: Explore policies that aim to improve quality in online teaching, learning, and innovation.

Target Audience	Administrators
Needs	Policy environment that improves quality in online teaching, learning, and innovation
Initiatives	Policies that meet the needs of quality and innovative online teaching and learning
Goals	To implement appropriate processes to support online teaching and learning
Actions	• Review existing policies related to online teaching, learning, academic integrity, and innovation • Convene stakeholders to explore potential improvement to policies • Articulate updated policies toward quality online teaching and learning • Ensure full compliance with the nationally/locally approved curricula and teaching/learning outcomes
CSFs	Effective implementation of online teaching and learning
KPIs	Creation and dissemination of updated policies for quality in online teaching, learning, and innovation

Subdimension: Process

The subdimension of leadership processes largely followed the trends of the other subdimensions, with each survey item yielding a majority of agreement across administrators, staff, and teachers -- with agreement percentages for each item increasing from pre- to post-COVID. However, the agreement percentages for leadership processes related to teacher evaluations and for resource allocation pre-COVID had the slimmest majority agreement, both at approximately 54%. While both jumped to over 60% across all three role groups for post-COVID responses, the interview data show that both administrators and teachers have identified some gaps in leadership processes to evaluate teachers and account for resource allocation. After identifying some item responses below, recommendations for this leadership processes subdimension will focus on processes for teacher evaluation, as resource allocation is its own leadership subdimension and will be discussed in the following section.

With respect to the survey data on processes which exist to provide professional development, training, support, and evaluation of online learning, the majority of respondents agreed for both pre-COVID (62.9%) and post-COVID (69.5%), with agreement increases of several percentage points across all three role groups (Figure 13).

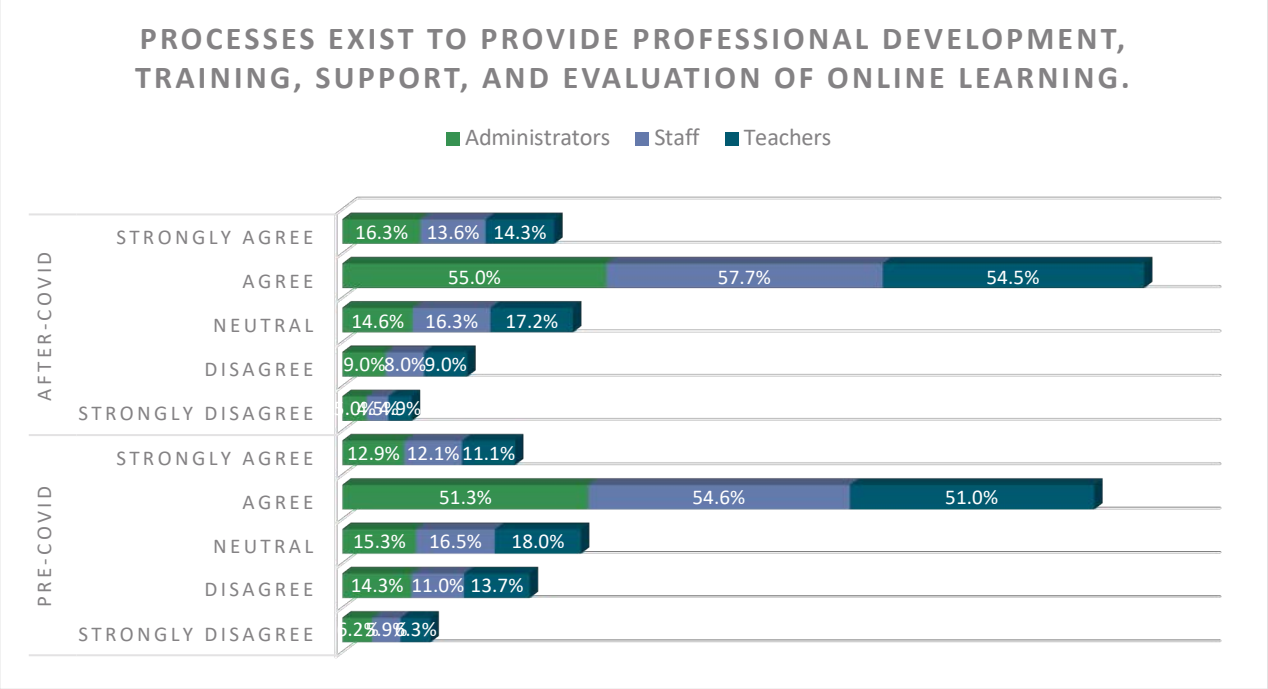


Figure 13

Related to a processes subdimension survey item inquiring about the extent to which evaluations are conducted periodically by qualified and objective external parties who have a demonstrated ability to deliver a comprehensive review of internal processes, all three role groups answered with majority agreement both pre-

COVID (54.6%) and post-COVID (61.3%). As with the previous item, respondents returned a noticeable increase for their post-COVID assessment of leadership processes (Figure 14).

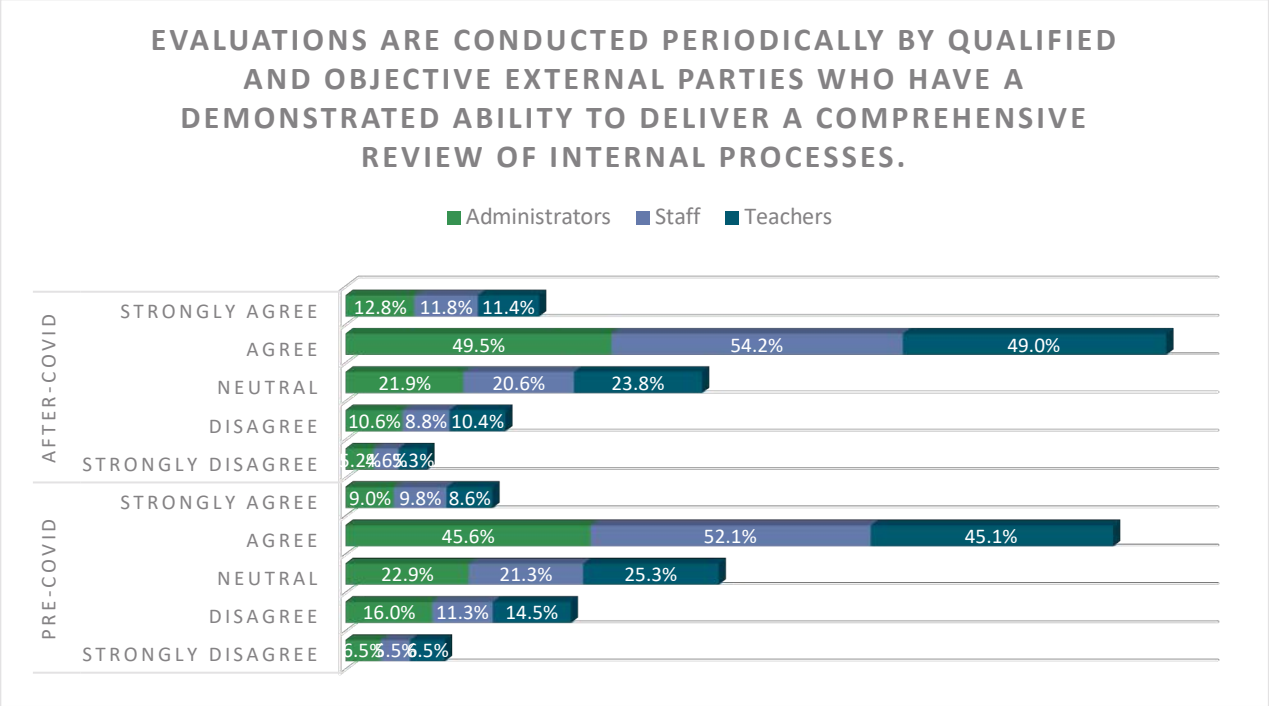


Figure 14

The final processes subdimension survey item asked respondents to gauge the extent to which processes for planning and allocating resources for online learning, including financial resources, in accordance with the strategic plan have been established. In alignment with the other responses for leadership processes, the cohorts collectively affirmed these processes were in place, by a small majority pre-COVID (54.4%), and by an increased majority post-COVID (61.1%) (Figure 15).

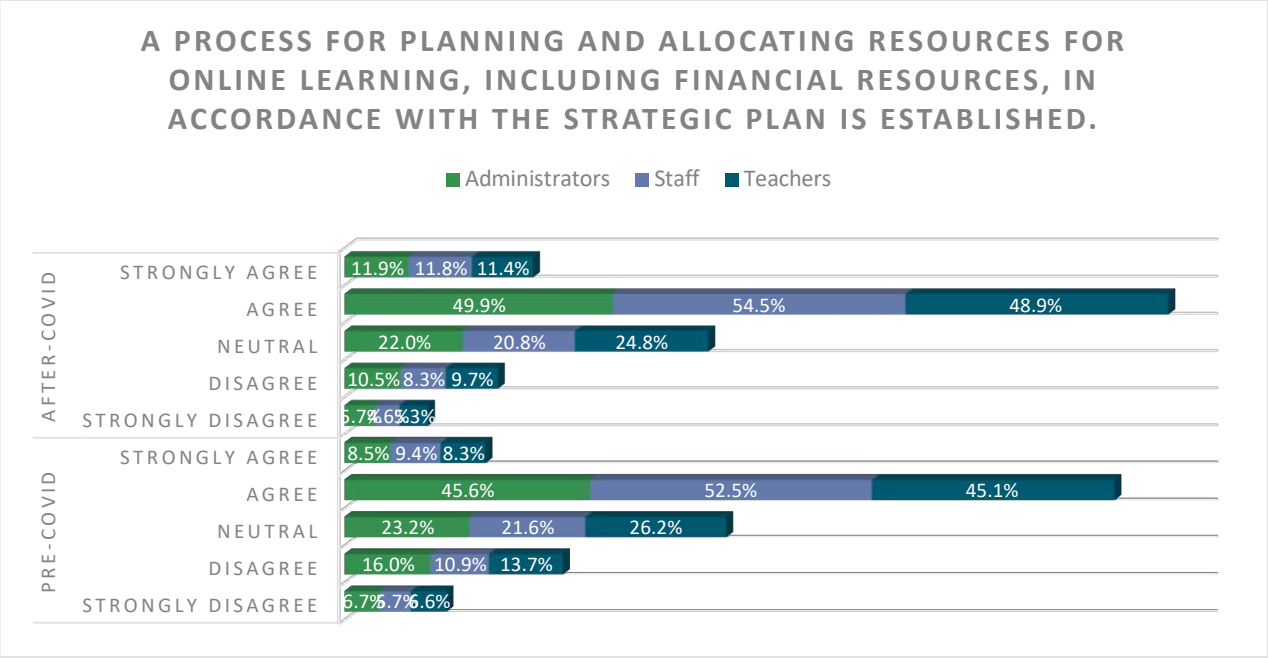


Figure 15

Recommendation: What the foregoing data suggests is that a small majority of respondents across the groups agreed that the leadership processes have been in place to support teacher evaluation and resource allocation. While all three role groups answered in majority agreement, staff tended to have a more optimistic view than administrators and teachers, often by five to seven percentage points. This suggests that both administrators and teachers could stand to receive more clarity in the processes for evaluation, and the interview data seems to corroborate that sentiment. This largely makes sense at a human level, as administrators are often charged with conducting performance evaluations, and teachers are the subjects of those evaluations.

Target Audience	Administrators, Teachers
Needs	Clarity on processes for evaluating teacher performance in online teaching
Initiatives	Processes that clarify teacher performance evaluation
Goals	To create clear processes for evaluating teacher performance
Actions	• Review existing processes and modify for evaluating quality of online teaching performance • Identify and develop additional processes needed to support teachers • Consider feedback on the existing policies and introduced initiatives from all stakeholders to consult interests of the entire education community
CSFs	Teachers delivering quality online instruction, with both administrators and teachers understanding the criteria and quality standards for teacher performance

KPIs	• Short term: Clearly articulated teacher evaluation processes • Long term: Teacher evaluation results

Subdimension: Resource Allocation

On the leadership subdimension of resource allocation, respondents across all three role groups again responded to survey items with a majority of agreement on institution leadership's support and efforts, though with smaller pre-COVID majority percentages of agreement or strong agreement than previous subdimensions. Interview data with teachers and administrators often pointed to resource allocation disparities among urban and rural schools, as well as those that were identified to receive technology, devices, as well as the extent to which all students have Internet access at home. All told, the data suggest that the institution's support and efforts toward schools during COVID yielded positive outcomes along the resource allocation subdimension.

On the subdimension question of sufficient resource allocation, including financial resources, to effectively support the mission of online education is demonstrated, a small pre-COVID majority (54.1%) grew to 60.0% in post-COVID responses (Figure 16).

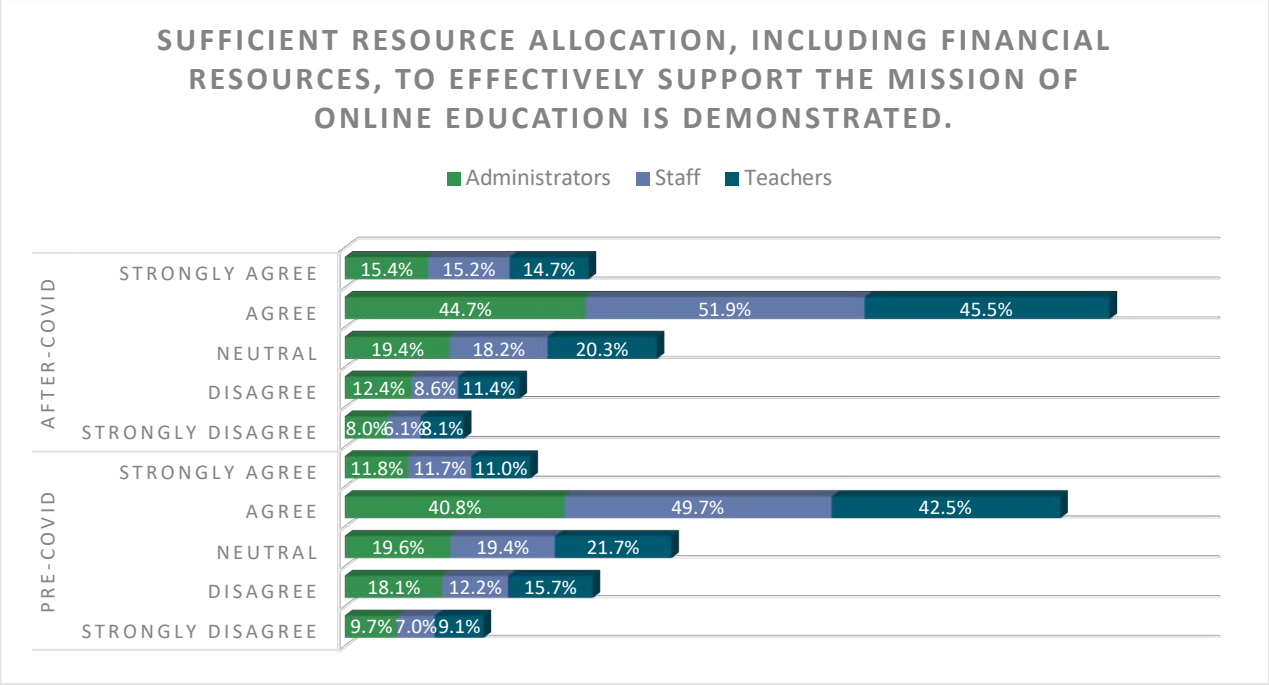


Figure 16

When questioned about the extent to which "incentives and/or financial compensation are provided to teachers and staff for professional development and instructional design activities," respondents offered a slim majority of agreement, including both responses of "agree" and "strongly agree," pre-COVID (50.1%). Notably, among teachers and administrators, the pre-COVID percentage indicating disagreement was above 30% for both groups, the highest of any survey item in the leadership dimension. However, disagreement dropped and overall agreement across groups increased to 55.7% total post-COVID (Figure 17). This item will be discussed further in the recommendations.

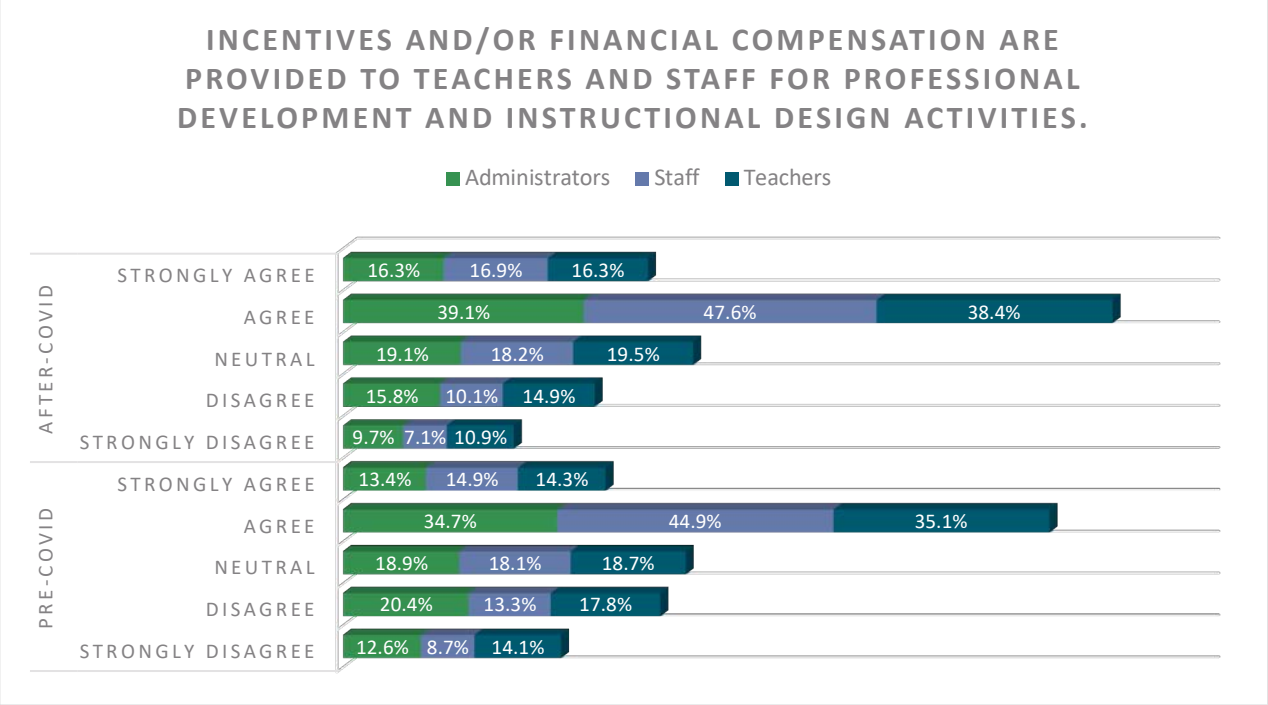


Figure 17

The majority of survey respondents across all three role groups agreed that resources are adequately allocated and projected to sustain and scale online learning, both pre-COVID (54.0%) to 61.3% post-COVID. Notably, among administrators, a pre-COVID disagreement response rate of 27.1% fell to 19.1% post-COVID, indicating that institution efforts during the pandemic have been effective in providing resources to sustain and scale online learning. See Figure 18 for item responses across all three role groups.

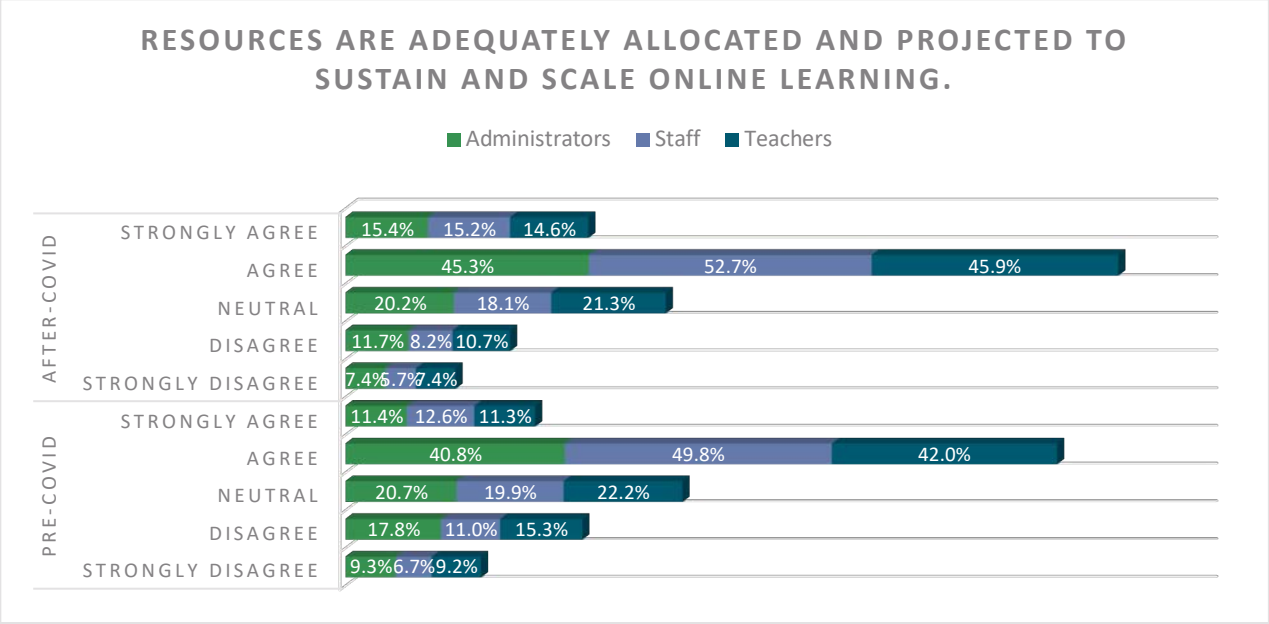


Figure 18

The final survey item for this subdimension sought to understand stakeholders' perceptions about investment in instructional personnel and staff time to support online learning and instructional technologies. While pre-COVID responses indicated a majority agreement of 58.0%, post-COVID response rates increased to 63.8% (Figure 19).

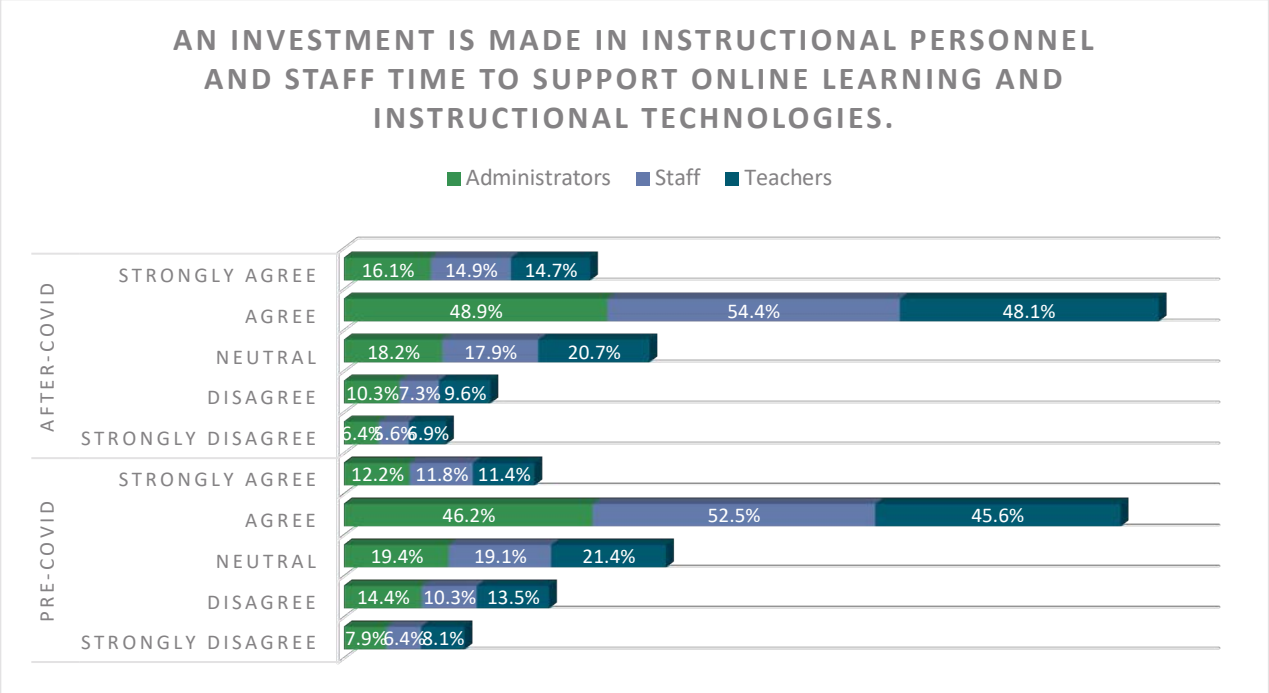


Figure 19

Recommendation: Taken wholly, respondents largely agreed in majority that leadership decisions and practices related to resource allocation have served to support, sustain,

and scale the mission of online education. In that light, two opportunities emerge from the survey and interview data to further strengthen leadership resource allocation. First, leaders can explore the extent to which resources are distributed equitably across schools, both urban and rural. Second, leadership may seek opportunities to address resource allocation related to incentivizing or providing financial compensation for teacher training and instructional design professional learning.

Target Audience	Administrators
Needs	• Equitable resource allocation (physical devices, teacher training) across urban and rural schools • Incentives and/or compensation for teacher training and professional learning related to online instruction
Initiatives	• Explore opportunities for equitable resource allocation for schools • Processes that incentivize teacher participation in training and professional learning for online teaching
Goals	• To create more equitable resource allocation for schools across geographies • To further incentivize teachers to participate in professional learning for online teaching

Actions	• For equitable resource allocation:
	  ○ Explore current resource allocation policies and processes to identify potential gaps between school designations
	  ○ Establish plan to remediate any identified gaps
	• For incentivizing teachers to participate in professional learning:
	  ○ Establish core and/or essential offerings for teacher professional learning related to online teaching
	  ○ Identify and share funding opportunities or incentives with teachers

CSFs	• Capacity to deliver more equitable distribution of physical devices and resources • Teachers' responses to incentives for professional learning
KPIs	• Equitable access to resources across school contexts • Teacher participation in professional learning

Subdimension: Staffing & Innovation

On the leadership subdimension of staffing and innovation, survey respondents largely affirm institution leadership's efforts to provide innovative and supportive staff to meet strategic online learning goals. Across all subdimension survey items, all three role groups shared majority agreement in both their pre- and post-COVID responses. Not surprisingly, staff responses to each item ranged approximately 10-15% higher than administrator and teacher responses across survey items, but that can be interpreted as a kind of self-referendum on their performance both pre- and post-COVID. Narrative data from interview subjects shows broad corroboration for the survey data, with several interviewees praising the work of the support staff, or simply expressing a wish for even more support due to the quality of support staff interactions.

Largely, respondents agreed that sufficient qualified professional, administrative, and support staff are provided to meet online learning strategic goals, with 60.7% agreeing or strongly agreeing pre-COVID. That percentage jumped to 68.5% post-COVID. While staff respondents answered in a higher percentage, all three role groups affirmed their agreement with this item (Figure 20).

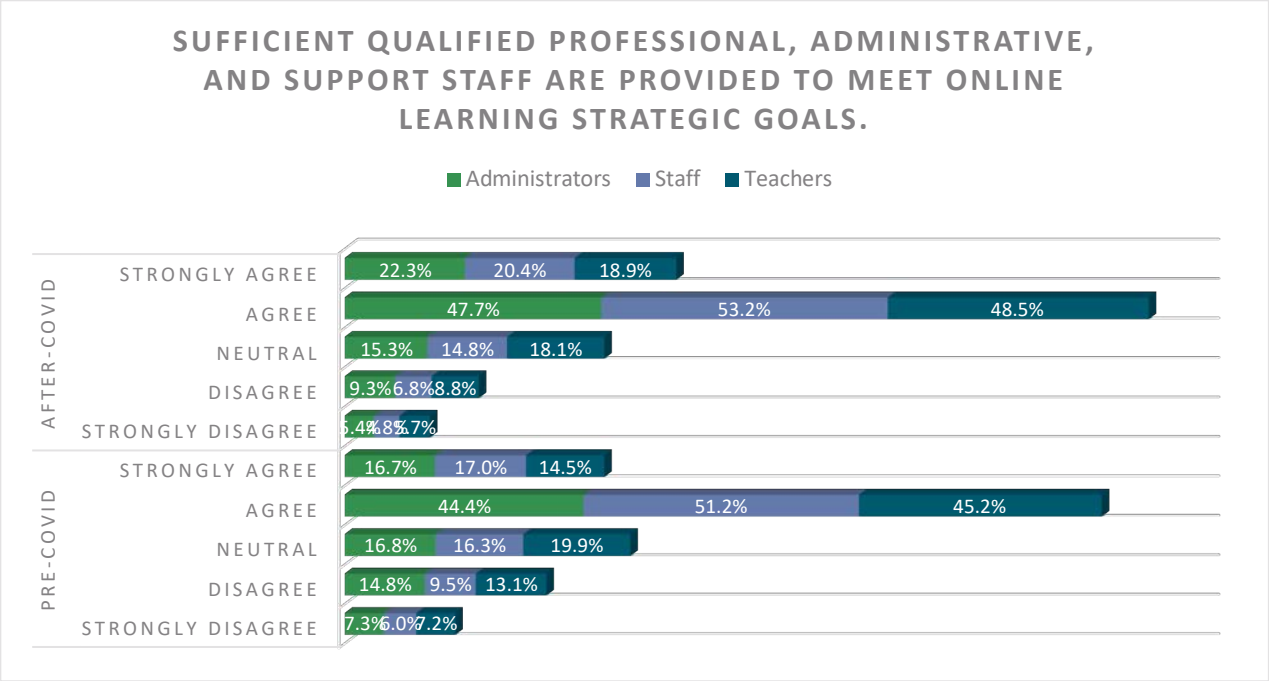


Figure 20

Survey respondents also largely agreed that technical staff are provided to support the learning environment and the technology needs of students and teachers. An initial, pre-COVID agreement of 63.3% across all three role groups increased to 69.8% post-COVID, with both administrators and staff responding with agreement rates above 70% (Figure 21).

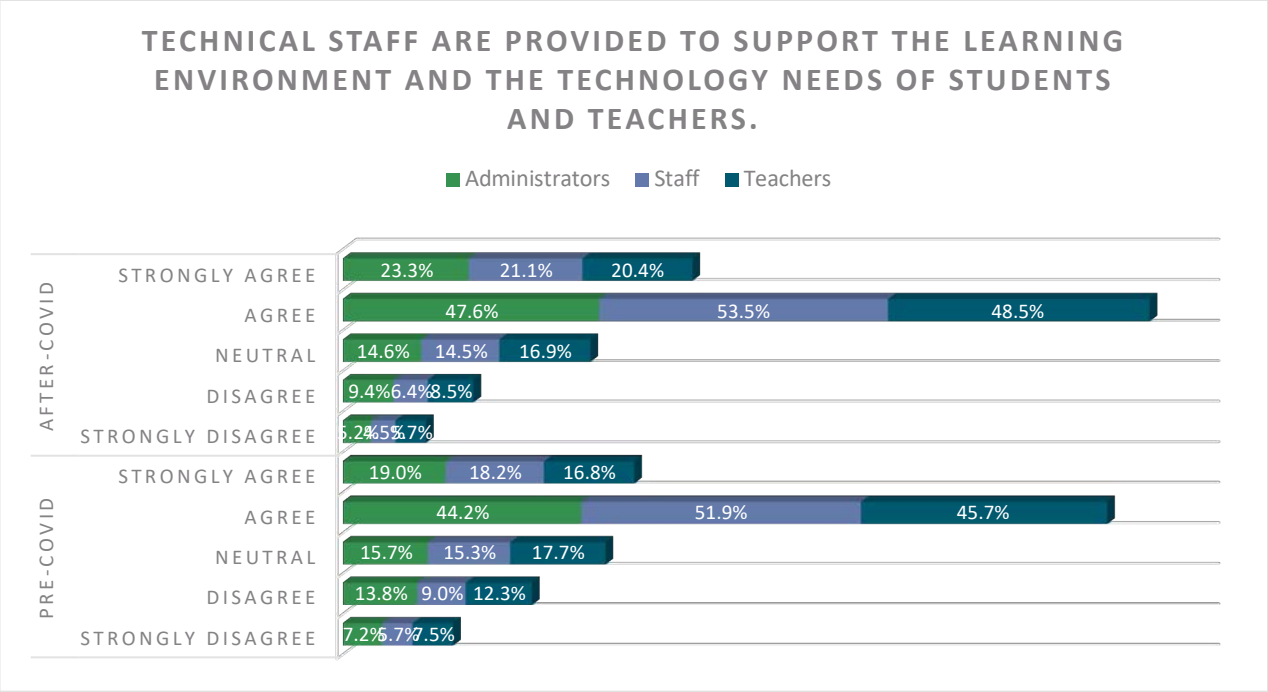


Figure 21

The final item on the staffing/innovation subdimension sought to understand the extent to which respondents agreed that the institution incorporates an expectation of innovation in teaching and learning through staff evaluations and promotions. Pre-COVID, the agreement rate was 60.2% across all role groups, and that increased to 66.1% post-COVID (Figure 22).

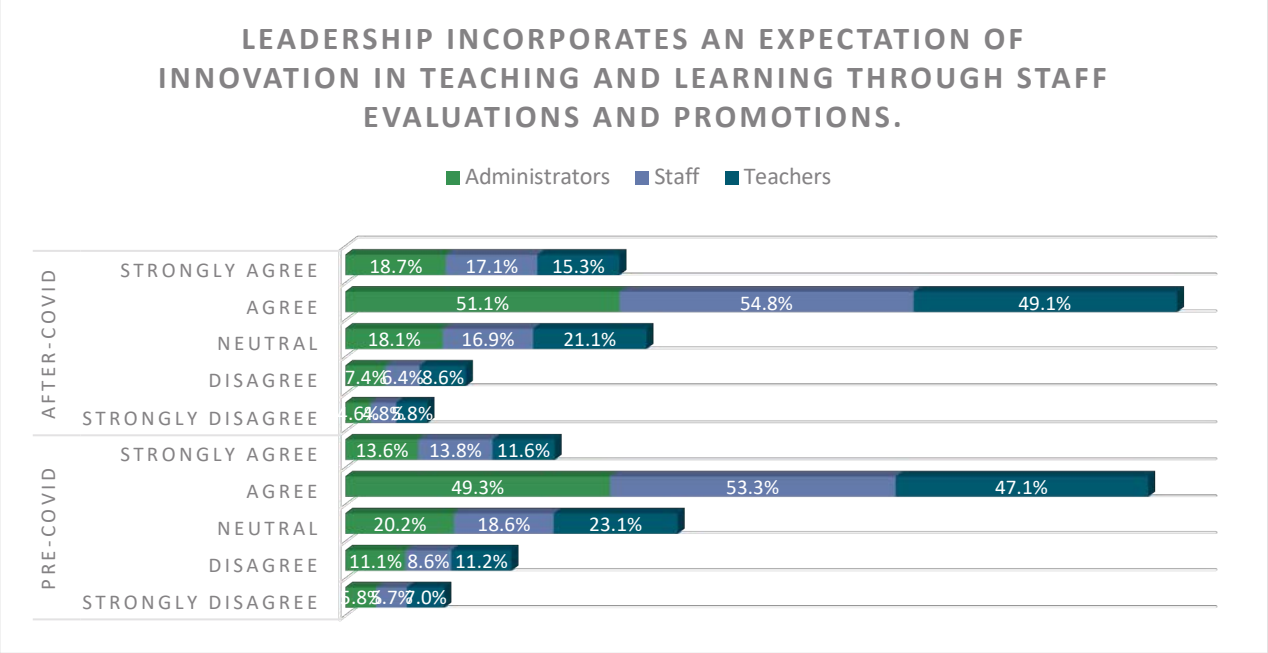


Figure 22

Expert Recommendation: Overall, both survey respondents and interviewees for the staffing/innovation dimension reported satisfaction with the staffing and innovation across their schools. Our expert recommendations are for leadership to continue to pursue opportunities and incentives for innovation and outstanding service provision on the part of staff members.

Target Audience	Administrators
Needs	Expanded drive and incentivization for innovation on the part of administrators, staff, and teachers
Initiatives	Create pathways for innovation in online teaching and learning
Goals	To enhance a culture of innovation and service across school level stakeholders
Actions	• Establish regular opportunities and light incentives for innovation • Identify barriers to innovation and "pain points" and/or "fear factors" that may prevent innovative behavior on the part of administrators, staff, and teachers
CSFs	School level stakeholders feel safe seeking to innovate without reprisal or punishment
KPIs	Number of school-level stakeholders who show increased innovative behaviors

Dimension II: Curriculum Design & Planning

The Curriculum Design and Planning dimension measures five subdimensions including Instructional Design Methods & UDL, Learning Objectives, Alignment, Course Materials and Content, and Innovation.

A high degree of readiness regarding curriculum design and planning was observed in overall survey results, potentially due to existing efforts to increase online education in K-12 environments as well as the curriculum responsibilities of the Ministry. Study results do suggest that despite this readiness prior to the pandemic, the shift to emergency remote teaching revealed pedagogical considerations across this dimension that were not evident, or perhaps not necessary for curriculum prior to COVID. Attending to the recommendations provided is an opportunity to support readiness and continuous improvement moving forward.

Subdimension: Instructional Design Methods & Universal Design for Learning (UDL)

Survey data indicates that data suggests that across all three role groups, there was agreement that the implementation of curriculum developed by the Ministry of Education is a core responsibility for teachers. However, across all three groups, the agreement rate for this subdimension item fell from pre-COVID (80.6%) to

post-COVID (75.2%). What this suggests is that the pandemic likely revealed important pedagogical considerations that may not have been originally included in the curriculum, including how to maintain relationships with students during emergency remote teaching (ERT), as well as the social-emotional needs that learners may have. See Figure 23 for more detail related to the item response.

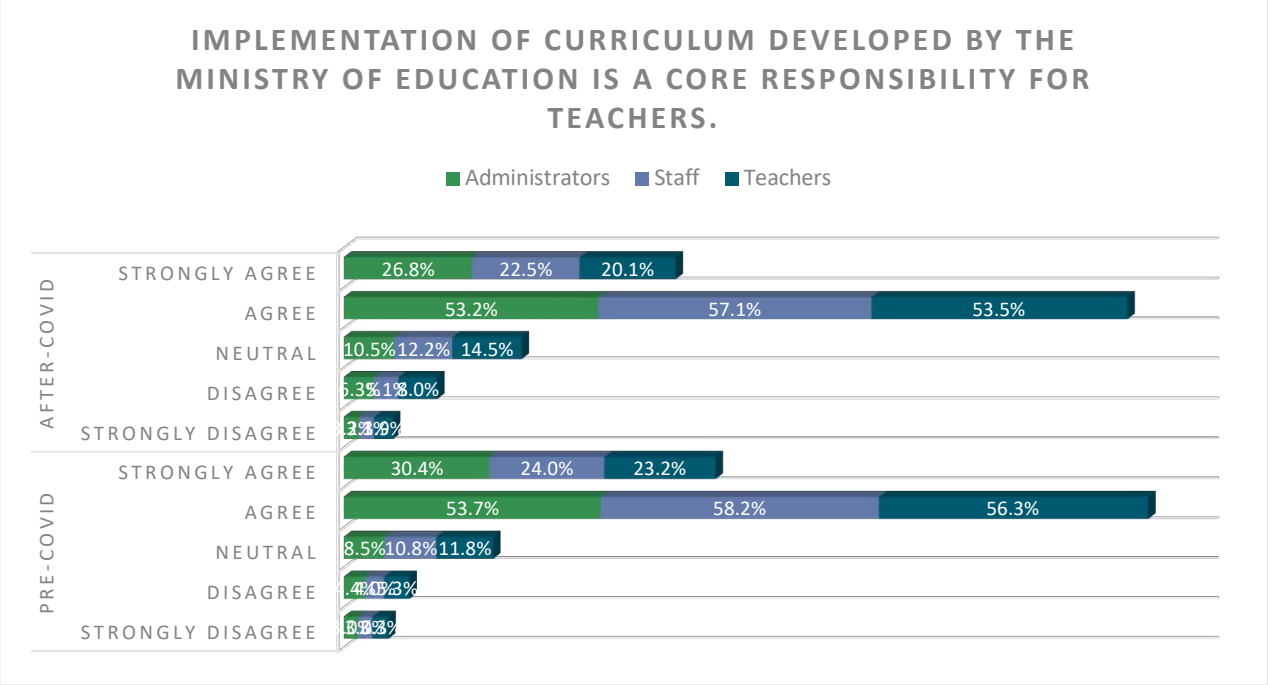


Figure 23

With respect to instructional design, respondents across all three role groups of administrators, staff, and teachers agreed that the instructional design of online classes is supported by teachers, instructional designers, technical experts, and evaluators. Through interview data, several teachers cited the Ministry of Education as a central source for instructional design, though local schools have educational resource and support staff who can provide technical assistance.

However, two questions posed only to teachers revealed an opportunity for creating clarity for teachers around the instructional design choices for the curriculum. When asked about their agreement with the extent to which instructional design focuses on authentic and active learning that is student-centered creating opportunities for students to interact with each other and the teacher, respondents' agreement decreased from 74.2% pre-COVID to 68.8% post-COVID. While the agreement rate is still a predominant majority of teachers, the corroborating narrative data does suggest that teachers could stand to have more clarity around the instructional design frameworks and philosophy for how curricula are created. See Figure 24 for more details.

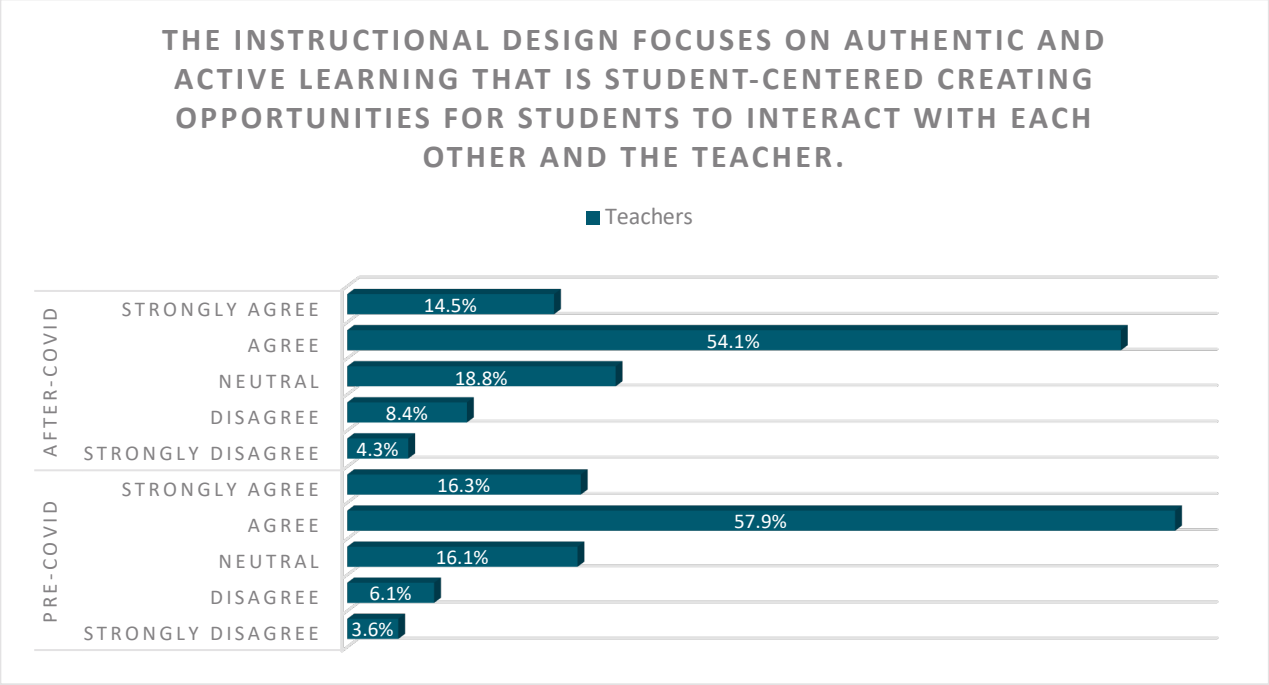


Figure 24

With respect to Universal Design for Learning (UDL), a framework to improve and optimize teaching and learning for all individuals, a survey item asked respondents about the extent to which instructional materials are quality materials and accessible to all students, easy to use, and accessible on any Internet-ready device. While administrators were slightly less likely than their staff and teaching colleagues to agree, particularly pre-COVID, the overall group responses showed a majority of agreement, both pre-COVID (60.8%) and post-COVID (65.6%). See Figure 25 for more details. Similarly, respondents also agreed that online classes are designed based on research-design principles and accessibility guidelines with consideration for usability, including ease of navigation. Narrative data suggests that teachers frequently provide feedback back to the Ministry of Education on curricula, and that teachers sense that feedback is reviewed with care and the curricula is updated.

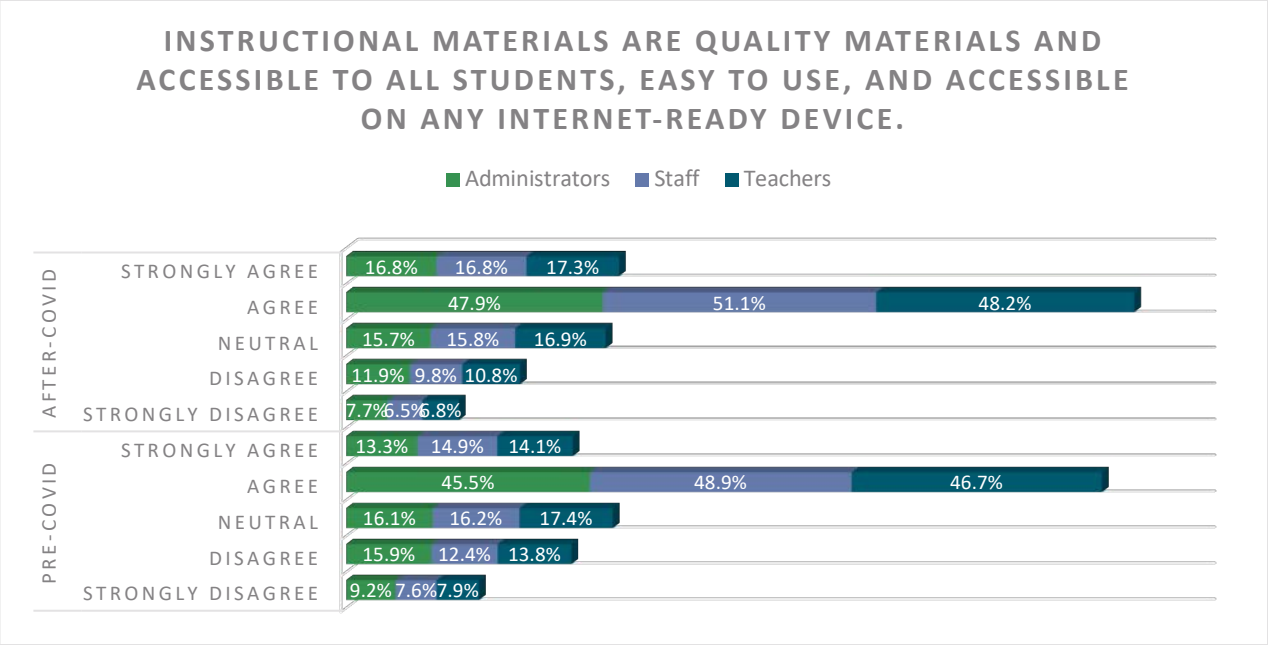


Figure 25

Recommendation: Based on the survey data and interview responses from teachers, there is a significant opportunity to utilize and articulate the instructional design decisions, frameworks, and philosophies that guide the K-12 curriculum design across the Kingdom. Teachers did share that they believe they receive high quality materials, so adding some pedagogical and design context around those materials may serve to strengthen their delivery of quality online learning experiences for students.

Target Audience	Ministry of Education
Needs	Utilize and articulate to school stakeholders - teachers, in particular - the specific instructional design frameworks, including UDL, in the design of curricula
Initiatives	Embrace instructional design practices like UDL explicitly in the design of curricula
Goals	To disseminate awareness and importance of instructional design considerations of UDL
Actions	• Review the existing frameworks used for instructional design • Identify with instructional designers and curriculum developers the most appropriate frameworks going forward with strong support for UDL • Introduce stimuli for increasing teacher motivation for innovative tech-based practice • Develop means for proactive pedagogue retention
CSFs	Quality online teaching and learning across K-12 schools in the Kingdom
KPIs	Percentage of teachers who report better preparation to deliver curricula, regardless of the fluidity of face-to-face, hybrid, or online instruction

Subdimension: Learning Objectives

Along the subdimension of learning objectives, survey data revealed that administrators, staff, and teachers largely agree (65.3% pre-COVID; 69.2% post-COVID) that measurable learning objectives are provided for each online class and clearly state what the learner will be able to demonstrate as a result of successfully completing the class. See Figure 26 for details. Further, all three groups agreed that, both pre- and post-COVID, that a development process is followed that ensures online classes are designed so that students develop the necessary knowledge and skills to meet measurable learning objectives. Interview data largely corroborates these findings, with one teacher noting that "the teacher is able to design their teaching or their journey based on the learning objectives" for each course.

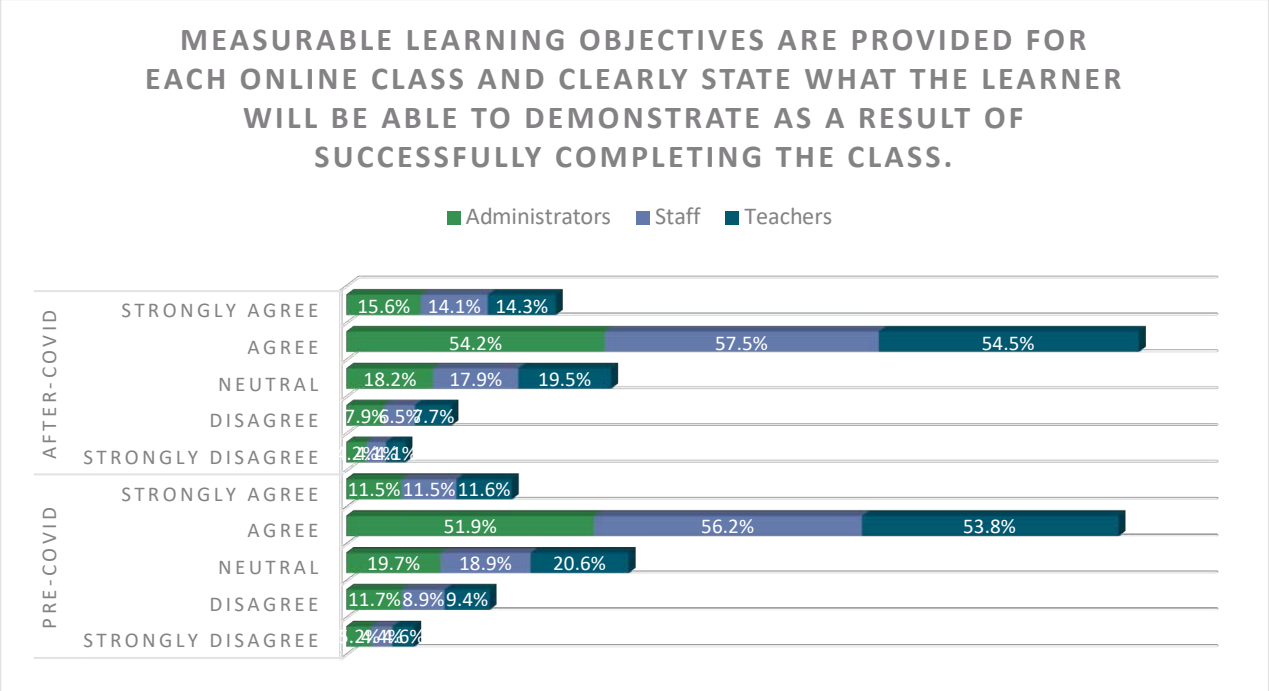


Figure 26

Expert Recommendation: While the survey and interview data suggest that measurable learning objectives and course designs are firmly in place to ensure that students develop the necessary knowledge and skills to meet measurable learning objectives, the opportunity exists for teachers to engage students in building meaningful understanding and intrinsic motivation to achieve these learning outcomes.

Target Audience	Teachers
Needs	Help students understand and make meaningful connections to the learning outcomes and their required performance to meet those objectives
Initiatives	Create opportunities for student participation in meaning-making around course learning objectives, and to articulate what success means in a way that they can understand and begin to own
Goals	To guide students to articulate for themselves what the learning objectives mean and to know how they can assess their own progress toward those learning objectives
Actions	• Teachers take time at the beginning of courses, terms, and content units to review course learning objectives • Teachers ask students to create shared understandings of course learning objectives and what success means in relation to those
CSFs	Students and teachers are engaged in high quality online teaching and learning
KPIs	Student mastery of course learning objectives

Subdimension: Alignment

With respect to the alignment subdimension of Curriculum Design & Planning, administrators, staff, and teachers largely agreed that guidelines regarding standards for class development, and instructional design and delivery of online classes are used to create alignment. One data point worth noting, however, is that teachers saw a slight decrease in the extent to which they agreed that content and learning activities aligned with the assessments and learning objectives, moving from 69.6% agreement pre-COVID to 67.5% post-COVID. Narrative data from interviews suggest that the uniqueness of the challenges represented by the emergence of COVID-19 may largely account for that dip, but overall a majority of teachers agree on the alignment of standards to curriculum and instruction.

Expert Recommendation: While there does seem to be a solid sense of alignment around learning objectives and curriculum and instruction with stakeholders, there is further opportunity for teachers to incorporate supports to ensure that standards-based curriculum and instruction is aligned to learning outcomes, as well as being accessible and understandable to each student.

Target Audience	Teachers
Needs	Alignment between content and learning activities to the assessments and learning objectives in online instruction
Initiatives	Teachers clarify learning outcomes that align with guidelines regarding standards for instructional planning
Goals	To create alignment between learning activities and the assessments and learning objectives in online instruction
Actions	School teacher teams hold regular meetings to peer review alignment of learning outcomes to curriculum and instructional planning
CSFs	Regular communications from teachers back to the Ministry of Education/NELC sharing their learnings
KPIs	Percentage of learners that report that instruction, assignments, and content meets their needs

Subdimension: Course Materials & Content

For the subdimension of course materials and content, teachers were surveyed on the extent to which online classes included content -- both instructional and operational/functional for the course -- that was aligned to the assessment and learning objectives. Taken wholly across content types, teachers displayed a predominant sense of agreement. With respect to syllabi, for example, teachers did agree that online classes include a syllabus or a document on the class site outlining learning objectives, assessment methods, and descriptions of learning activities, including content (64.3% pre-COVID; 65.9% post-COVID).

Teachers also agreed that content, including reading assignments and lectures, aligns with the assessments and learning objectives, and these materials offered content that is current, rich, and sufficient in breadth and depth. Moreover, teachers also agreed that the content used includes materials that are accessible and interactive, such as Open Education Resource (OER) (64.8% pre-COVID; 67.8% post-COVID). In interviews, teachers shared a wide variety of content sources available to them through Ministry supports, though some also acknowledged the burden of time and skill required to continually create engaging content for online learning on their own.

Recommendation: Teachers have articulated through survey and interview that they feel broadly supported with meaningful content and material support. As such, it is recommended that the Ministry of Education regularly review course materials and content for sufficient coverage and currency, and update as appropriate with current and media-rich content.

Target Audience	Ministry of Education
Needs	Ensure that course materials and content included are aligned to assessment and learning objectives, are of a high quality, accessible, and are regularly updated with current and media-rich content
Initiatives	• Regularly review course materials and content • Regularly update course materials and content with current and media-rich sources
Goals	To continually ensure that course materials are aligned to assessment and learning objectives, are of a high quality, accessible, and are regularly updated
Actions	• Develop regular review and updating processes and timelines for course content and materials • Seek opportunities to promote OER in course materials
CSFs	Course content and materials are regularly reviewed for currency and resource content and updated as appropriate
KPIs	• Percentage of course content and materials reviews completed • Number of resources updated with current and media-rich content

Subdimension: Innovation

With respect to the innovation subdimension of Curriculum Design & Planning, the survey asked respondents to gauge the extent to which they agreed with the statement that teachers and staff are supported and encouraged to incorporate pedagogical and technological methods to improve student outcomes through curricular redesign. Overall, a solid majority of the total respondents across the role groups agreed with the statement, both pre-COVID (68.1%) and post-COVID (70.1%).

One notable aspect of the survey responses was the distinction between administrator and staff agreement, and with teacher agreement. For example, post-COVID, administrators (76.1%) and staff (75.0%) agreed or strongly agreed that teachers and staff are encouraged to innovate, while teachers agreed at a rate of 68.0%. Narrative data did not reveal consistent themes of agreement, though one teacher respondent did comment that innovation tended to be localized at the school level (Figure 27).

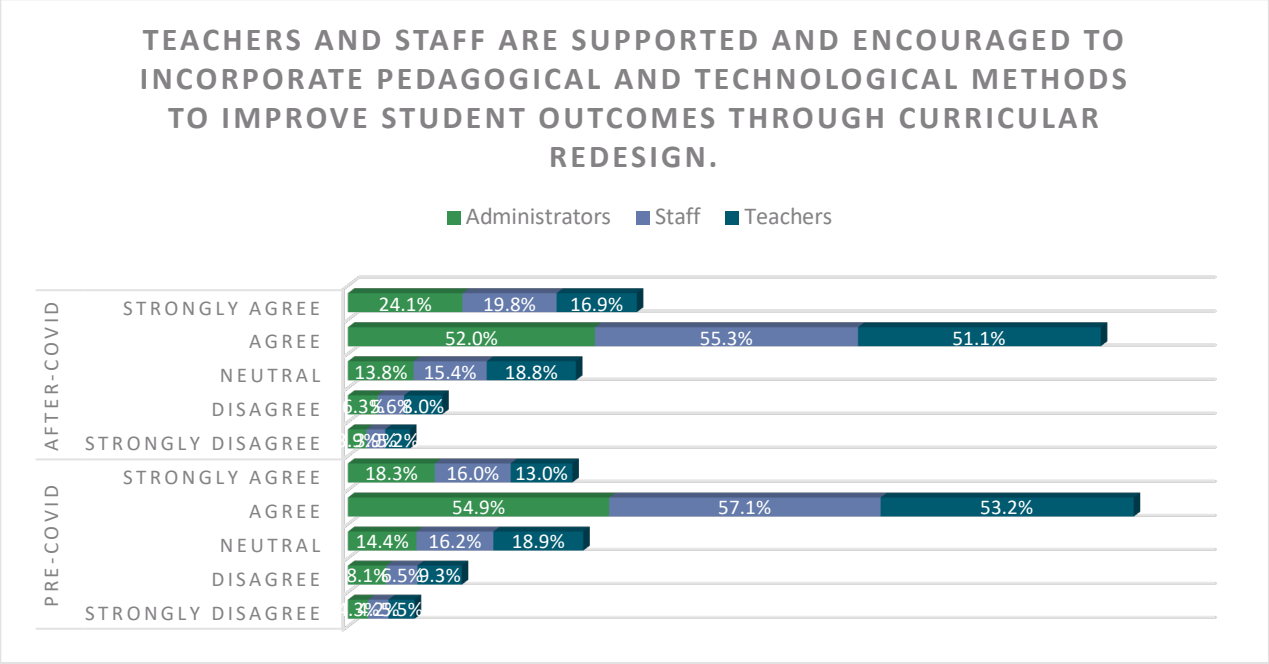


Figure 27

Expert Recommendation: While the data does not reveal dissatisfaction on the part of teachers with respect to their sense of encouragement to innovate, the discrepancy between their perceptions and those of administrators and staff suggests an opportunity for teachers to expand their efforts to innovate and redesign their curriculum. As one teacher noted, "I think that students have greater aspirations than the (current) curricula," suggesting that both students and teachers might be poised to further innovate. Thus, it is recommended that school leaders continue to expand opportunities to collaborate and a cultural permission to redesign their curricula.

Target Audience	Administrators
Needs	Expand the opportunity set for teachers to innovate with their curricular and/or instructional design
Initiatives	Encourage teachers to be more pedagogically or technologically innovative
Goals	To promote a supportive climate and culture for teacher innovation with respect to curricular designs and redesigns, such as using design thinking
Actions	• Incorporate innovation efforts as a metric for performance evaluations • Explore possibilities for incentivizing or promoting innovative design efforts (e.g. regular sharing opportunities at professional learning or team meetings; celebrating "what didn't work" as a way to workshop innovative lesson improvements; solicit submissions for a periodic/regular innovation award)
CSFs	Teachers feel supported and encouraged to innovate in their instructional design
KPIs	Reported enthusiasm to new lessons by students and teachers

Dimension III: Online Teaching & Learning

The Online Teaching and Learning dimension measures seven subdimensions including Communication, Engagement, Expectation Setting, Outcomes, Course Interaction, Feedback, and Innovation.

Readiness in online teaching and learning, like previous dimensions, reflected preparedness pre-COVID, with both increases in some areas post-COVID that indicate prompt attention to needs as well as some areas of existing or new needs illuminated by the pandemic. Of particular note regarding a need for increased readiness moving forward in this dimension are course interaction and feedback.

Findings related to online teaching and learning indicate that there were slight increases in the communication, engagement, and course interaction subdimensions, and slight decreases in outcomes and feedback post-COVID. These elements are critical to online teaching and learning, and these slight increases suggest that stakeholders may have made changes to support students online following the pandemic. Recommendations include a number of items that support continuous improvement in online teaching and learning, as well as provide a solid foundation for increasing effectiveness and capacity.

Subdimension: Communication

In online teaching and learning, students rely on accurate and timely communication with their teachers. If this does not happen, it can be very easy for the students to feel isolated and struggle in the class. Providing opportunities for communication can help to mitigate this issue. Administrators, staff and teachers were asked to rate expectations about communication (virtual synchronous sessions, email, class news and announcements, online discussions, and assignment feedback). The majority (63.1% Administrators; 68.0% Staff; 60.6% Teachers) were in agreement that this did occur prior to COVID-19. After COVID-19, those in agreement increased (75.0% Administrators; 74.5% Staff; 71.4% Teachers) reflecting changes that may have been made to support students during the transition to remote learning (Figure 28).

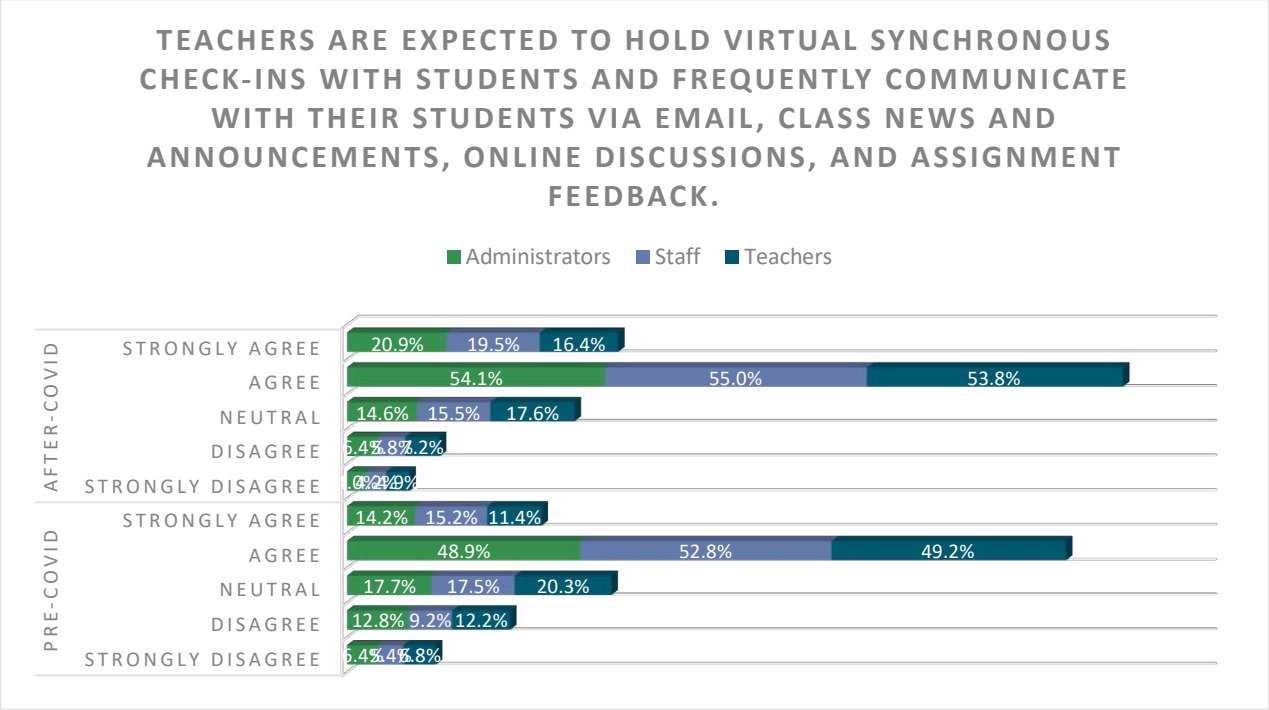


Figure 28

To ensure that appropriate levels of communication are occurring, many institutions will set standards for teachers, including response times and contact information that needs to be provided. Based on survey results reflecting agreement with this (62.4% Administrators; 67.7% Staff; 60.2% Teachers), it appears that many schools had set this expectation before COVID-19. During the transition to remote learning, it seems likely that more adopted this expectation since the numbers of those in agreement increased (72.9% Administrators; 74.3% Staff; 68.8% Teachers).

Expert Recommendation: Develop processes and policies for expectations around communications.

Target Audience	Teachers
Needs	Policies and processes for expectations around communications
Initiatives	Establish expectations for responsiveness
Goals	To set expectations regarding when students can expect to communicate with the teacher
Actions	Develop, define and communicate expectations for when students can expect responses (to emails, phone calls, etc.) from the teacher
CSFs	Established parameters for when teachers will respond to student communications
KPIs	Teacher response time

Subdimension: Engagement

Student engagement in the online class is one method that can help support success. This can be accomplished by creating a classroom environment that is both academically challenging and provides social interactions. Prior to COVID-19, administrators (62.5%), staff (67.6%), and teachers (61.0%) selected Agree or Strongly Agree on the survey to reflect that their school was already doing this. Responses reflected a slight increase in agreement (70.0% Administrators; 71.1% Staff; 66.0% Teachers) after the transition to remote learning (Figure 29).

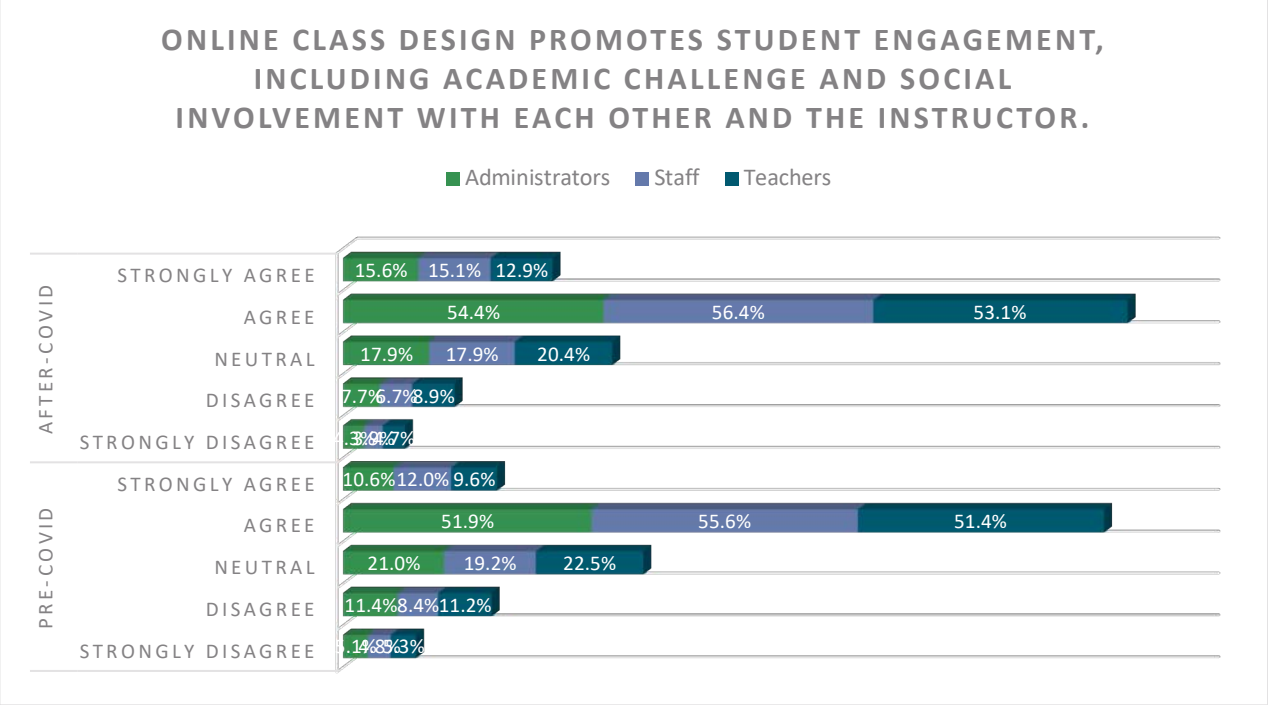


Figure 29

The interviews that were conducted with teachers reflected some concerns, especially during COVID-19 with being able to communicate with their students. “I asked the principal if I could send my students some assignments via My Opera, she said we’re not allowed.” Another teacher indicated that, “To be honest with you, I contacted my students via Whatsapp and wanted to contact them also via Instagram, but the head mistress told me not to and that it will cause me problems. All rules say not to contact students. My head mistress even asked me to stop communications with them, and I honestly didn’t.”

However, not all teachers had this issue with communicating with their students. In many cases, teachers made an effort to increase communication or others methods to engage their remote learning students. “Whenever a student asks a question, I answer her immediately. It all depends on the type of activities I present. It shows me whether they’re attentive or not.” Another teacher found that online tools helped to increase the communication and engagement with students that had been more passive in the face-to-face classroom, “But after the first week

has passed, and I saw students' eagerness and communication via e-mail, etc. Students were more carefree. I noticed that some students who were very shy and don't usually participate tend to do so now. Maybe because they have 2 options, either by speaking or writing. Some students, I never expected from them to participate just how they do at class, but they surprised me by their creativity. Maybe one of the reasons is that the student feels comfortable at home, hence he was positively affected."

Recommendation: Provide engagement opportunities, both formal and informal, for students to interact with one another and teachers, and ensure that academic challenge is incorporated into these experiences as appropriate.

Target Audience	Teachers, Students
Needs	Increase opportunities for students to interact with their fellow students and the teacher
Initiatives	Implement both formal and informal opportunities for students to interact with each other and the teacher
Goals	To increase student engagement with course content, their peers, and the teacher through academically challenging components
Actions	Include intentional opportunities for academically challenging interactions with students and the teacher in course design (formal) and delivery (informal)
CSFs	Stronger connections between the students and the teacher
KPIs	• Quality course reviews • Presence of academically challenging interactive opportunities • Percentage of students who indicate that interactive opportunities are present and academically challenging • Teacher satisfaction

Subdimension: Expectation Setting

Another method teachers can use to increase the potential for student success is by providing clear expectations for learners. This can start by providing clear, concise, and useful assignment instructions. The results reflected agreement that this was occurring at many schools prior to COVID-19 (65.6% Administrators; 69.3% Staff; 64.2% Teachers). The results showed a slight improvement for after COVID-19 (72.6% Administrators; 73.2% Staff; 69.2% Teachers). During the transition to remote learning, it is likely that a change in processes occurred to provide clearer instructions in order to better support student learning (Figure 30).

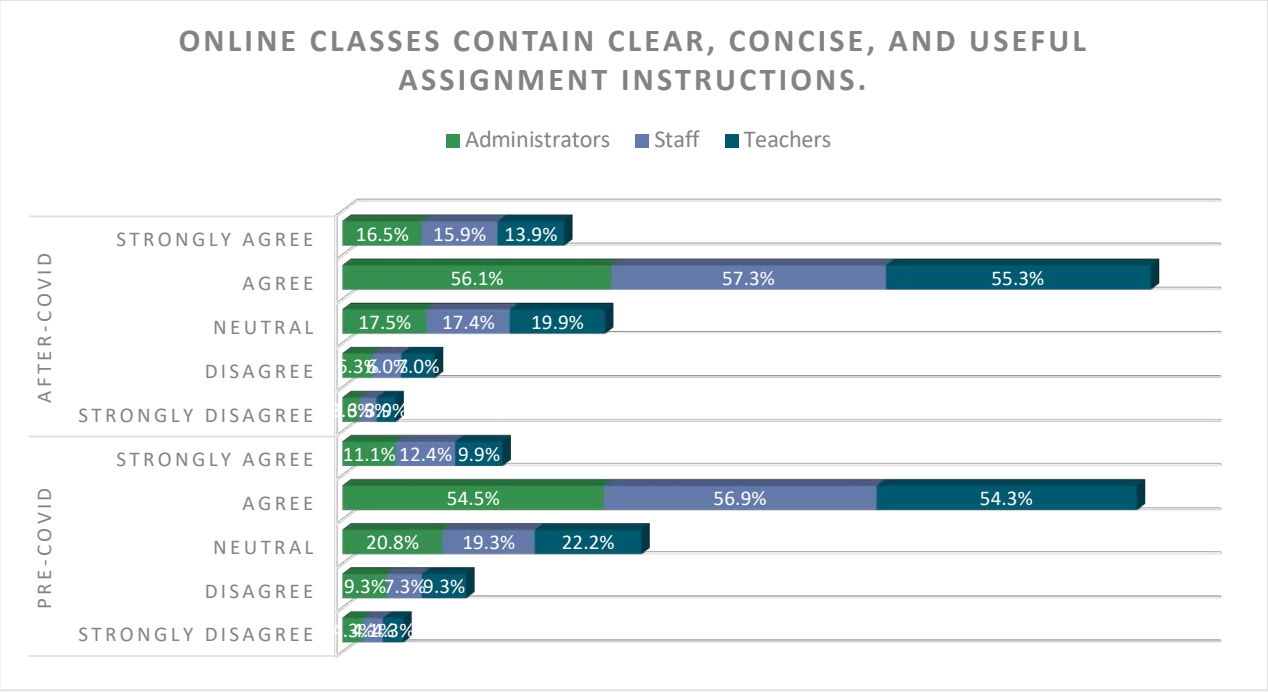


Figure 30

Providing expectations for when students should be participating in the class and when the teacher will provide feedback helps to establish standards that encourage and support success in the online classroom. As shown in Figure 31, the majority of teachers indicated that they were providing these expectations in a syllabus prior to COVID-19 with only a slight increase in teachers indicating this after COVID-19. In addition, teachers indicated that they were eliminating barriers to success by providing clear expectations for participation and performance. Prior to COVID-19, 62.4% of teachers agreed or strongly agreed with this statement and after COVID-19, there was a slight increase in agreement to 68.0% (Figure 32).

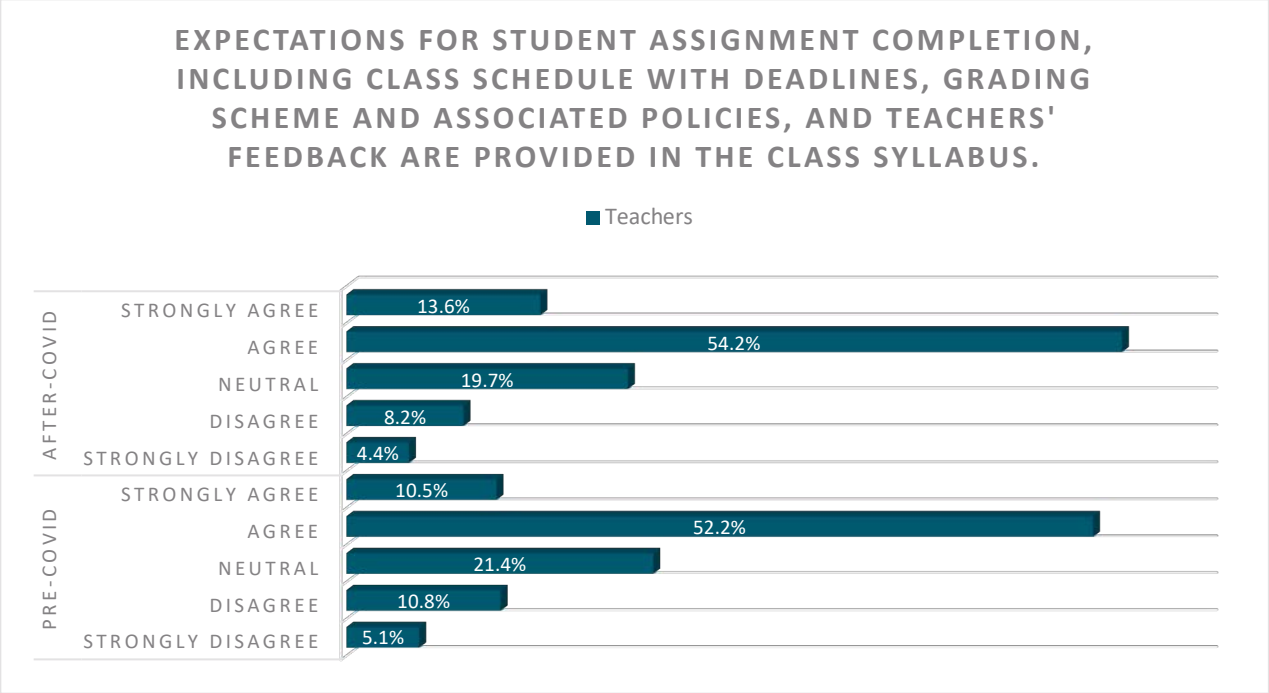


Figure 31

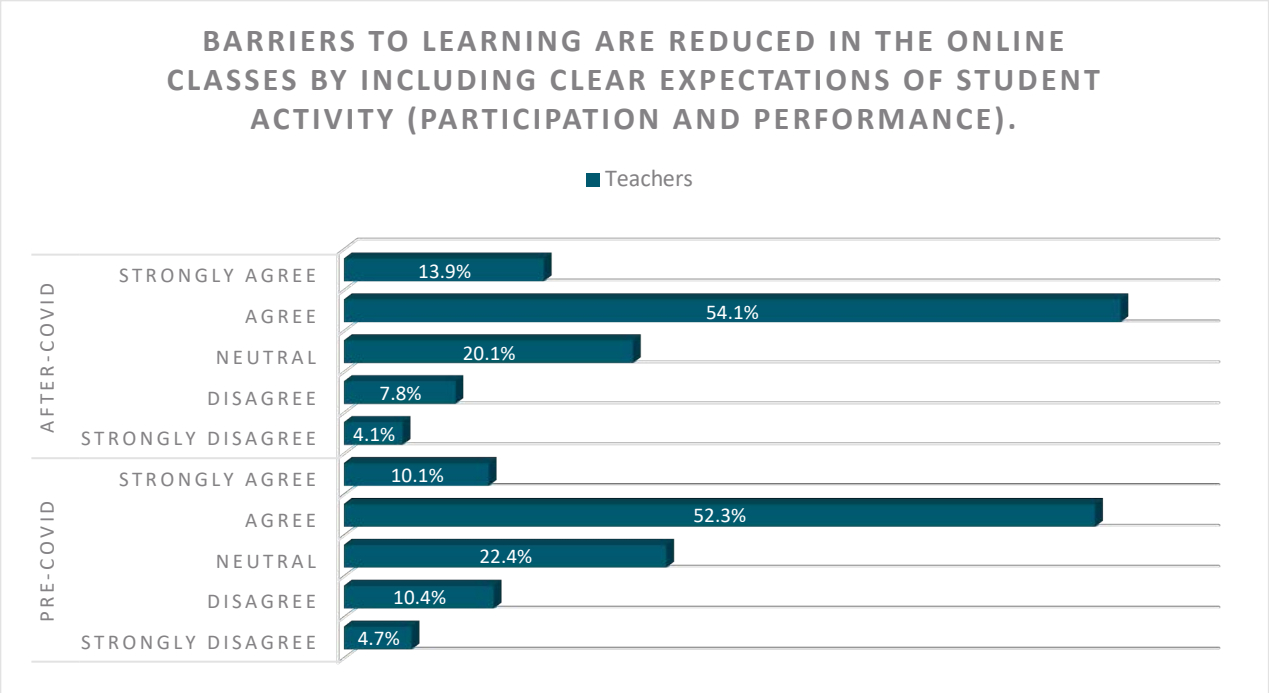


Figure 32

Recommendation: Ensure that online courses include clearly defined student activity expectations, and that these expectations are communicated to students.

Target Audience	Teachers
Needs	Expectations for student activity are clearly defined and communicated to students
Initiatives	Develop, define, and communicate expectations for student activity
Goals	To increase presence, communication, and awareness of student activity expectations to support successful student learning
Actions	• Develop and define student activity expectations • Communicate expectations to students
CSFs	• Student activity expectations are present in the syllabus • Student activity expectations are communicated to students
KPIs	• Quality course review • Student activity expectations

Subdimension: Outcomes

While the delivery modality may differ in an online environment, the outcomes should be comparable to the outcomes for onsite classes. As shown in Figure 33, this was not always the case in online courses before COVID-19 or after COVID-19. There was a slight increase after COVID 19 (51.3% Administrators; 55.4% Staff; 49.9% Teachers) from prior to COVID-19 (45.4% Administrators; 52.6% Staff; 45.6% Teachers).

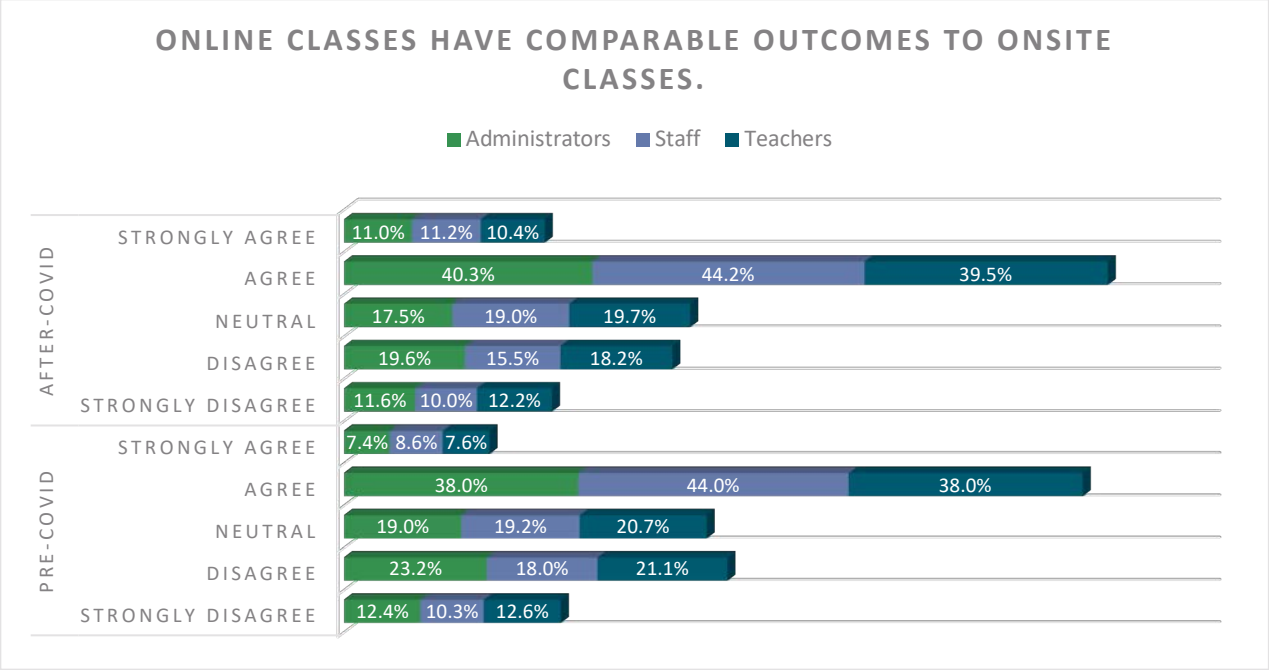


Figure 33

Comparatively, there was a stronger congruence (shown in Figure 34) when teachers were asked the survey question “Online classes are designed with specific measurable learning objectives and aligned with assessment and learning activities.” These responses reflected 59.6% agreement prior to COVID-19 and 64.0% after COVID-19 and were significantly higher than teacher responses regarding outcomes being comparable online to onsite classes.

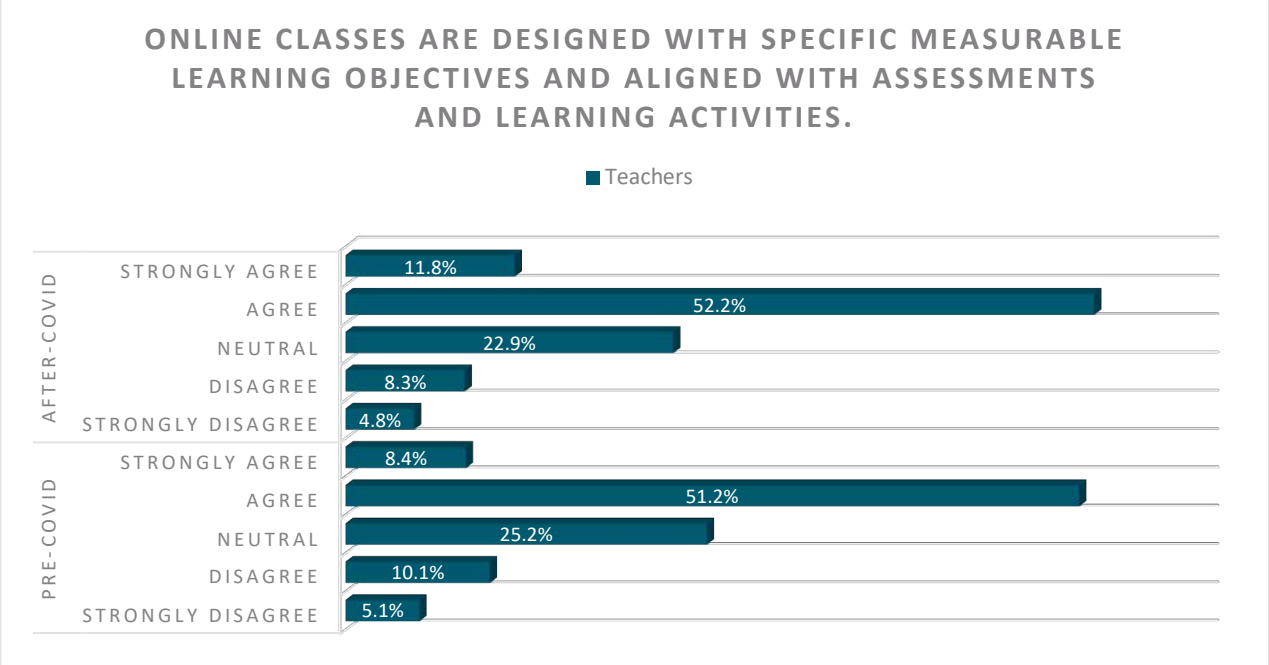


Figure 34

Results from these survey questions suggest that outcomes are being used and aligned with classroom activities, but the outcomes are not being designed to be comparable to onsite classes. This indicates an area that could be improved for future success in online learning.

Recommendation: Measure, review, and communicate student learning outcomes for online courses, and if appropriate and/or useful, include communicating comparisons to student learning outcomes for onsite courses.

Target Audience	Administrators, Staff, Teachers
Needs	Measure, review, and communicate student learning outcomes in online courses, and provide comparative onsite data as appropriate
Initiatives	• Develop and implement student learning outcome metrics for online courses • Communicate findings, including onsite comparisons as appropriate
Goals	To develop and communicate an understanding of student learning outcomes in online courses, including comparative onsite data as appropriate, to aid in both continual course improvements as well as to provide accurate perceptions of the efficacy of online courses
Actions	• Develop student learning outcome metrics for online courses • Measure student learning outcomes in online courses • Communicate findings, including comparative onsite data as appropriate • Use findings to aid in continual improvement of courses
CSFs	• Student learning outcome metrics are developed and implemented for online courses • Results of these metrics and comparative data are communicated • Findings are utilized in continual improvement processes
KPIs	• Student learning outcomes • Frequency of communication • Percentage of administrators, staff, and teachers that indicate that they understand student learning outcomes data for online courses • Administrator, staff, and teacher perceptions regarding the efficacy of online courses

Expert Recommendation: Provide rubrics for all assignments.

Target Audience	Teachers
Needs	Rubrics for all students learning activities and assignments
Initiatives	Clearly articulate criteria for assignments
Goals	To provide students with clearly defined criteria for the grading of all assignments
Actions	Develop rubrics linked to student learning outcomes to show grading criteria
CSFs	Increased awareness of grading criteria
KPIs	Percentage of assignments and activities that have developed rubrics

Subdimension: Course Interaction

In any online class, it is expected that different types of interactions will occur between the students and the teachers. The survey asked multiple questions to understand whether interactions were occurring in the online environment. This included identifying if student-to-student and teacher-to-student interactions are encouraged. The responses reflected that administrators (77.0%), staff (77.8%), and teachers (74.9%) all believed that these were occurring before COVID-19. In the responses after COVID-19, there were slight drops in these numbers for administrators (73.4%), staff (74.1%), and teachers (69.8%) which may be a result of feedback heard in the interviews that teachers did not always feel like they could communicate synchronously with students during the transition to remote learning (Figure 35).

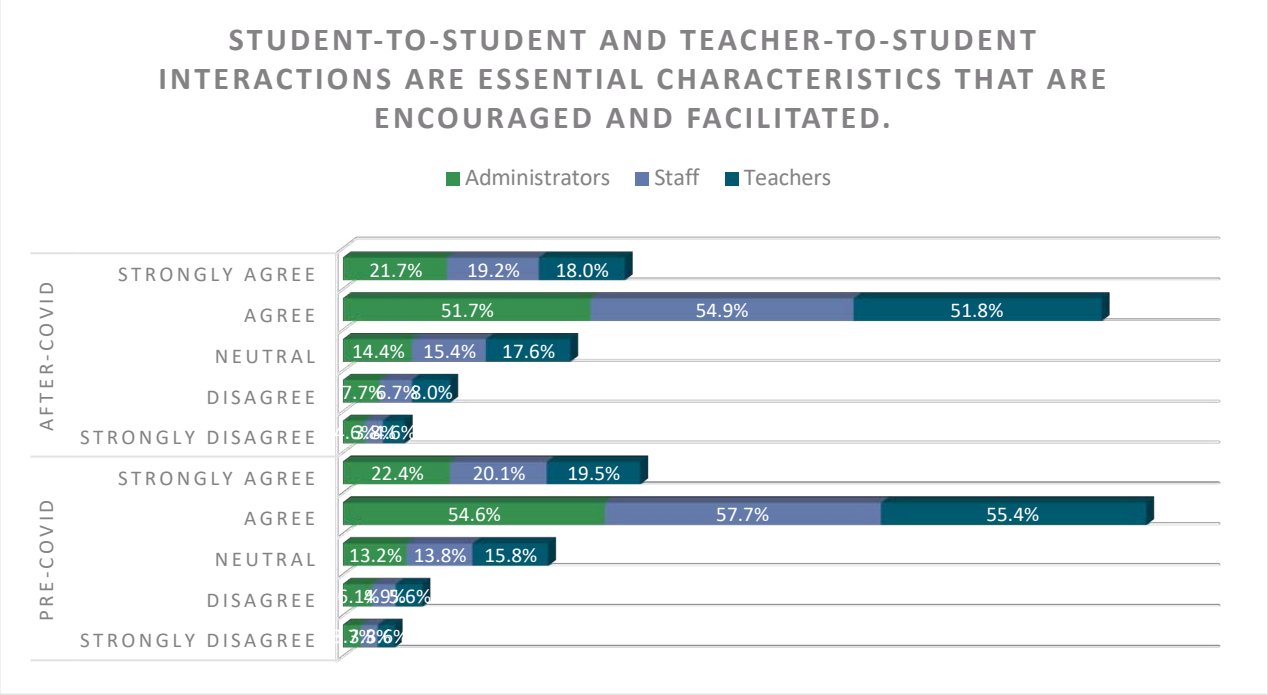


Figure 35

This decrease after COVID-19 was also seen in regards to teacher responses to a question about student interactions being facilitated in a variety of ways. Before COVID-19, teachers indicated 67.7% agreement with this statement but after COVID-19, this decreased slightly to 65.0% agreement. While this was not a significant decrease, it may once again be a result of teachers not feeling like they had the same level of communications with students during the transition to remote learning (Figure 36).

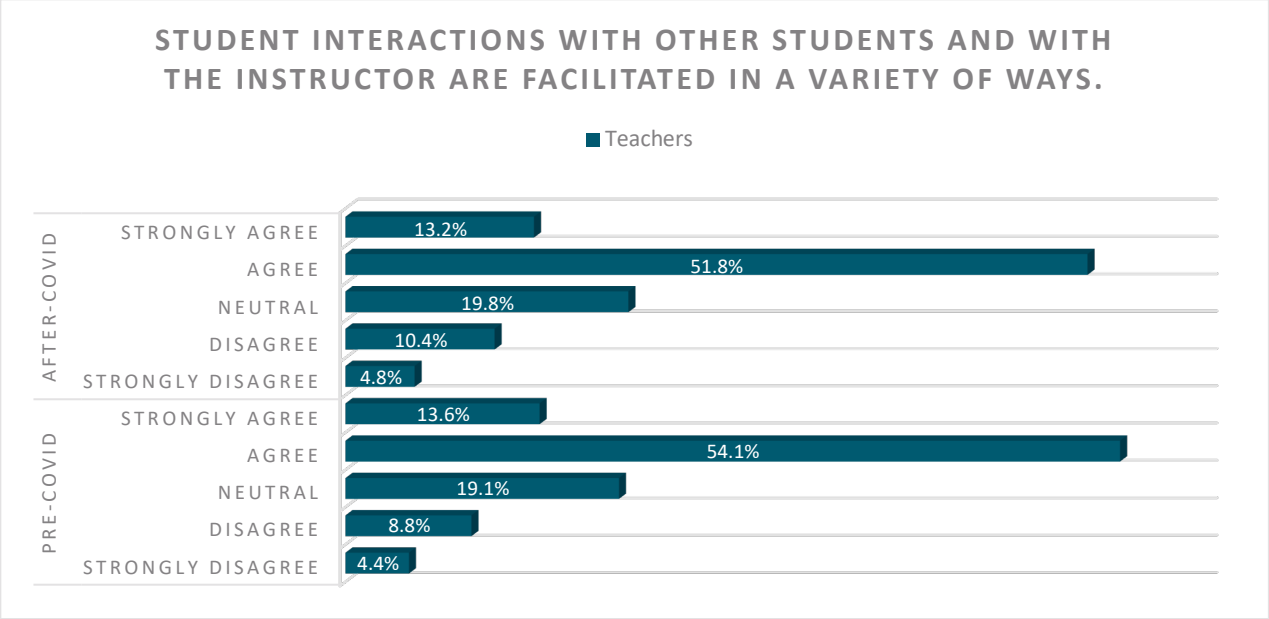


Figure 36

This concern about a decrease in engagement opportunities with students continues to manifest itself in other questions about interactions. When teachers were asked to rate their agreement regarding students participating in collaborative activities (Figure 37), prior to COVID-19 there was higher agreement (70.7%) than after COVID-19 (63.2%). A similarly significant decrease (Figure 37) is seen when reviewing teacher responses pre and post-COVID-19 regarding opportunities for peer interactions. In this case, the level of agreement before COVID-19 was 72.0% and dropped to 64.3% after COVID-19.

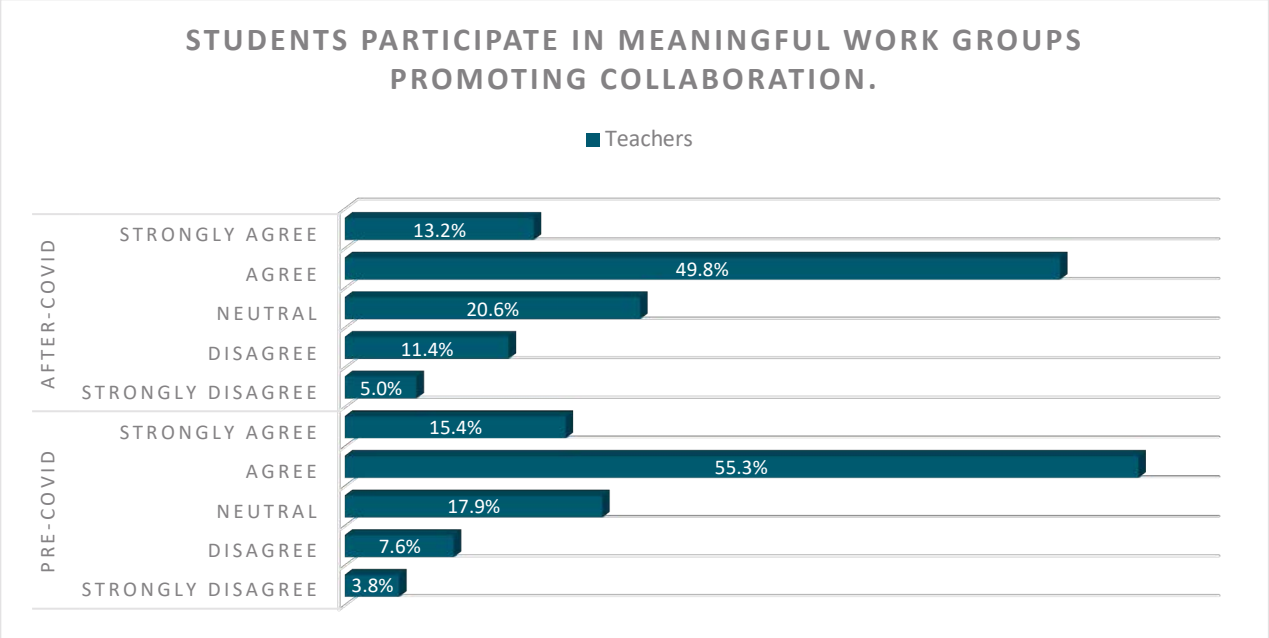


Figure 37

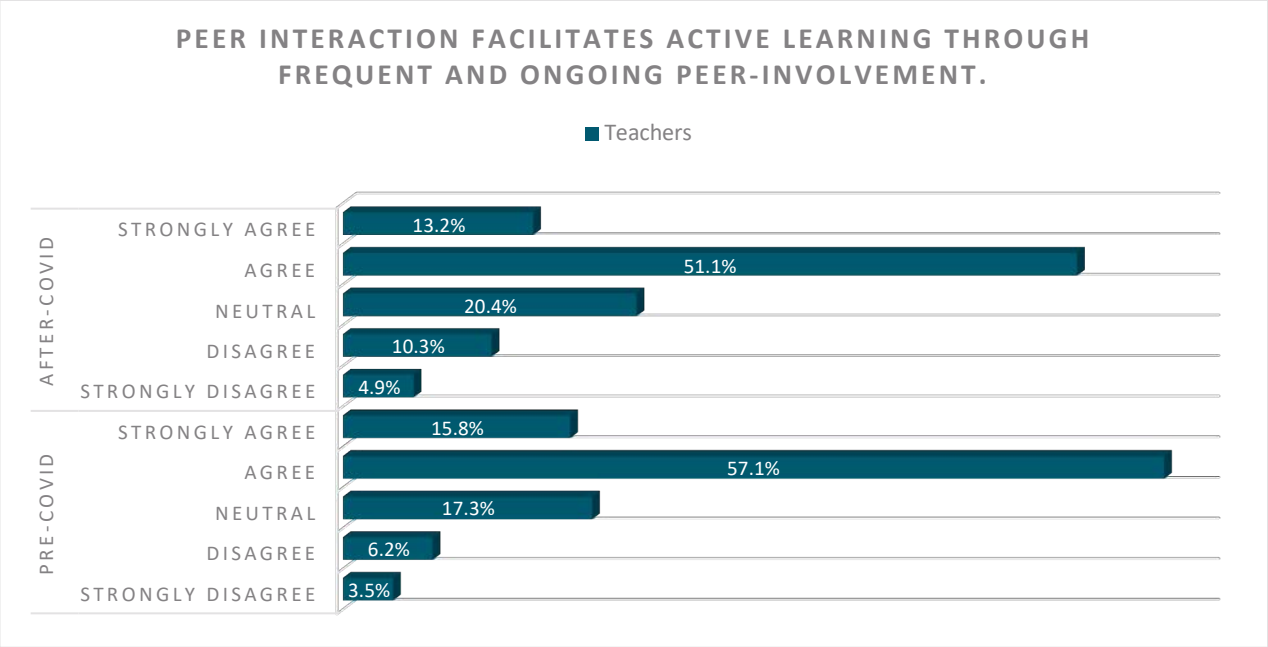


Figure 38

Recommendation: Encourage opportunities for teacher-to-student and student-to-student interaction in the online classroom.

Target Audience	NELC, Ministry of Education, Administrators, Staff, Teachers
Needs	Policies and processes regarding interactions in the online classroom
Initiatives	Support teacher-to-student and student-to-student interactions
Goals	To encourage teacher-to-student and student-to-student interactions in online classes
Actions	• Develop and implement policies and process at the national and local level to encourage interactions in online classes • Teachers need to encourage and ensure opportunities for interactions in their classes
CSFs	Teacher-to-student and student-to-student interactions occur in the online classroom
KPIs	• Student satisfaction with interactions • Teacher satisfaction with interactions

Expert Recommendation: Establish the presence of the online educator.

Target Audience	Teachers
Needs	Opportunities for the student to get to know the teacher
Initiatives	Establish online presence of the educator
Goals	Provide opportunities for the student to better know their teacher
Actions	• Include an instructor biography and contact information • Share expertise with students through external resources (especially those written/prepared by the educator, such as teacher portfolios) • Regularly participate in discussions or other collaborative activities
CSFs	Increased engagement between the teacher and students
KPIs	Frequency of teacher contributions in the virtual classroom

Subdimension: Feedback

When students do not have face-to-face access to an instructor, they rely on timely and substantive feedback to keep track of their progress and success in the online course. This fact appears to be understood by those in the K-12 schools since most survey respondents were in agreement. However, the responses appeared to decline from the pre-COVID-19 (72.7% Administrators; 73.2% Staff; 76.0% Teachers) results to after COVID-19 (70.0% Administrators; 71.1% Staff; 72.2% Teachers) (Figure 39).

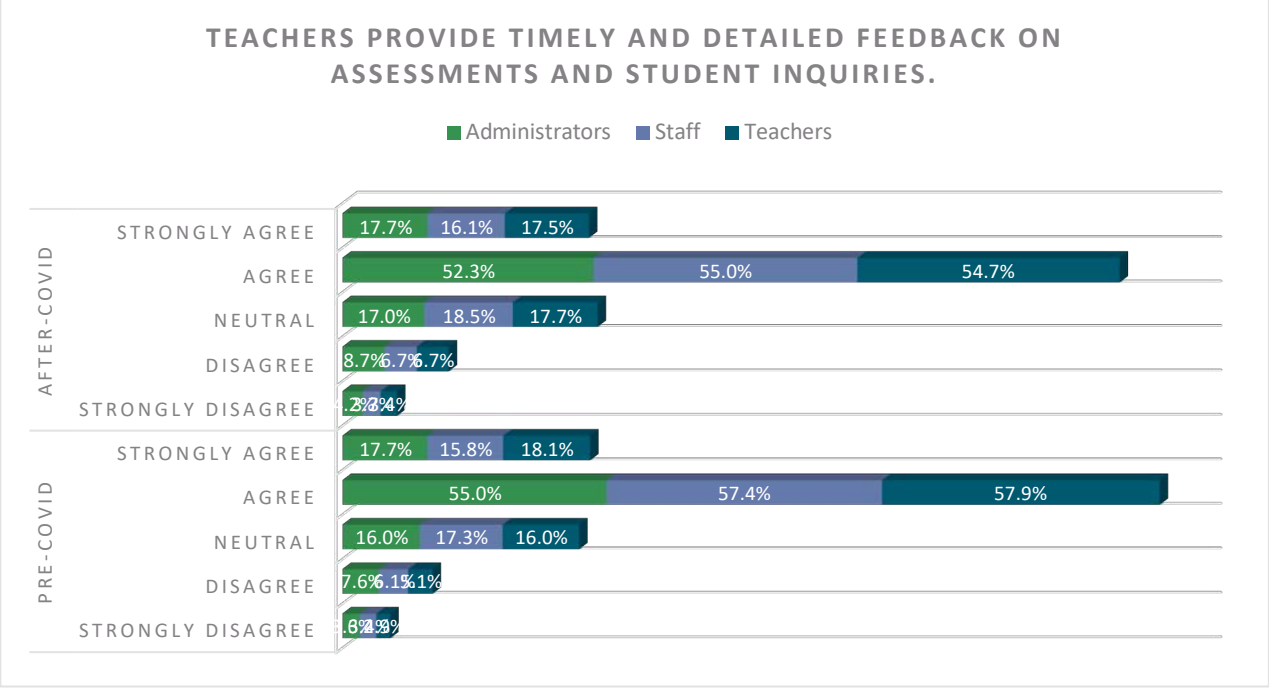


Figure 39

The feedback that students receive also needs to include adequate instruction on how to improve. When teachers were surveyed on providing feedback that is constructive and timely, pre-COVID-19, 74.4% indicated that this was occurring. However, this declined after COVID-19 to 70.0%. While this does not represent a huge change, the responses to both survey questions related to Feedback, reflect that a change occurred during COVID-19. It is likely that teachers had difficulty keeping up with expectations for feedback and meeting students needs due to the rapid transition to remote learning.

Recommendation: Set expectations for feedback provision and methods, as well as when feedback will be provided and how it is related to course learning objectives.

Target Audience	Teachers
Needs	Feedback provision and methods, timing, and connection to learning objectives is present and communicated to students
Initiatives	Develop and communicate methods for providing feedback, and set expectations for timing and explanations of how feedback is related to learning objectives
Goals	Support successful student learning outcomes by establishing and communicating clear processes and expectation for feedback
Actions	• Develop processes and methods of feedback provision in alignment with course activities • Communicate feedback processes and methods, and set expectations including timing and how feedback is connected to learning objectives, to students
CSFs	• Feedback processes and methods are developed and implemented • Communication to students regarding feedback processes, methods, connection to learning objectives, and expectations is provided
KPIs	• Percentage of teachers who implement processes and methods of feedback • Frequency of communication to students regarding feedback • Percentage of students reporting that feedback processes, methods, and provision are implemented, understood, and support learning

Subdimension: Innovation

When supporting online students, there also needs to be opportunities for innovation. This is how we as educators learn and improve our methods. It was interesting to note that administrators (67.9%), staff (69.3%), and teachers (62.5%) indicated agreement prior to COVID-19 that innovation was encouraged. After COVID-19, the responses reflected that innovation in online teaching and supporting students was even more strongly encouraged (74.4% Administrators; 73.6% Staff; 67.4% Teachers). These results reflect a strong willingness by teachers and staff to engage in innovation with more support from administrators (Figure 40).

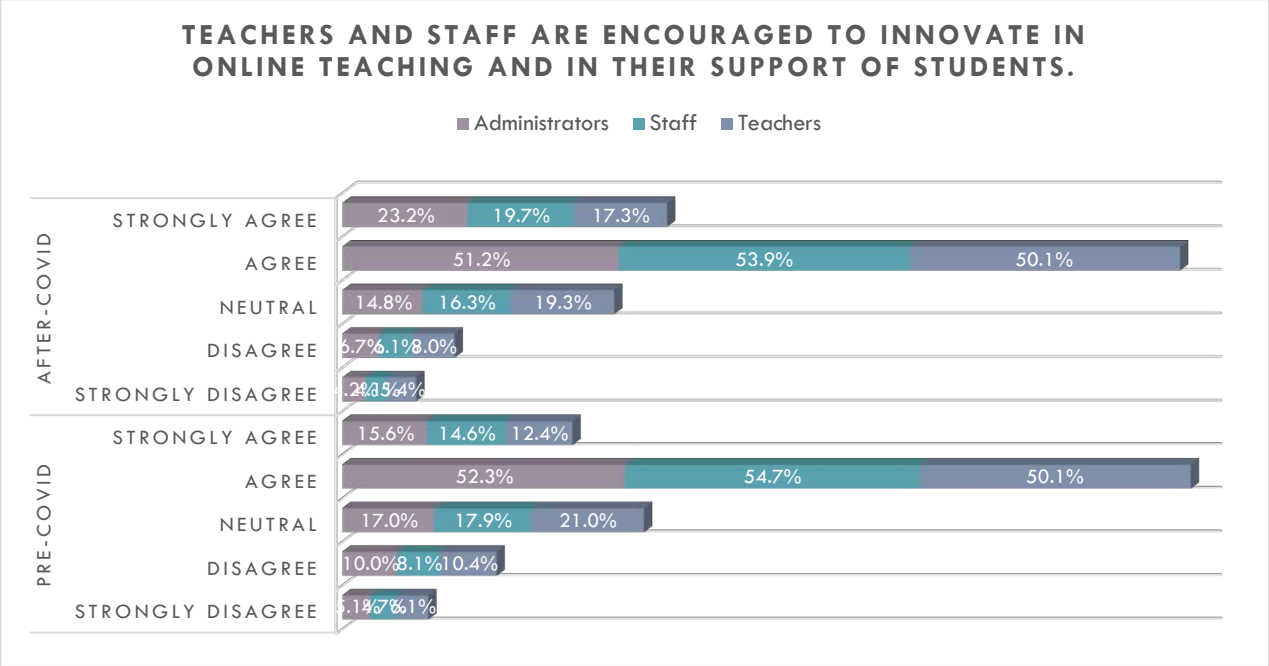


Figure 40

Recommendation: Consistently provide and encourage opportunities for innovation in online teaching and support of students.

Target Audience	Administrators, Staff, Teachers
Needs	• Encourage the discovery, dissemination, and implementation of innovation • Provide professional development on the design, development, and delivery of innovative teaching and student support
Initiatives	• Explicitly encourage innovation through communications, activities, and professional development • Develop and implement professional development opportunities on innovative teaching and student support
Goals	To increase the design, development, and delivery of innovative teaching and student support
Actions	• Develop and implement strategies for the discovery and dissemination of innovative teaching and student support techniques • Develop and implement professional development opportunities for teachers and staff on the design, development, and implementation of innovative teaching and student support
CSFs	• Innovation actively encouraged • Professional development opportunities related to innovative teaching and student support are provided
KPIs	• Frequency of communications to teachers and staff encouraging innovation • Teacher and staff participation in professional development opportunities • Percentage of teachers and staff that implement and measure innovative practices

Dimension IV: Assessment

The Assessment dimension measures four subdimensions including Assessment Strategies, Assessment Processes, Assessment Methodology, and Innovation.

Findings related to readiness for assessment in a fully-online environment indicate overall agreement on subdimension items, though at a lower rate and with more neutral responses than some others. Survey and interview results show that there is agreement with regard to the communication, understanding, and implementation of online assessment. However, teachers were not prepared to complete course assessments in this environment, and results further suggest that in order to ensure readiness for effective assessment practices online, clear expectations and agreement should be established regarding strategies, processes, and methodology to adequately measure learning.

Overall findings in the Assessment dimension indicate that school administrators, staff and teachers are consistently in alignment with regard to their opinions, perceptions and anticipations across all subdimensions,

suggesting that their interactions regarding assessment and the communication of assessment practices are quite effective among each other. In general, school administration, staff and teachers agree at rates of around 60% or remain neutral at approximately 20% that the queried practices in each subdimension are present. Notably, the percentage rates in the Assessment dimension are somewhat or sufficiently close when considering school administrators' and staff responses as compared to teachers' replies on the same items, and subdimensions.

The consistency in response among school administrators, staff and teachers as a group lends strength to the primary finding that there are no significant gaps in communication, understanding, and implementation of assessment strategies, processes, methodologies, and types of assessments between the group of administrators, staff and teachers. These findings are described below by subdimension.

Measures of satisfaction with items, dimensions, and subdimensions prior to and after COVID-19 among the target groups reflect that the majority of participants are overall satisfied or prefer to express neutral attitude towards queried items of the research. It is noteworthy, that both satisfied and very satisfied responses during the pre-pandemic period decrease, though slightly, in the post-COVID phase, similar to unsatisfied and very unsatisfied responses that also show an identifiable downtrend through the pandemic. Meanwhile, neutral statements become more popular among respondents and their numbers increase in the after-COVID time.

Interview responses related to the assessment dimension overall supported the findings from the survey items on assessment. Selected interview responses are developed into the subdimension results below, however, it is worth emphasizing that several themes emerged in the qualitative interviews that were not queried in the survey itself. First, some teachers and administrators indicated concerns about academic integrity in online assessments – in other words, ensuring that the student enrolled was the individual completing assessments, as well as that the assessments accurately measure the anticipated learning outcomes. Second, a number of teachers pointed out that they strongly advocate for online assessment procedures, however some school principals may not grant approval to e-assessments, particularly e-exams, considering them informal. Taking into consideration the unprecedented education crisis and the urgency of measures taken, relative authorities encouraged schools to perform evaluation of students during COVID-19 from the perspective of their results in the previous semester. Finally, the post-pandemic means for improving assessment process, from teachers' perspective, is to establish evaluation committees that would be responsible for developing online exams.

Subdimension: Assessment Strategies

Measures of satisfaction with assessment strategies before and after COVID-19 among school teachers indicate that the greater share of participants are overall satisfied or prefer to keep neutrality while answering survey questions. The point to be emphasized is that the satisfied responses decreased (total decline by over 3%) in the post-COVID phase, while very satisfied, generally unsatisfied and very unsatisfied replies showed a moderate upturn through COVID. With an increase of 1.5% in the after-pandemic period, the neutral responses remained second most popular among the target groups (Figure 41).

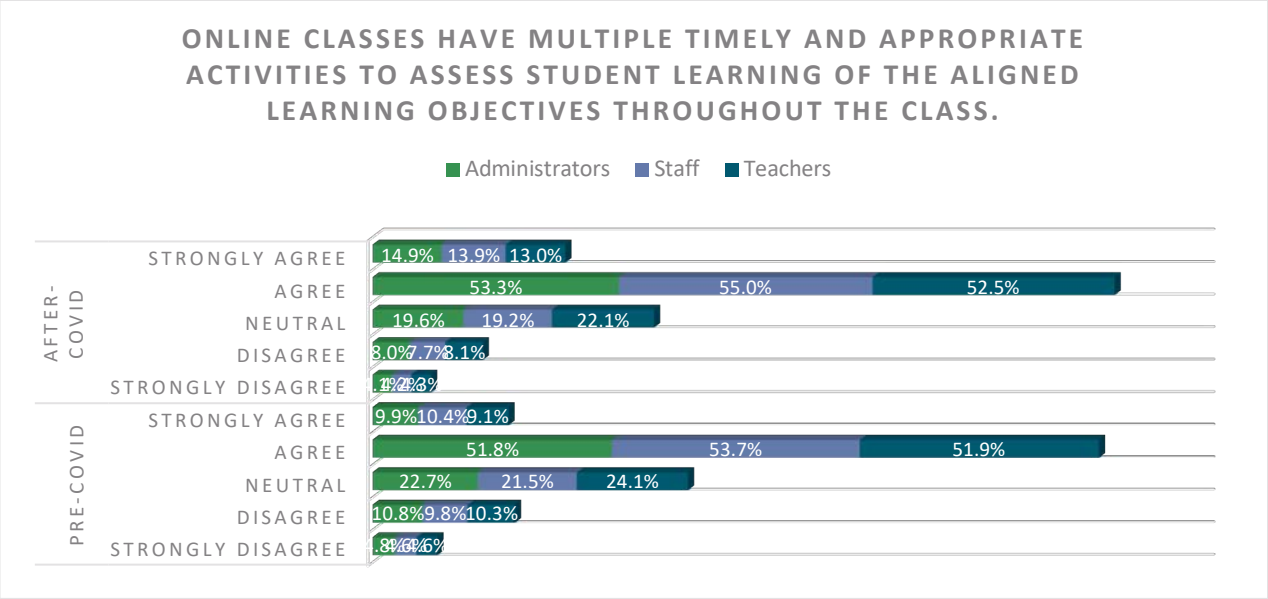


Figure 41

School administrators, staff and teachers – all responded in alignment with the consistent pattern noted above. Qualitative interview responses further supported these findings, and respondents provided discussion not only of readiness, particularly in the remote instruction environment, but also gave clear examples of piloted assessment strategies to address learning needs, as well as noted a diverse set of formative assessment strategies. By far, the majority of respondents support e-assessment and evaluation of student learning outcomes and subject proficiency, which is evidenced by over 50% agreement replies on the existence and actualization of ongoing assessment strategies to measure content knowledge, skills, and abilities while providing students feedback on what they have learned and on what to improve (Figure 42).

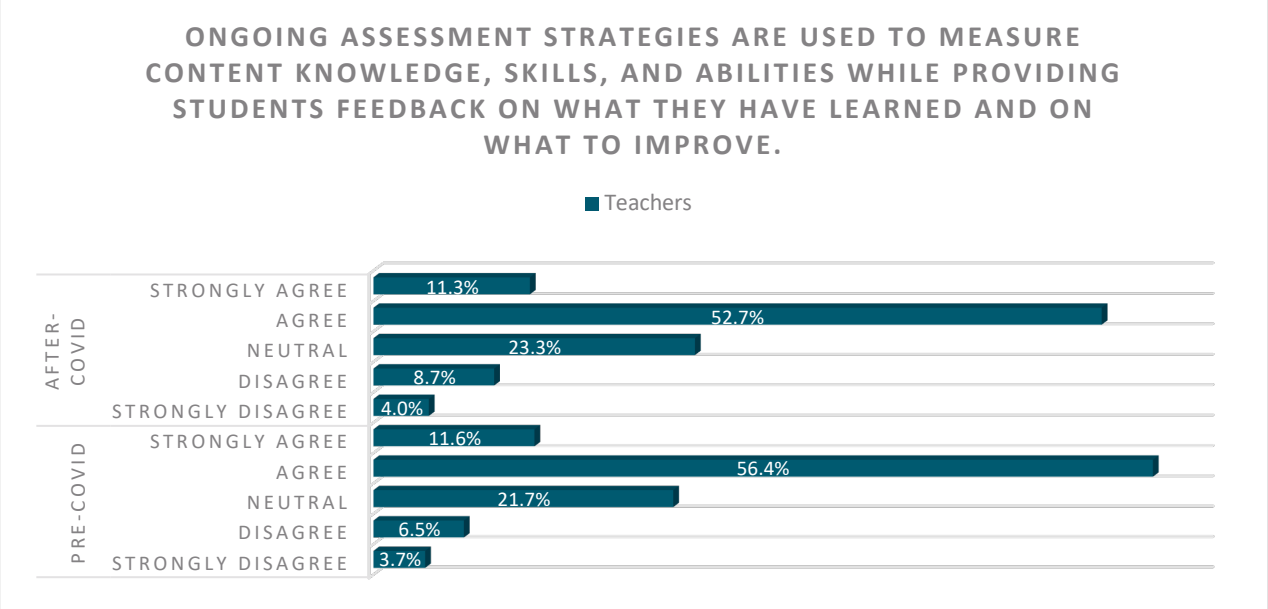


Figure 42

Recommendation: It could be presumed, that post-COVID responses from educators on satisfaction with the present assessment strategies, procedures and techniques would change somehow or even considerably in comparison with the pre-pandemic times. Since alignment between learning objectives, instructional activities, and assessments is equally critical for traditional and online learning, it is essential to reduce the existing gaps between school administrators, staff, teachers, and students in communication, expectations, and implementation of assessment strategies, processes, methodologies, as well as types of assessment.

Target Audience	Administrators, Teachers, Students
Needs	Provide insightful information on assessments, their objectives and overall learning outcomes to students
Initiatives	Elaborate and implement subject-related communications to students regarding assessments, their objectives and overall learning outcomes
Goals	To ensure student understanding and appreciation of assessment activities to increase learning efficiency and promote successful educational outcomes
Actions	Develop and provide communications to students via various media (syllabi, webinars, email, LMS communications, fora, etc.), clearly identifying assessment strategies, processes, methodologies, types of assessments, their objectives and overall learning outcomes
CSFs	Schools provide insightful and accurate information about the existing and/or developed assessment types and procedures, the rationale behind these strategies and their clearly-worded objectives
KPIs	Frequency of communication to students for comprehensive and up-to-date information on ongoing assessment strategies (formative and summative assessment), their objectives, overall learning outcomes and educational impact

Subdimension: Assessment Processes

Measures of satisfaction with assessment processes both prior to and after COVID-19 among school administrators, staff and teachers highlight that the majority of participants are overall satisfied or stay neutral on the research items. It is of note, that both satisfied and very satisfied responses decreased post-COVID while neutral, unsatisfied, and very unsatisfied responses increased through the pandemic.

Assessment processes in this study included alignment of learning objectives and assessments, effective communication of assessment criteria, grading, expectations, and feedback. Findings in this subdimension followed the clear pattern of responses, with the majority of teachers (from 54 up to 58% positive replies) indicating that each of these items is provided at high rates and featuring a strong and vivid percentage-point difference with strong disagreement responses (~3% negation that these elements are present and/or effective). Qualitative interviews did illustrate teachers' awareness of the existing complexities and challenges with implementation and student understanding of assessment procedures due to the pandemic.

Recommendation: Successful education systems stipulate both high quality and equity, supporting all students to achieve personal self-fulfillment. A well-developed assessment system can encourage learning and ensure that policies and practices promote equally high standards of education for all children, regardless of their context, circumstances or location. An open dialogue, reflection and feedback, where shortcomings and mistakes are acknowledged and recognized by all stakeholders, evaluation and assessment will contribute vastly to building trust between all members of the educational process. Ensure alignment of students' learning objectives and assessments through transparent quality review processes.

Target Audience	Administrators, Teachers
Needs	Ensure alignment of learning objectives and assessments
Initiatives	Promote open dialogue with all members of the educational process
Goals	To support successful student learning through setting out clear and direct objectives for what is expected nationally of students, teachers, schools and the entire K-12 system where assessment serves to advance teaching and learning
Actions	• Align assessment with national goals for student learning • Create constructive interaction between school administration, teachers and students to help students progress and be even better motivated to learn and achieve
CSFs	Assessments and reporting of results are aligned with the learning standards, so that teachers, students, school administration and parents have a clear understanding of students' advancement and/or of any gaps and difficulties in their learning
KPIs	• Student learning outcomes met • Alignment of learning objectives with assessments

Recommendation: Clearly describe assessment criteria when assignments are issued, provide grading rubrics and samples of assignments illustrating teacher/ school/ system expectations.

Target Audience	Administrators, Teachers
Needs	Align subject materials, including criteria, assignments, expectations, and grading rubrics with best practices
Initiatives	Ensure that assessments pursue generally accepted best practices and directly correlate to teacher expectations
Goals	To support student excellence in learning outcomes through the use of effective course design and assessment for a more student-focused, competency-based education
Actions	• Align subject-related assessments with adequate course design, including delivery and placement • Ensure that assignments, criteria, expectations, and grading rubrics are present and that these elements are timely and clearly communicated to students
CSFs	• Subject-related assessment delivery and placement follow the established course design standards • Assignments, criteria, expectations, and grading rubrics are present and are timely and clearly communicated to students
KPIs	• Quality reviews • Number of communications concerning assignments, criteria, expectations, and grading rubrics meaningfully provided to students • Student learning outcomes met • Course evaluations and feedback

Subdimension: Assessment Methods

Measures of satisfaction with assessment methods before COVID-19 among school administrators, staff and teachers reflect that the majority of participants are overall satisfied or very satisfied. In the post-pandemic period, the tendency shifted from strong agreement toward neutrality with general satisfaction keeping the lead in the response rates. It is worth emphasizing that both satisfied and very satisfied responses decreased post-COVID, while unsatisfied and very unsatisfied responses increased. This dynamic is particularly peculiar to the teacher group of respondents with general disagreement about the queried items increasing by over 2% (upward of 1,000 replies) through the pandemic (Figure 43).

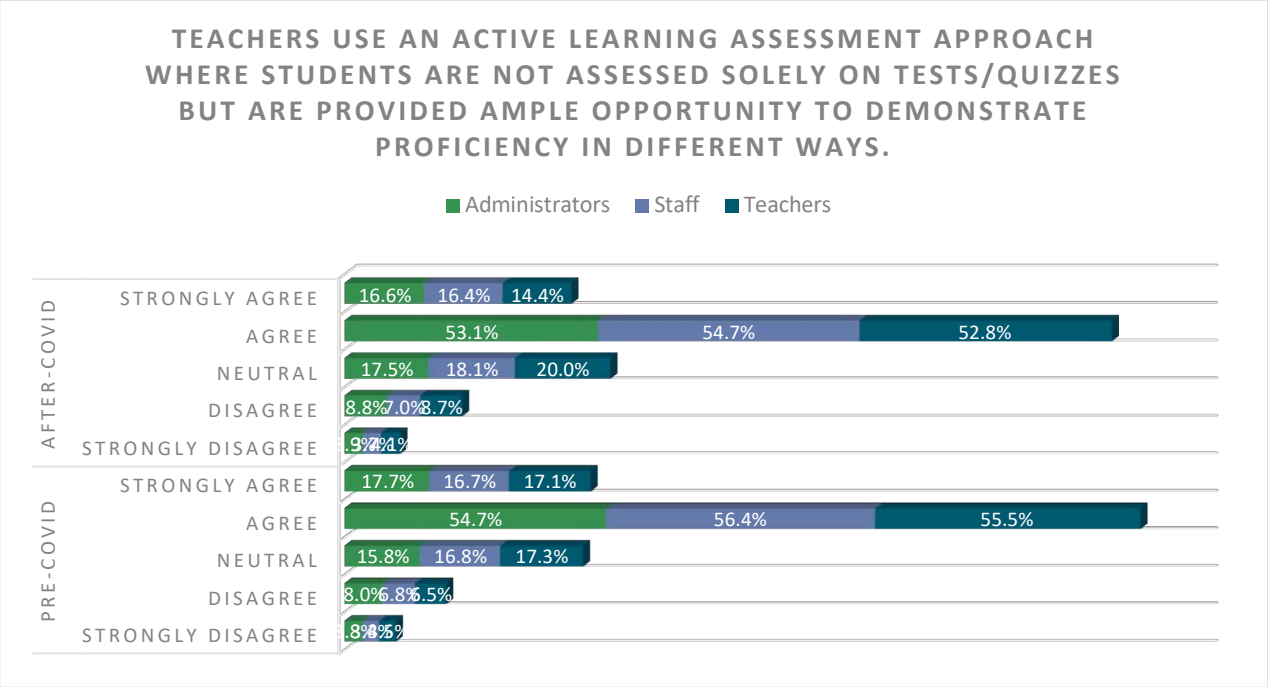


Figure 43

Additionally, in this subdimension, school administrators, staff and teachers were required to respond to survey items regarding peer- and self-assessment, as well as feedback opportunities. Qualitative interview responses indicated that teachers are enthusiastic and highly motivated to introduce and practice various types of assessment, which is evidenced by their own and students' efforts for collaboration, teamwork, peer review and self-assessments. However, challenges emerge when teachers are asked about opportunities to organize diversified assessments of student progress and set goals for students' personal and educational improvement. These complications concern the standing of educational authorities and supervisors about the credibility of peer- and self-assessment. Qualitative interviews exposed the effective and engaging practice of holding student competitions to evaluate subject proficiency, along with each student's mastery of the curriculum and level of creativity and motivation.

Recommendation: Provide students opportunities to demonstrate their subject proficiency in various ways. Diversify formative and summative assessment.

Target Audience	Teachers
Needs	Ensure a greater variety of assessment methods to enable most accurate student subject proficiency and individual student's mastery of the curriculum in response to instruction and self-education
Initiatives	Use diverse assessment approaches and techniques to better meet various students' needs
Goals	To raise levels of student success and achieve greater equity of learning outcomes through more frequent, transparent, engaging and interactive assessments
Actions	Develop, gain approval and implement engaging assessment methods for students (peer- and self-assessment)
CSFs	• Peer- and self-assessment methods are developed and used on a regular basis • Students gain diversified opportunities to display their subject proficiency and individual mastery of the curriculum
KPIs	• Quality ratings of student learning outcomes • Frequency of transparent, engaging, and interactive assessments

Subdimension: Innovation

Measures of satisfaction with assessment innovation both pre- and post-COVID among school administrators, staff and teachers reflect that the majority of participants are generally satisfied or keep themselves neutral. It should be, nonetheless, highlighted that very satisfied responses increased post-COVID among school administration, staff and teacher groups (by total upward adjustment of 1%, representing 500 respondents), however, the general satisfaction rates decreased from pre- to post-pandemic phases. The overall dissatisfaction about the relative survey items experienced some fluctuations that resulted in a very slight rise (by 0.2%) of the strong disagreement rate and just as small decline in general dissatisfaction index (by 0.3%) (Figure 44).

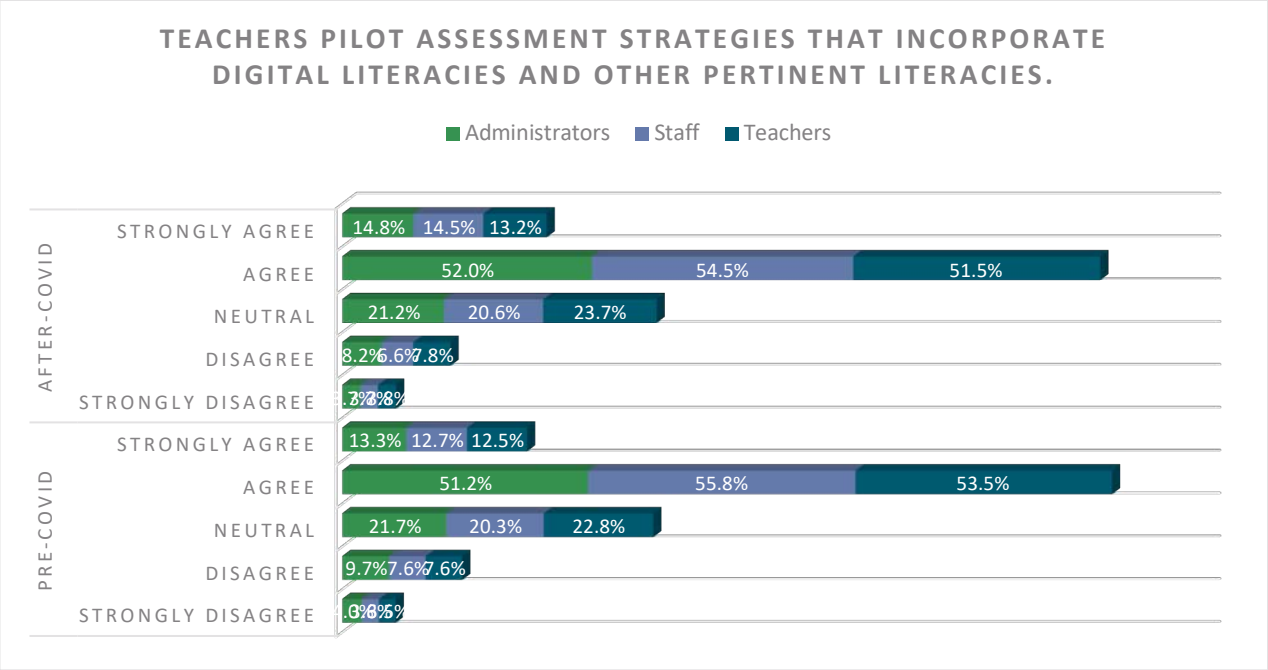


Figure 44

The innovation subdimension for assessment was measured through queries on new strategies and the use of new pedagogical methods and opportunities to demonstrate learning in a variety of ways. Teachers were most enthusiastic in their responses to point out their support of integrating advanced technology, platforms, instruments and tools. Qualitative data emphasizes teachers' high interest in innovative assessments for online courses, both in their current practice and prospective educational activities.

The recommendations below relate to innovation, the development, dissemination and implementation of innovative assessment strategies, processes, methods, and types. Further, school administration, staff and teachers should be directly encouraged to include innovative assessments in their online courses, and provided pedagogues with sufficient training on conceptualization, design and delivery of these innovations.

Recommendation: Innovation in assessment strategies, processes, methods, and types is encouraged, supported, and actualized; adequate and consistent professional development on design, development, and delivery is provided.

Target Audience	Administrators, Teachers
Needs	• Development, dissemination, and implementation of innovative (ICT-based) assessment strategies, processes, methods, and types • Provide professional development on the design, development, and delivery of innovative assessment
Initiatives	• Encourage innovative assessment through communications, activities, and related professional development • Develop and implement professional development opportunities on innovative (ICT-based) assessment
Goals	To beneficiate teacher-student interaction and enhance the ways in which students receive evaluations and engage with feedback
Actions	• Develop and implement strategies for the discovery and dissemination of innovative assessment techniques • Design various ICT-based assessment components • Conduct follow-up on the use of innovative assessment activities to ensure timely improvements and avoid confusion • Develop and implement professional development opportunities for teachers on the design, development, and implementation of innovative assessment methods
CSFs	• Innovation relevant to assessment is actively encouraged and supported • Various ICT-based assessment components developed and implemented; student responses obtained • Professional development opportunities related to innovative assessment are provided
KPIs	• Number and clarity of communications • Participation in professional development opportunities related to innovative assessment methods • Percentage of teachers who implement and measure innovative assessment practices in their practice

Dimension V: Technology

The Technology dimension measures nine subdimensions including Centralized Online Education Infrastructure, Operability, Modality, Security, ITSM Compliance, Internet Access, Reliability, Coverage, and Innovation.

Prior to COVID-19, there were clear needs related to technology that were planned for in long-range online education plans. Post-COVID, demands on technology increased, and survey and interview results that although the areas represented in the technology dimension were not fully prepared for the shift, improvements were and continue to be planned and implemented. Of particular note in this subdimension, increasing the capability of

centralized infrastructure to manage high-volume use, ensuring security related to student data and privacy, and making improvements to internet access, reliability, and coverage, including both network and device challenges, are all needed to ensure readiness in upcoming terms.

Overall quantitative and qualitative findings indicate that technology improvements are recommended. Data indicate that the primary foci for technology reflect needs related to internet access, reliability, coverage, and operability. Recommendations for this dimension largely focus on the development of processes to monitor and assess technology in order to better identify associated challenges and needs, and to implement solutions as appropriate to increase users' ability to effectively participate in online learning. The need for these recommendations is further confirmed in the OECD report *How the COVID-19 Pandemic is Changing Education: A Perspective from Saudi Arabia*, which indicates that many students may lack the resources needed for remote learning.

Subdimension: Centralized Online Education Infrastructure

Administrators, staff, and teachers expressed consistent perceptions of measures assessing centralized online education infrastructure, including the presence of a centralized learning management system (LMS), technology plans, single-sign-on (SSO), and support. Those agreeing or strongly agreeing that these elements are present ranged from 54.6-70.3% and disagreement or strong disagreement ranged from 10-19.6%. These figures are stable both pre-and post-COVID. Overall, agreement responses increased post-COVID, while disagreement responses decreased. Most notably, findings indicate that SSO capabilities reported by administrators, staff, and teachers increased post-COVID. Responses from parents and students regarding centralization and SSO indicate a similar trend, though disagreement or strong disagreement increased by nearly 10 percentage points post-COVID (Figures 45, 46).

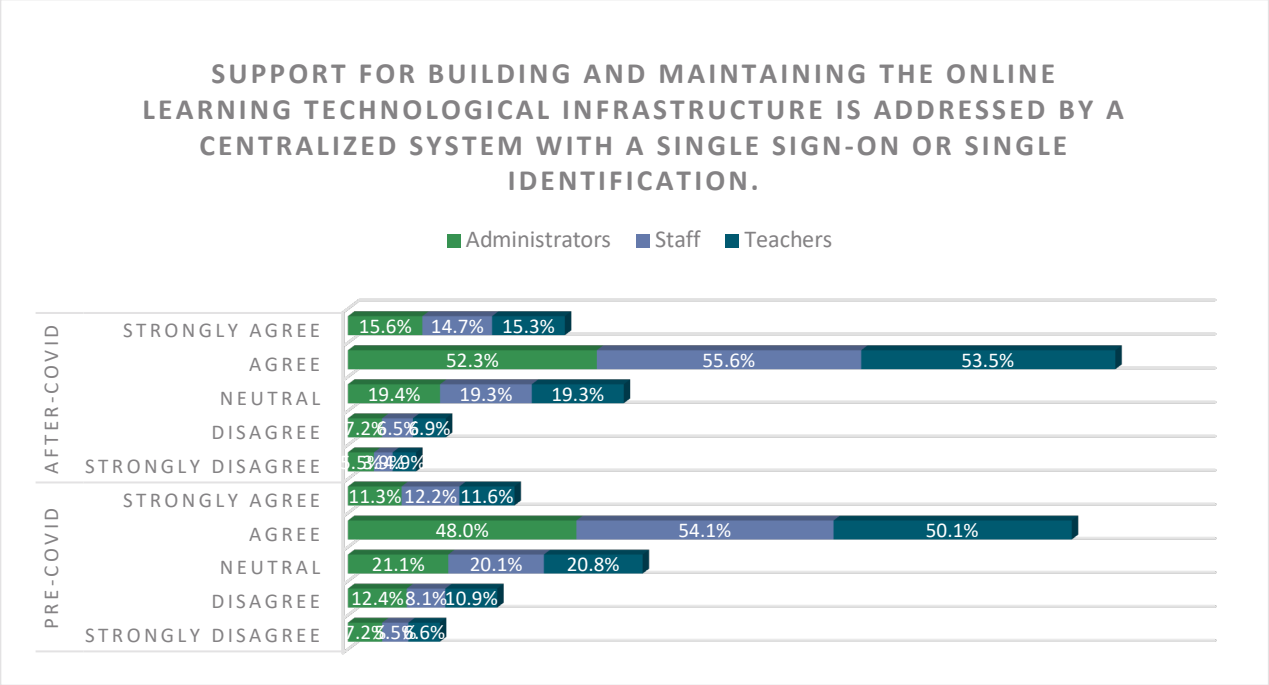


Figure 45

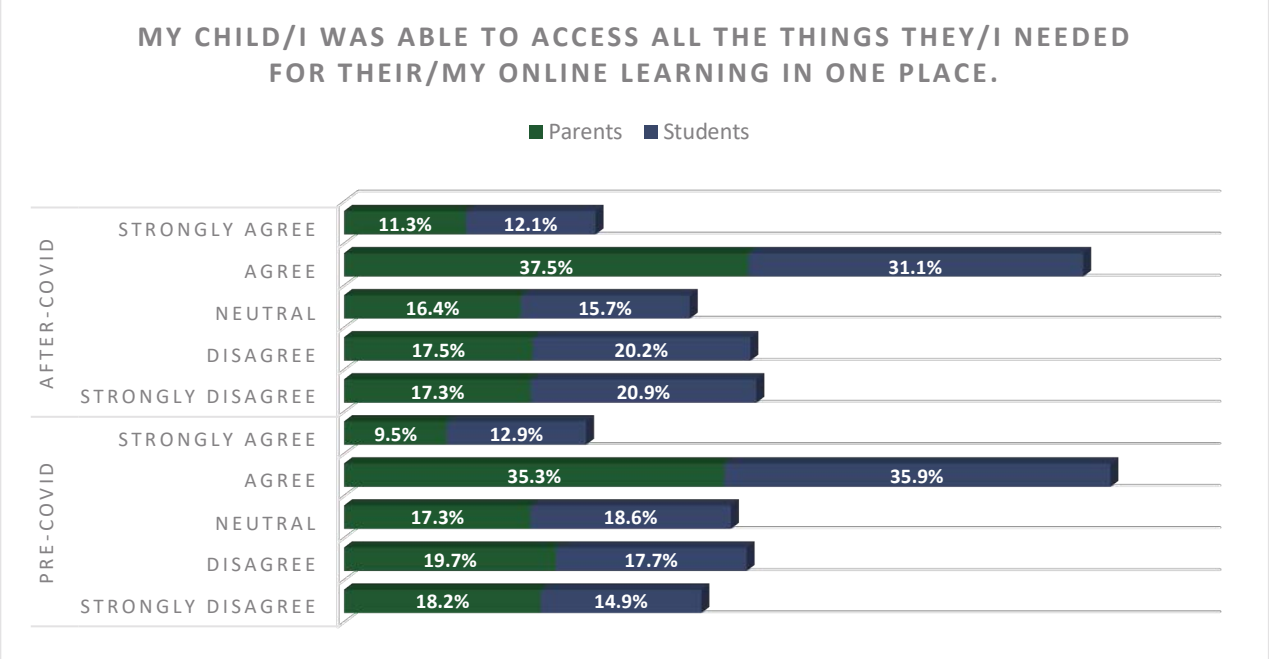


Figure 46

Qualitative data indicate that technology was present pre-COVID, but not at the centralized level necessary to adequately support online learning. One administrator articulated this challenge: “Although the school was up-to-date in technology, we were not 100% ready to offer fully online courses and distance learning methods, which is something we had to do and work with during the pandemic. Before the pandemic, technology was blended in the regular classrooms, but having 100% online courses for all of the grades was something new on the school.”

Recommendation: Provide a centralized learning system with single sign-on (SSO) or single identification. Focus should prioritize schools that have not yet implemented online learning as supported by the Future Gate initiative, as these are the most likely to indicate absence of centralized solutions.

Target Audience	Ministry of Education
Needs	Increase access to a centralized online learning program
Initiatives	Identify schools that have not yet implemented online learning and provide a centralized LMS with SSO
Goals	To increase the number of schools successfully implementing online learning
Actions	• Identify schools who do not have an LMS • Help schools determine any contextual needs • Ensure interoperability standards between the LMS and other systems • Implement SSO
CSFs	• Schools with needs identified and contextualized • LMS and SSO adopted and implemented • Students successfully log into LMS
KPIs	Percentage of schools with an LMS and SSO

Subdimension: Operability

When asked about the operability, reliability, and consistent access to online courses, administrators, staff, and teachers were closely aligned in their perceptions both pre- and post-COVID, ranging from 66.1-69.4% agreeing or strongly agreeing and 8.8-11.7% disagreeing or strongly disagreeing. Parent and student responses were also consistent both pre-and post-COVID, though at lower rates (50.1-53% agreed or strongly agreed; 25.7-31.8% disagreed or strongly disagreed).

Recommendation: Given the disconnect between the educators and parents and students, schools can develop feedback channels and provide orientation and training around learning technologies.

Target Audience	Administrators, Staff, Parents, Students
Needs	Improve the ability for students and parents to use learning technologies
Initiatives	• Develop a feedback loop to ensure parent and student needs are met • Create centralized resources that are comprehensible and policy accessible for parents and students
Goals	To improve understanding about using learning technologies
Actions	• Create a mechanism for parents and students to ask questions about learning technologies • Curate relevant resources related to challenges • Develop an open, centralized space for parents and students to share common pain points for the school and access resources
CSFs	• Parents and students share challenges • Students have access to technology • Curated resources are easy to find and access
KPIs	• Percentage of students who can use learning technologies • Website visits, page views, and hits

Subdimension: Modality

Administrators, staff, and teachers responded to questions assessing two types of modality: asynchronous or synchronous delivery, blended learning opportunities. Responses among all three groups indicated improvement post-COVID, with the largest increase in agreement or strong agreement present among administrators when asked about synchronous and asynchronous options (Figure 47).

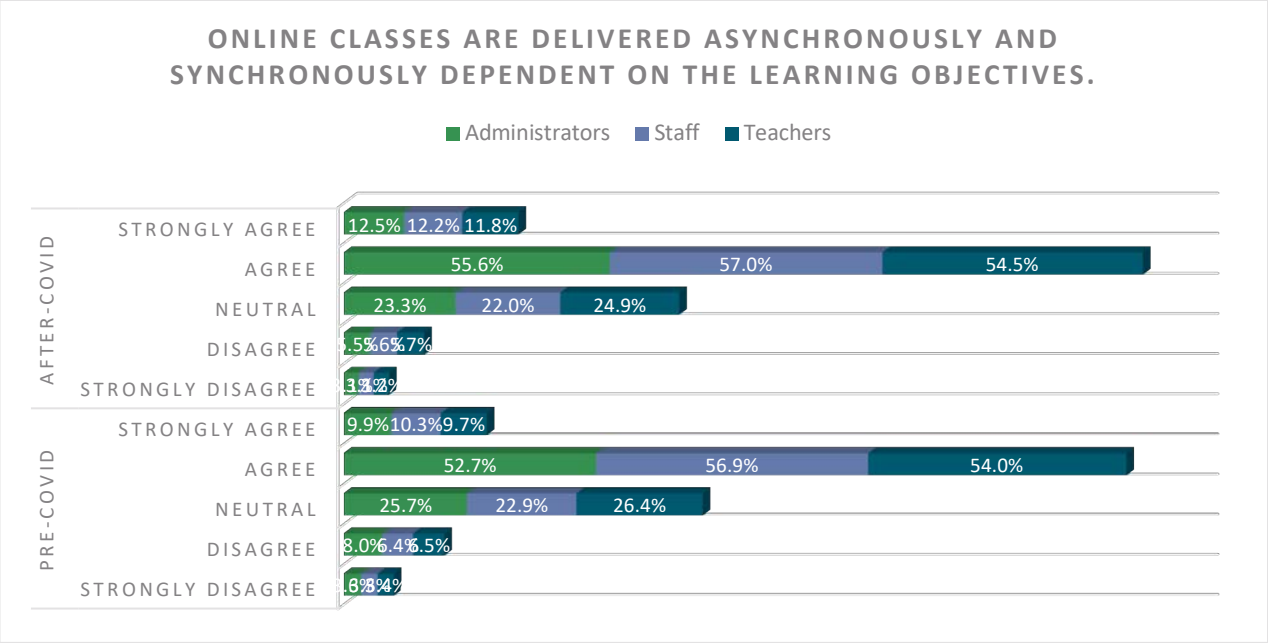


Figure 47

Qualitative interview responses underscore the need for effective use of modality in the provision of online courses. One teacher elaborated on these needs, saying "The most important thing to support e-learning is to provide computers and internet service. These are the most important two things. Many students call me telling that they don't have a device or they just have one device at home. As you know, Saudi families are big families, where the number of family members in a household usually starts with 7 and increases. So, when a student's family has only one computer, using it is hard. Same with the teacher."

Expert Recommendation: Evaluate the student experience in synchronous and asynchronous online learning in order to improve course design and outcomes.

Target Audience	Teachers, Students
Needs	Understand the student experience in online learning to improve courses
Initiatives	• Evaluate student experience over time • Reflect on course design and areas for improvement based on needs
Goals	To better support students and improve learning outcomes
Actions	• Collect feedback from students about asynchronous and synchronous learning experiences • Evaluate feedback and use to inform appropriate course changes
CSFs	• Students sharing feedback • Feedback is implemented into course design
KPIs	• Student outcomes

- Frequency of feedback collection

Subdimension: Security

Administrators and students report consistent responses regarding data security measures, including the integrity and validity of information, identity access, and secure links and information in online courses. Rates of agreement or strong agreement range from 63.3-71.7%, while disagreement or strong disagreement indicate 6.9-17.8%. Parents indicated that they were less sure of course security, though the differences do not have a large range. Parents agreed or strongly agreed at 58.8-64.3%, and disagreed or strongly disagreed at 14.4-22.2%. The highest area of concern indicated by parents was related to the security of students' identity and information, in contrast with administrators (Figures 48, 49).

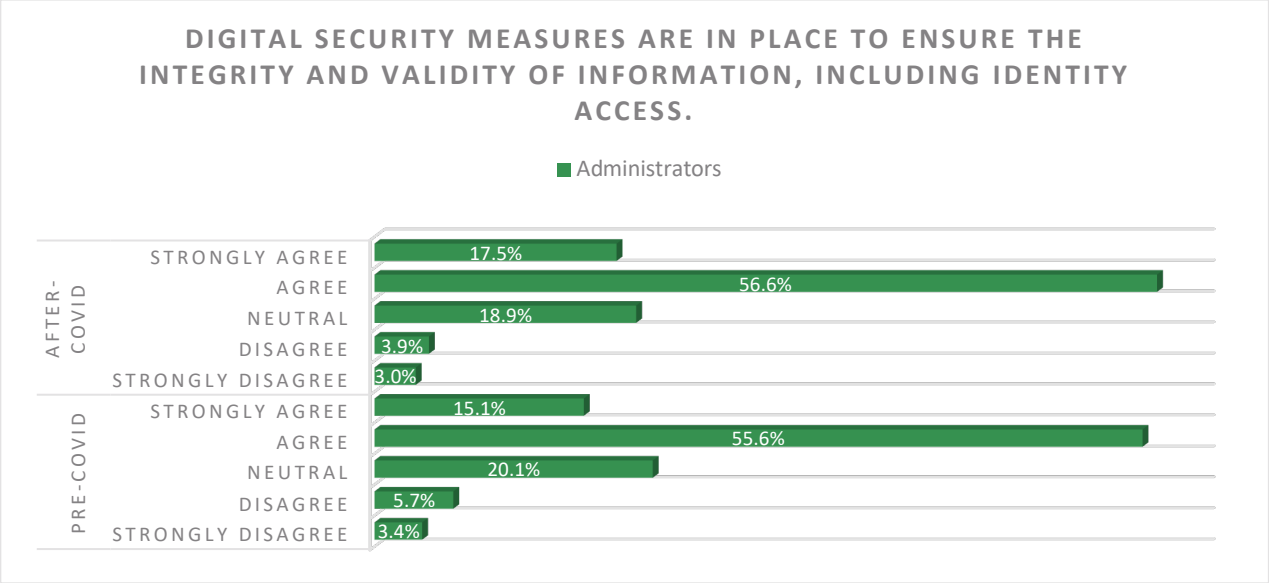


Figure 48

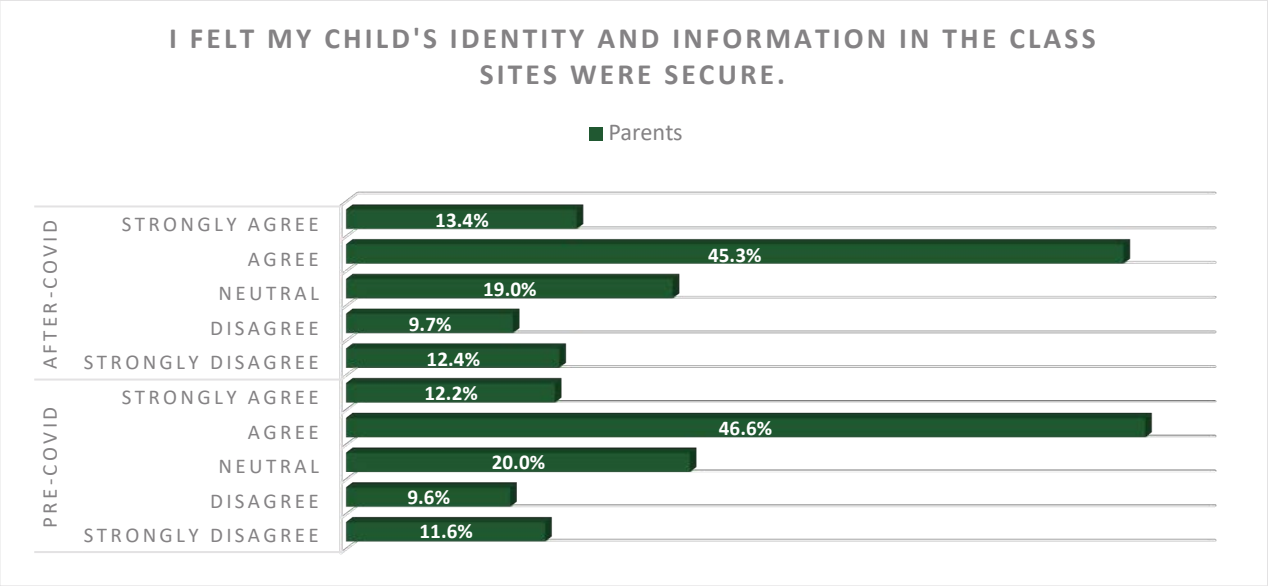


Figure 49

Security for students is a concern that schools indicate awareness of. In one administrator interview, the participant noted not just a focus on security for students, but for teaching students to understand internet security and to protect themselves: "Yes, the first thing we started to do is that we gave an integrated digital program on how to the students can protect themselves against harmful websites even before using the Internet and the phone, and how they should not open any link or see any clip, and we were the only school to implement this program."

Recommendation: As schools increasingly make use of learning technologies, ensuring privacy and data security become greater risks. Data breaches have become increasingly common in schools and stakeholders often do not understand terms of service and are not provided with details about how data is collected, stored, and used. Greater transparency and clear policies and guidelines can increase stakeholder trust and buy-in.

Target Audience	Administrators, Staff, Teachers, Parents, Students
Needs	• Increase trust and confidence in for data security • Clear policies and practices to ensure data security
Initiatives	• Develop a clear data security plan and share with stakeholders • Develop policies around the use of third-party applications
Goals	To decrease privacy and security risks
Actions	• Educate practitioners and families about the risks of using third-party applications that have not been appropriately vetted • Create a process for vetting applications and share with practitioners • Develop guidelines for student data use and share with stakeholders

CSFs	• Practitioners avoiding potentially malicious applications • Stakeholders participating in conversations • Sufficient expertise to vet technologies and making use of ministry-provided websites and applications
KPIs	• Number of applications in schools • Reported trust

Subdimension: Information Technology Service Management (ITSM) Compliance

It is unlikely that those not directly involved in ITSM compliance (including staff, teachers, parents, and students would be able to respond to this item. For that reason, administrators were the only stakeholder group queried, and indicated that pre-COVID, 64.0% agreed or strongly agreed that ITSM designed, delivered, operated, and controlled information supporting online course delivery and development and 9.5% disagreed or strongly disagreed. After COVID, agreement or strong agreement increased to 69.2% and disagreement or strong disagreement decreased to 7.2%.

Recommendation: While the results were generally positive among administrators, a large percentage did not feel that ITSM satisfactorily supported online course delivery. Administrators should evaluate current processes, plans, and resources that are available and where gaps or inefficiencies exist.

Target Audience	Administrators, ITSM
Needs	Evaluate current processes, plan, and resources to ensure successful online course delivery
Initiatives	• Determine IT pain points among stakeholders • Evaluate current processes, plans and resources • Develop new resources to address pain points
Goals	To increase support for online course delivery
Actions	• Communicate with different stakeholder groups (staff, students, teachers, parents) to determine pain points (survey, focus group, town hall, etc.) • Use identified pain points to examine current internal and outward-facing resources and address gaps or areas to improve • Create new resources and share in a manner that is easy to find
CSFs	• Various stakeholders engaged • Pain points determined and addressed
KPIs	• Number of support tickets/requests • Number of resources accessed • Stakeholder satisfaction

Subdimension: Internet Access

Regarding internet access from school, parents and students reported pre- and post-COVID rates of agreement between 34.5-38.1%, with disagreement or strong disagreement at 39-41.6%. Internet access from home is reported at higher rates (55.4-63.4%) and disagreement or strong disagreement is lower (22.4-30.7%). These findings indicate the consistent need for better internet access both at school and home, and administrator, staff, and teacher responses support this recommendation (Figures 50, 51).

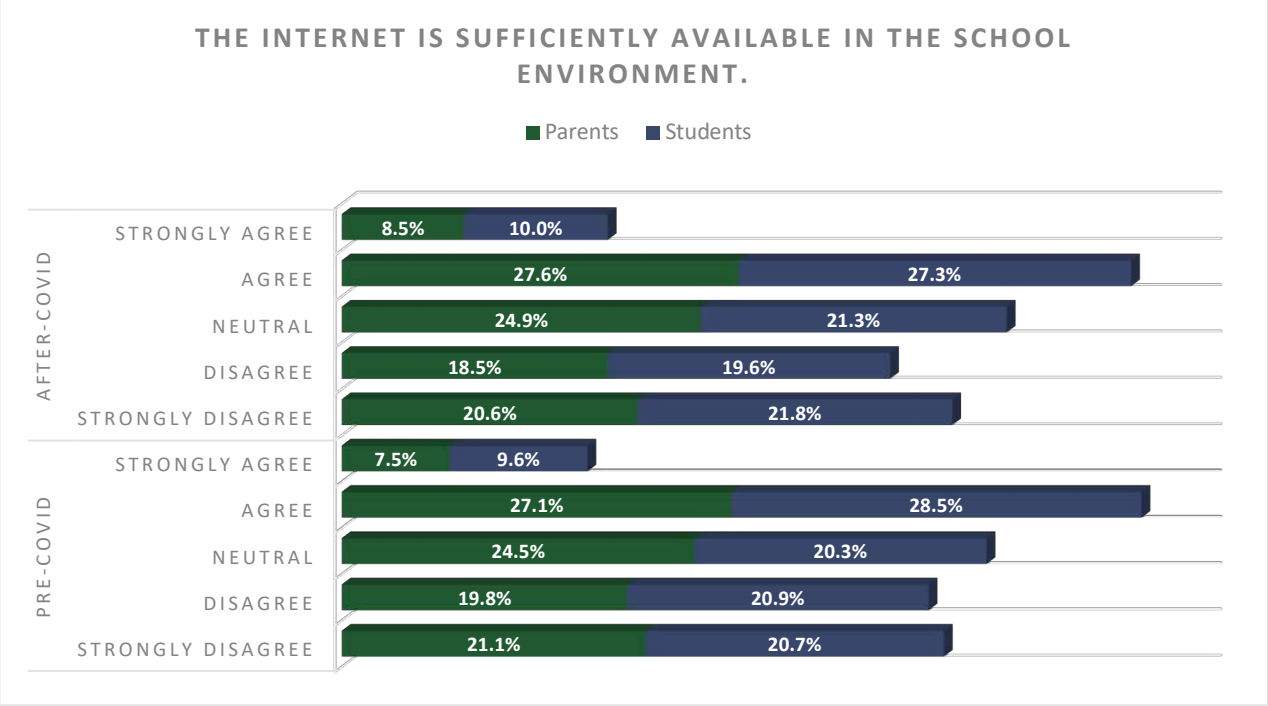


Figure 50

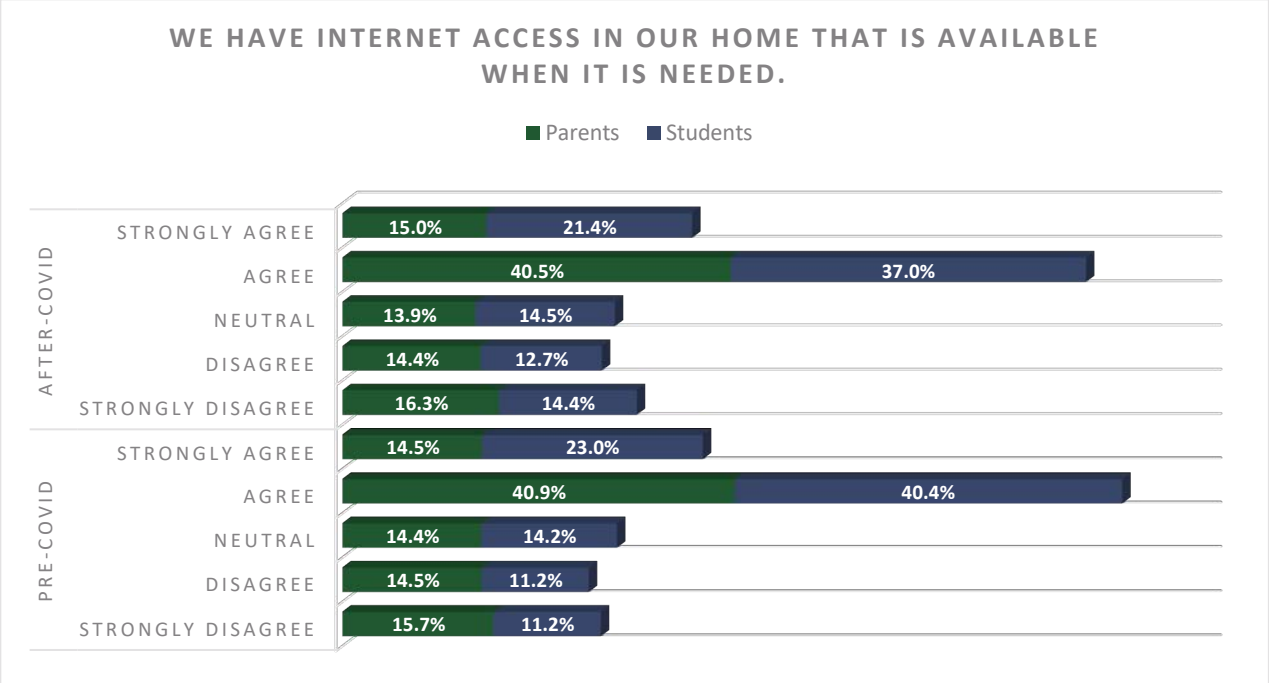

WE HAVE INTERNET ACCESS IN OUR HOME THAT IS AVAILABLE WHEN IT IS NEEDED.
Parents
Students
AFTER-COVID
STRONGLY AGREE
AGREE
NEUTRAL
DISAGREE
STRONGLY DISAGREE
15.0%
21.4%
40.5%
37.0%
13.9%
14.5%
14.4%
12.7%
16.3%
14.4%
PRE-COVID
STRONGLY AGREE
AGREE
NEUTRAL
DISAGREE
STRONGLY DISAGREE
14.5%
23.0%
40.9%
40.4%
14.4%
14.2%
14.5%
11.2%
15.7%
11.2%

Figure 51

Qualitative interviews reveal that internet access is a top challenge for all stakeholder groups. This includes both access to sufficient internet services as well as access to devices such as computers, tablets, or smartphones for course access. Interview data indicated challenges with no internet or weak internet at both schools and home, as well as that not all students, or even all teachers are able to access devices reliably. Interviews also indicate that these challenges are pronounced for public schools and students, whereas private schools and students may have more resources.

Recommendation: For students who have poor or no internet access at home, schools can provide mobile hotspots and develop content that requires minimum bandwidth.

Target Audience	Administrators, Staff, Teachers, Students
Needs	Determine and address student internet access needs
Initiatives	• Identify student internet needs • Develop a distribution plan to share mobile hotspots • Evaluate course content to ensure options for students to continue work with poor internet
Goals	To maintain continuity of learning to the greatest possible extent
Actions	• Communicate with families through different channels to determine need • Procure and distribute mobile hotspots with a guide for use • Maintain a feedback loop for future internet access needs • Teachers evaluate content to minimize the amount of synchronous online sessions, high resolution recordings and images, etc. • Teachers develop print contingency materials for students to complete in the event of a sudden, sustained loss of internet
CSFs	• All students have access to internet to complete their work • Families can report loss of internet and receive technology after start of the school year • Teachers trained on how to vet high-bandwidth content
KPIs	• Percentage of students who have access to internet • Number of hotspots distributed • Percentage of students who continue to make satisfactory academic progress

Subdimensions: Reliability

Interestingly, the reliability subdimenson indicates consistent levels of agreement or disagreement regarding the ability to reliably log in to core learning technology systems and courses among administrators, staff, teachers, and students. There was a clear gap between these groups and the perceptions of parents. Reliability improvements are indicated across all groups, though post-COVID, parent responses agreeing or strongly agreeing with log-in reliability increased to reflect similar levels to other groups. It is possible that parents were simply unaware of reliability issues prior to COVID, when students were not required to remotely access courses as often. Due to the increase in demand on reliable systems, it is recommended that the approach to increasing reliability include the development and implementation of monitoring processes to better understand challenges, followed by processes for systemic improvement (Figure 52).

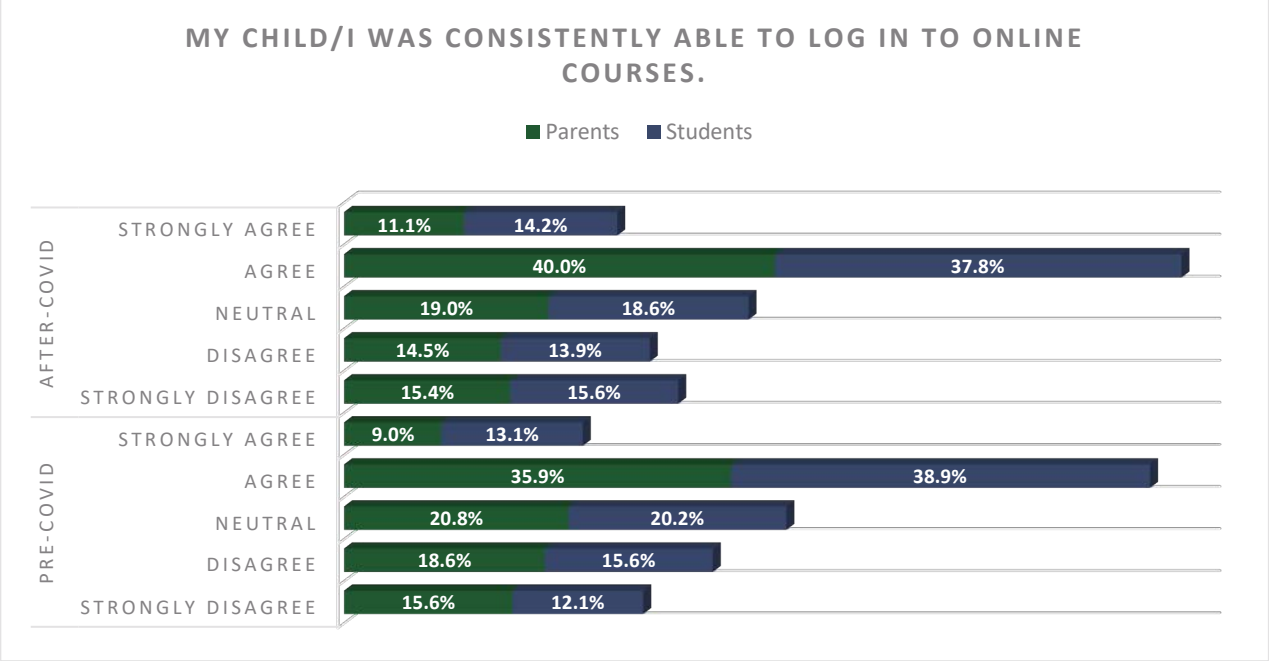


Figure 52

Specifically, regarding reliability, and related to other subdimensions of technology such as internet access and centralization, one teacher said of the challenges: “Sometimes it takes more than half an hour for the system to open, so the class time finishes before we get to be on the platform. This also happened to us, the high school teachers, during the pandemic, we suffered a lot from the lack of the support and the load on the network.”

Expert Recommendation: Monitor the reliability of learning technology systems and courses as related to infrastructure (i.e. challenges resulting from infrastructure, not from individual internet access, etc.). Identify and address areas needing system-level solutions.

Target Audience	Administrators, ITSM
Needs	Identify system-level and/or infrastructure challenges related to the reliability of access to learning technology systems and courses
Initiatives	Develop processes for monitoring and addressing the reliability of infrastructure and learning technology systems and courses
Goals	To increase the awareness and problem-solving of system-level infrastructure reliability as related to access of learning technology systems and courses
Actions	• Develop processes for monitoring reliability • Develop processes for problem-solving system reliability issues • Implement solutions to address reliability challenges
CSFs	• Processes for monitoring reliability are developed and implemented • Processes for resolving reliability challenges are developed and implemented
KPIs	• Number of system reliability issues • Feedback from stakeholders

Subdimension: Coverage

Administrators, staff, and teachers indicated both pre- and post-COVID that approximately half agreed or strongly agreed that internet access and access to core learning technologies are available from any location (46.1-57.6%), which they disagreed or strongly disagreed at rates ranging from a quarter to approximately one-third (24.7-37.1%). These findings indicate that while consistent coverage is present (and moreso post-COVID), improvements are necessary to support sustained online learning (Figure 53).

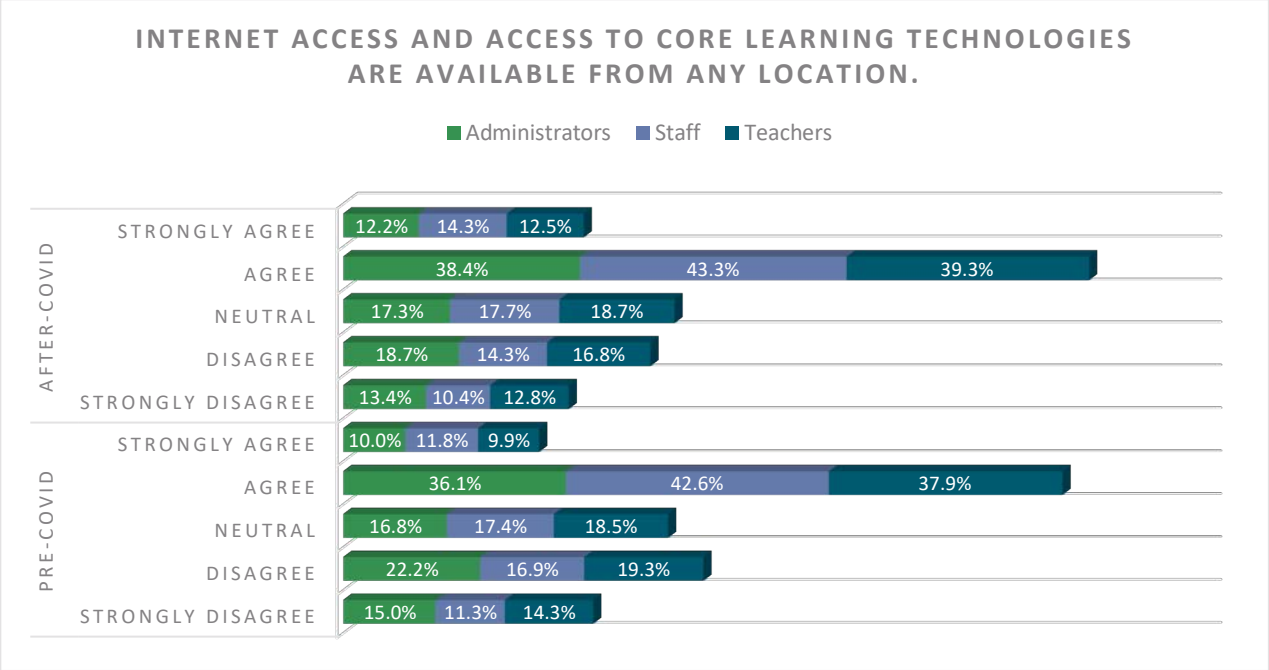


Figure 53

In alignment with previous subdimensions, issues of coverage were a theme in the qualitative interviews. Many respondents indicated that their schools lack sufficient coverage, as do the areas in which they live. Both of these create challenges for effective online learning.

Recommendation: Given the need for increased learning technologies coverage, a plan that includes monitoring and feedback loops to continually determine need, as well as mechanisms to provide access to technologies is critical.

Target Audience	Administrators, Staff, Teachers, Students
Needs	Developing mechanisms to determine stakeholder needs and ways to appropriately address them
Initiatives	• Stakeholders have multiple ways to report needs • Periodic follow-ups and opportunities to acquire new technologies
Goals	To decrease coverage gaps for learning technologies
Actions	• Determine appropriate communication channels for stakeholder groups • Communicate via all channels and follow-up with non-respondents • Maintain feedback loop to ensure coverage throughout the year • Ensure that schools have enough technologies to support student remote/online learning
CSFs	• Stakeholders report needs • Continued communication and opportunity to determine needs • Adequate technologies to support needs • Needs are evaluated and technologies are provided
KPIs	• Percentage of stakeholders have appropriate access over time • Number of technologies to meet needs

Subdimension: Innovation

Administrators, staff, and teachers were asked for their perceptions that "new technologies are piloted, supported, and encouraged in online classes." Over half, 59.4-66.6% agreed both pre- and post-COVID that innovation is present and encouraged; less than 20% (13.4-18.8%) disagreed or strongly disagreed. Responses indicated slight increases in agreement and decreases in disagreement post-COVID, suggesting that technological innovation became more encouraged and supported following the shift to emergency remote teaching (Figure 54).

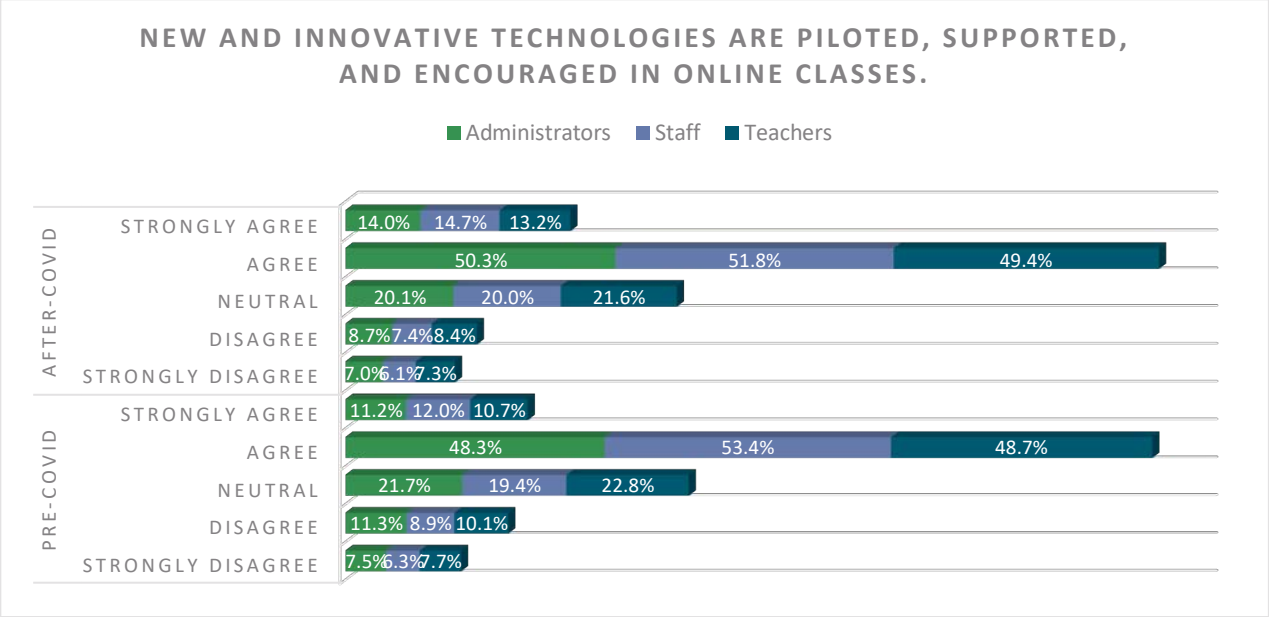


Figure 54

Expert Recommendation: Monitor the reliability of learning technology systems and courses as related to infrastructure (i.e. challenges resulting from infrastructure, not from individual internet access, etc.). Identify and address areas needing system-level solutions.

Target Audience	Ministry of Education, NELC, Universities, School Administrators
Needs	Increase training on educational data and learning analytics tools and approaches in educator preparation programs
Initiatives	Curriculum modification to include gaining experience working with student data at different levels of granularity
Goals	To increase data literacy and understanding of analytics to improve student outcomes
Actions	• Work with educator preparation programs to evaluate and revise curriculum for developing data literacy and analytics skills • Develop and provide sustained training at different experience levels for practitioners • Provide time for teachers to work with their students' learning data
CSFs	• Educator preparation programs and curricula are revised to include skill development over the course of the program • Training is sustained and builds skills over time instead of one-off sessions • Teachers have time incentive to explore data
KPIs	• Number of educator preparation programs that revise curriculum • Number of trainings offered in schools • Percentage of practitioners that attend trainings • Blocks of time to explore data

Dimension VI: Student Support

The Student Support dimension measures six subdimensions including Student Orientation & Support, Equity, Accessibility, Compliance Standards, Social Emotional, and Innovation.

It is clear in survey and interview findings that student support is a high priority. Pre-COVID, respondents indicated a diversity of on-site support services, and while post-COVID survey responses remain largely positive, discrepancies and changes, supported by interview data indicate that schools were not ready to provide such services remotely. The importance of doing so was clearly recognized, and many respondents indicated that they implemented immediate responses within their capabilities, and are planning for innovative solutions in the future. Implementation, evaluation and continuous improvement of these solutions is necessary to ensure optimal and equitable student support following the pandemic.

Overall findings indicate that there is a high level of awareness among administrators, staff, and teachers regarding holistic student support needs. An interesting trend in this dimension was that for every question, 'agree' responses were far more frequent than 'strongly agree,' while responses indicating disagreement or strong disagreement were approximately even. Both quantitative and qualitative data findings show that while there are clear needs for improvement in all subdimensions, robust on-site services were previously implemented and there are innovative ideas and processes in development to extend these support services to students in a digital environment.

In the further development and implementation of appropriate and effective student support, the most evident gaps are between administrators, staff, and teachers and parents/students. Qualitative data indicate that this may be at least partially due to the rapid response to COVID, requiring focus on knowledge provision as the top priority. Additionally, there may be a need for increased assessment of needs and communication to parents and students regarding the availability of support. Some schools are already engaged in addressing these needs, and the recommendations for this dimension support the continuation of this existing work and provide potential solutions for further development and improvement.

Subdimension: Student Orientation and Support

The student orientation and support subdimension assessed responses to pre- and post-COVID situations regarding orientation to classes and technologies as well as academic and technological support, attendance to interpersonal issues, and legal and safe behavior related to technology.

Administrators, staff, and teachers are largely in alignment with their perceptions of the provision of orientation, class design and activities, and technologies, both pre- and post-COVID. Students and parents also aligned in their agreement or disagreement, but at lower rates than administrators, staff, and teachers. There is a clear discrepancy in the perception of technological and academic orientation and support provided between school employees and parents/students. While improvements are indicated in most areas of this subdimension, post-

COVID perceptions exceed pre-COVID, with one notable exception. Pre-COVID, students agreed or strongly agreed that they were provided academic support at rates of 59.6%, and disagreed or strongly disagreed at 24.3%. Post-COVID, students agreed or strongly agreed at 39.9% and disagreed or strongly disagreed at 42.5% (Figure 55).

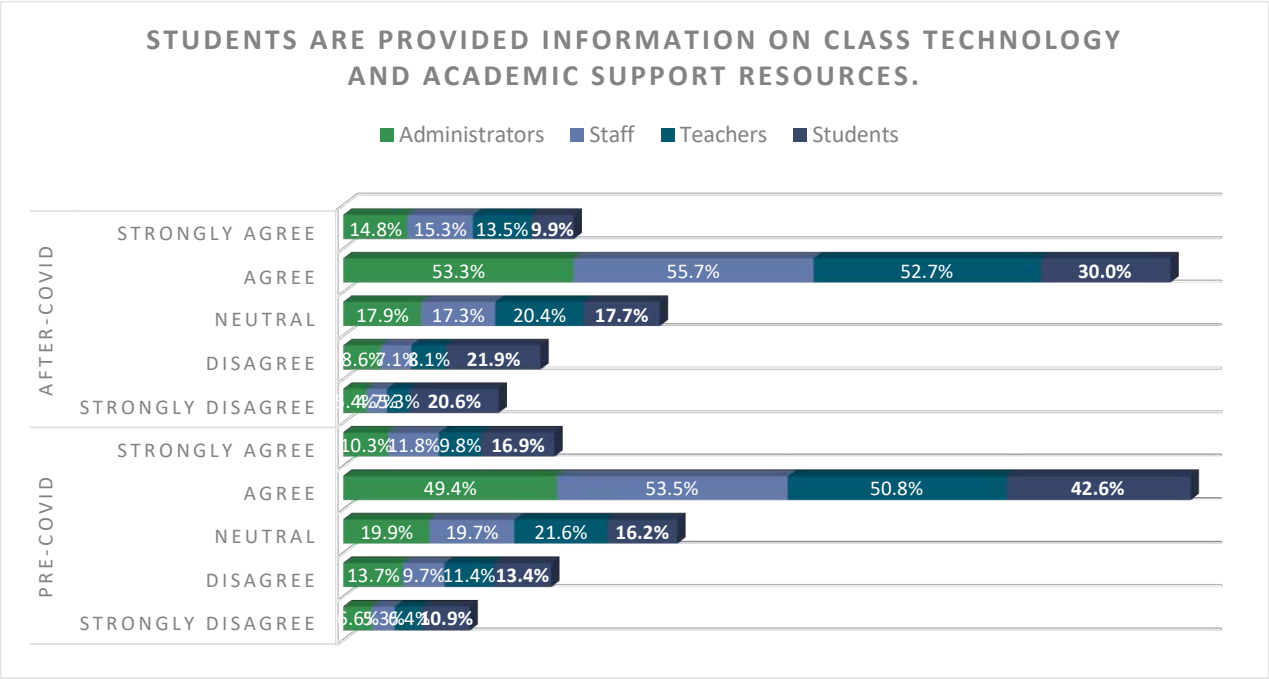


Figure 55

These discrepancies are at least partially explained by interview data. Parents repeatedly indicated that orientation and technology support were not present either before or after COVID, which may be reflected in their survey responses. One administrator supported survey findings and said, regarding technology orientation and support, “Honestly, no. It was more like a shock and we focused on spreading knowledge to all students. In addition to that, they self-studied and improvised.” While schools are aware of this concern, there are some solutions presented by administrators during their interviews. One said “With the help of two computer science teachers, and the digital transformation coordinator, we made a team for the online platform trainings, we repaired and opened the two computers labs we have in the school, and then we hold training courses in technology for students who have some difficulties in using technology.” Another noted the importance of providing age-appropriate support, saying “I have a plan, which includes mainly training the elementary students on using technology in a way that suits their ages. That’s why I’ve bought some iPads, to train students on using them. During the pandemic we’ve focused on the middle school students and trained them on how to use technology using their smartphones.” Finally, interview responses also reflect an awareness and understanding of the need for academic support. One teacher said, “Personally, I prepared my students and I talked to them on how to use the online platforms and about the exams, I also have them demo tests to help them understand the way online exams will be, which made them more engaged.”

Student and parent responses are consistent regarding interpersonal issues in online courses, as are parent perceptions. However, the need for improvement is clearly indicated. Both students and parents agreed or

strongly agreed that support is available for interpersonal issues at less than 39%, both pre- and post-COVID, and disagreed or strongly disagreed at similar rates of 39.6%-41% (Figure 56).

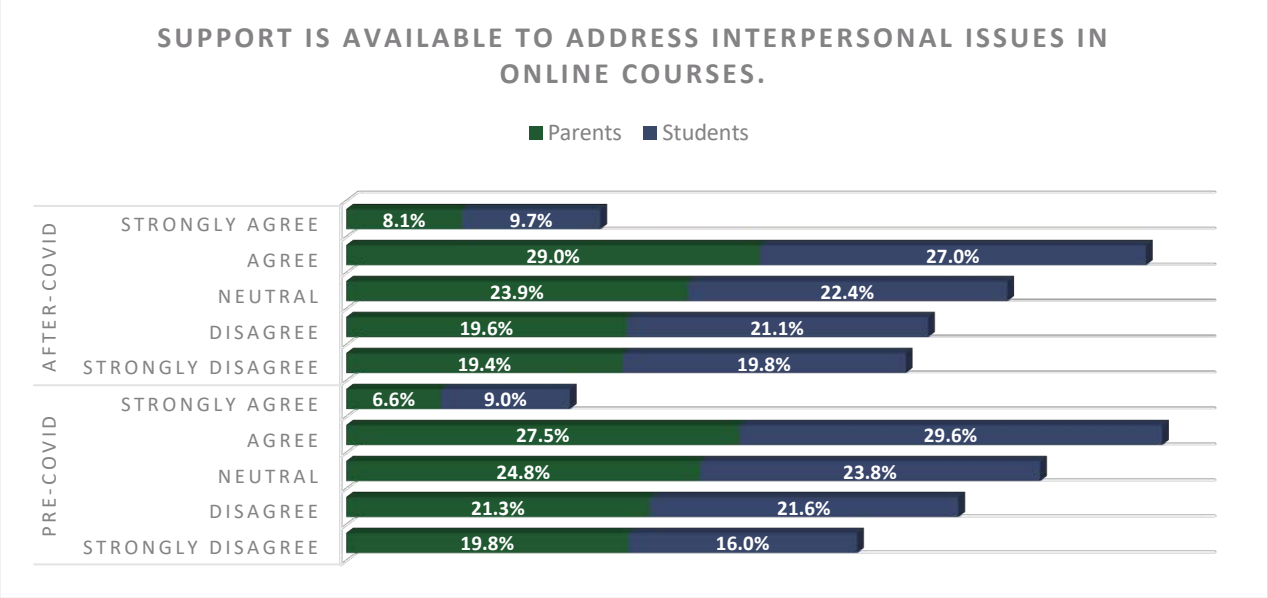


Figure 56

Regarding legal, ethical, and safe behavior online, pre- and post-COVID responses were similar, but parents clearly indicated that improvements are needed, and this will be especially important if online education continues to be a primary method due to the pandemic. Just over half of parents agreed or strongly agreed that these practices are in place both prior to and after COVID, but nearly a quarter (22.4%) prior and and just over a quarter (25.4%) indicated that they disagreed or strongly disagreed.

Recommendation: Provide mandatory orientation to online courses, including technology, class design, academic support resources, and technological support resources.

Target Audience	Teachers, Students
Needs	Clear and comprehensive orientation provided that includes all necessary elements of technology, class design, academic support resources, and technological support resources
Initiatives	Develop and implement comprehensive online course orientations
Goals	To increase student awareness of and ability to access support needs for courses as well as to effectively use learning technologies used in courses
Actions	Develop and implement comprehensive online course orientations
CSFs	Orientations are developed, include all necessary elements, and provided to students
KPIs	• Percentage of students that complete online course orientations

	• Percentage of students that indicate awareness and use of support resources • Number of support tickets related to students' ability to effectively navigate courses and use course technologies

Recommendation: Ensure that academic support resources are available and may be accessed online. Examples include digital libraries and databases, tutoring services, etc.

Target Audience	Administrators, Staff, Teachers, Students
Needs	Provide academic support resources that are accessible online
Initiatives	• Develop sufficient academic support resources • Implement digital access for academic support resources
Goals	To increase student awareness of and ability to access academic support resources
Actions	• Develop academic support resources • Implement digital access for academic support resources
CSFs	Academic support resources are developed and accessible to students online
KPIs	• Percentage of students that indicate awareness of available academic support resources • Students access/engagement with academic support resources

Subdimension: Equity

In this subdimension, administrators, staff, and teachers all indicated that pre-COVID, approximately half or more respondents believed that there were "resources in place to ensure all students, including underrepresented students, have an equitable experience" (Figure 57). Post-COVID, agreement related to these perceptions increased slightly, and disagreement decreased. This is a critical area, particularly during COVID, when students are largely or wholly learning online with the potential for rapid change. Though there was consistency in response, both quantitative and qualitative responses indicate additional needs.

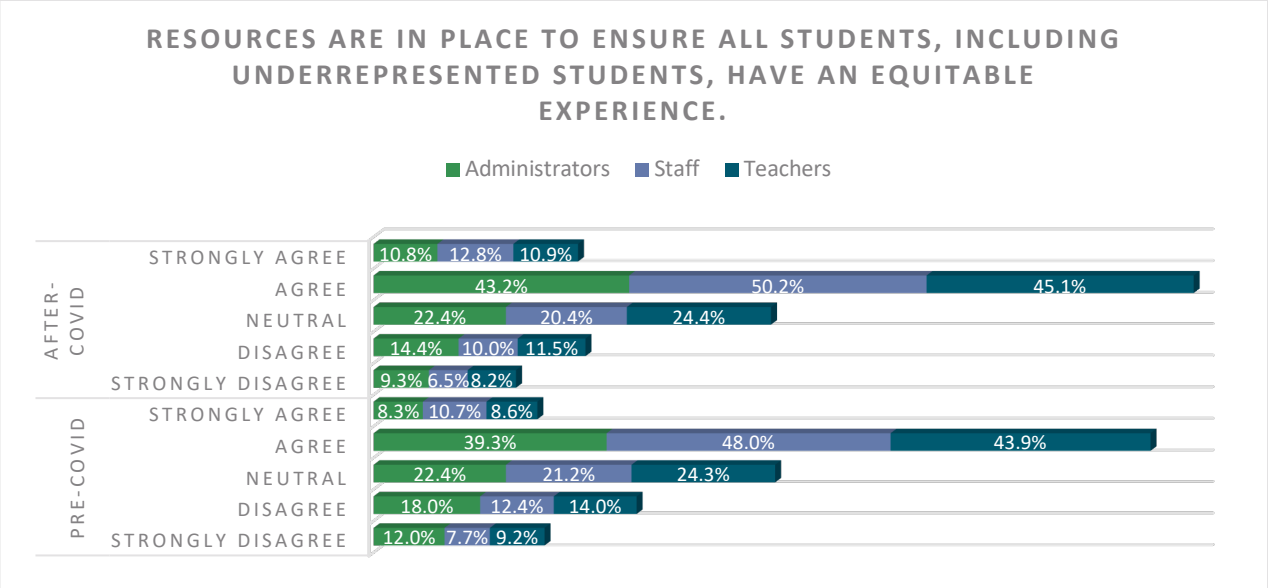


Figure 57

Qualitative data provided substantial context surrounding both the challenges and existing efforts to support student equity. Efforts toward equity appear to be both high-priority for schools as well as holistic in scope. Several respondents indicated that they are better able to provide these services onsite, with one administrator saying "We, at our school, counted students with difficult economic situations who cannot afford to buy computers or use Internet. We bought 10 computers and put them in the library, resource room and computer lab. Then, we asked such students to perform all their duties in any possible time, whether during the break time or almost before leaving." The challenge of providing support in the digital environment was articulated by several respondents. One teacher noted "We do not know whether their parents have provided them with what they need. We do not know whether or not their fathers have low income or whether or not they have internet at home. There are many obstacles in this regard." Despite these challenges, some schools have implemented solutions to assess and address equity. One example from an administrator was "We send a confidential survey for students in which they fill their data financial-wise, health-wise, and else. And the counselor gathers the surveys and collects data...the school provides financial support to the student according to the school ability in order to buy her necessary needs." In addition, respondents indicated support for ensuring that students are able to learn at home if there are cultural barriers. One representative statement from an administrator articulates these needs and solutions: "There are some students that do not enter [the course], so the counselor communicates with the student's parents to convince him. There are some parents when they hear about the problems that happen, they ban their daughters from using the phones. If the parent is afraid, we inform him when the student will perform the homework and send a special mobile message to him so the student can do her homework."

In addition to technological equity, qualitative interviews indicate that schools are invested in providing holistic support for equity, including financial, health, and academic aspects of need. Responses on many of these items are discussed in detail in the social emotional subdimension, and academic equity is particularly relevant to this subdimension. "I think for the digital equity, I think there are a number of solutions that some of them are already

implemented and some of them may be under development. But one of the solutions that was proposed is to design learning journeys that suitable for different, like those with special needs, those with high IQ. Well, they can do more. So, you need to give them something suitable to their capabilities and abilities...I think the whole idea is that to design different learning paths and learning journeys to students with different capabilities."

Recommendation: Develop and implement measures to evaluate student support needs related to equity, including financial, health, and academic areas. Ensuring confidentiality of responses is critical. Note that there is some overlap in this dimension between the equity and social emotional subdimensions and further recommendations are provided specific to social emotional supports in that section.

Target Audience	Administrators, Staff, Teachers, Parents, Students
Needs	Develop and implement evaluations to assess student support needs related to the provision of equitable education opportunities, including financial, health, and academic areas
Initiatives	Develop and implement appropriate evaluations to assess student support needs
Goals	To increase the ability of schools to identify student support needs and provide solutions
Actions	Develop and implement appropriate evaluations to assess student support needs
CSFs	• Development of student support evaluations • Data collection from student support evaluations
KPIs	• Evaluations completed • Data collected

Recommendation: Based on evaluations of student support needs, develop solutions to provide student support that may be accessed by students either digitally, or that account for the inability for students to be on-site.

Target Audience	Administrators, Staff, Teachers
Needs	Develop and implement student support solutions that are not reliant on on-site delivery methods
Initiatives	Develop and implement student support solutions that may be accessed at a distance
Goals	To increase the ability of schools to provide student support regardless of whether students are onsite or online
Actions	Develop and implement appropriate student support and delivery methods
CSFs	• Development of student support services that are accessible via distance • Provision of student support services that are not reliant on on-site presence
KPIs	• Implemented student support services • Number of times student support services are accessed by students

Subdimension: Accessibility

Responses to the accessibility subdimension follow those previous, and indicate that there is room for improvement related to the policies, processes, and resources available to support students with disabilities. At rates of agreement or strong agreement of less than 63%, and disagreement or strong disagreement at 13.5-22.5%, and particularly in the post-COVID environment, attention to accessibility is recommended (Figure 58).

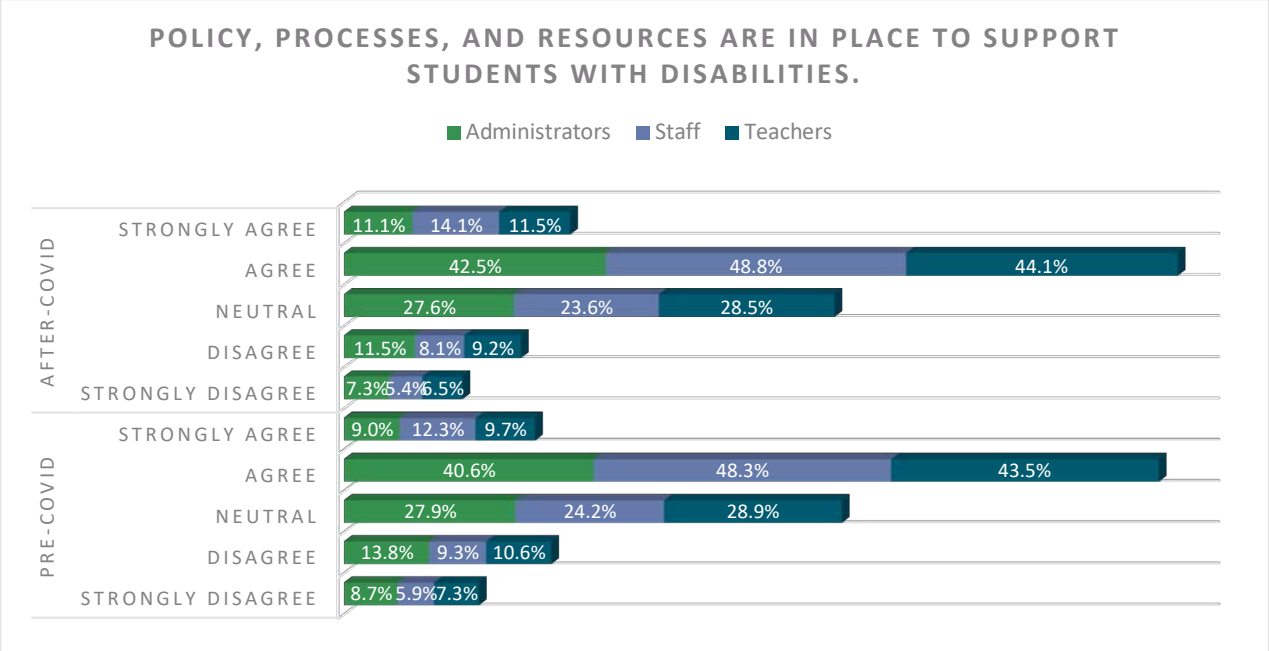


Figure 58

Interview data indicate support for accessibility needs onsite. For example, one administrator said “We make sure that classes are suitable for all of the students...some students have sight problems which led us in some of the times to change the lighting in the classroom. We care about our students, that’s why we support students who face academic issues from teachers and supervisors.” It may be that the necessary focus prior to COVID was primarily on addressing on site needs, and interviews do not reflect digital accessibility, lending strength to the assessment that this area should be a focus.

Recommendation: Ensure that online courses follow accessibility standards.

Target Audience	Administrators, Staff, Teachers
Needs	Ensure that online courses follow accessibility standards to support students with disabilities
Initiatives	Review the use of accessibility standards in online courses and ensure that gaps are addressed
Goals	To increase the ability of students with disabilities to fully access and participate in online learning
Actions	Review the use of accessibility standards in online courses and ensure that they are duly met/maintained to the fullest possible extent
CSFs	• Courses are reviewed for adherence to accessibility standards • Any gaps identified are addressed
KPIs	• Percentage of courses reviewed for adherence to accessibility standards • Percentage of gaps identified and addressed • Access and participation by students with disabilities in online learning

Subdimension: Compliance Standards

As might be expected, responses to the compliance standards subdimension are closely aligned to the accessibility subdimension. Findings indicate that there is room for improvement related to compliance with accessibility standards. Prior to COVID, 50-60% of administrators, staff, and teachers indicated that they agreed or strongly agreed that "online classes demonstrate compliance with accessibility standards," while 14-18% disagreed or strongly disagreed. These ranges remained consistent, though there was improvement across all groups' perception post-COVID, including an increase among staff in agreeing or disagreeing at 65.5% (Figure 59).

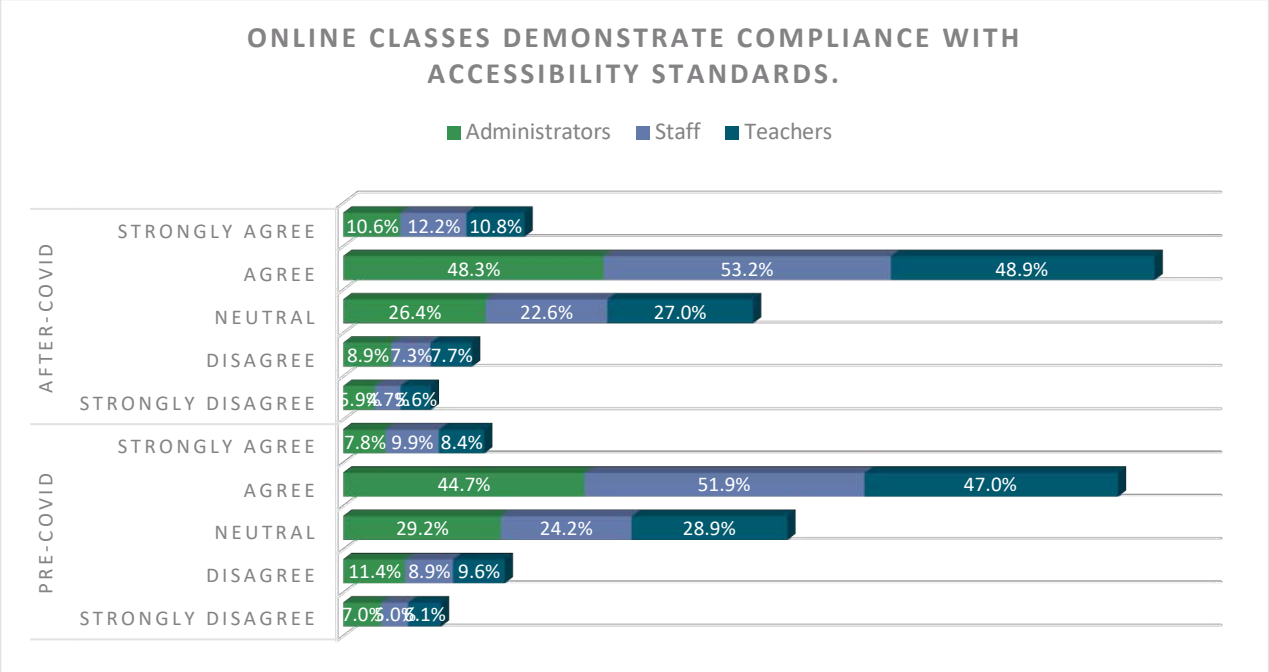


Figure 59

Recommendation: Ensure that accessibility standards (as described the accessibility subdimension) are in alignment with compliance standards.

Target Audience	Administrators, Staff, Teachers
Needs	Ensure that online course accessibility is in compliance with standards
Initiatives	Review online courses for compliance with accessibility standards
Goals	To increase the compliance of online courses with accessibility standards
Actions	Review courses for compliance with accessibility standards and address areas where compliance is not met
CSFs	• Courses are reviewed for compliance with accessibility standards • Areas in which compliance are not met are addressed
KPIs	• Percentage of courses reviewed as compliant with accessibility standards • Percentage of gaps that are identified and addressed • Percentage of compliance standards met in online courses

Subdimension: Social Emotional

Administrators, staff, and teachers consistently agreed or strongly agreed, between 58.3-64.8% that "students are provided with opportunities for social-emotional learning and support, such as building relationships, culture, and community in a remote setting." Disagreement or strong disagreement was indicated at 16.3%-19.5%. These responses were stable both pre- and post-COVID, though post-COVID responses indicated slight improvement. Student responses prior to COVID also followed this pattern, with 60.1% agreeing or strongly agreeing that "support for my well-being (including counseling, etc.) was available to me," and 23.3% disagreeing or strongly disagreeing. The most notable finding was the significant drop in student perceptions of this item post-COVID, with agreement or strong agreement lowering by 20 percentage points, to 39.6% and disagreement or strong disagreement increasing to 43% (Figure 60).

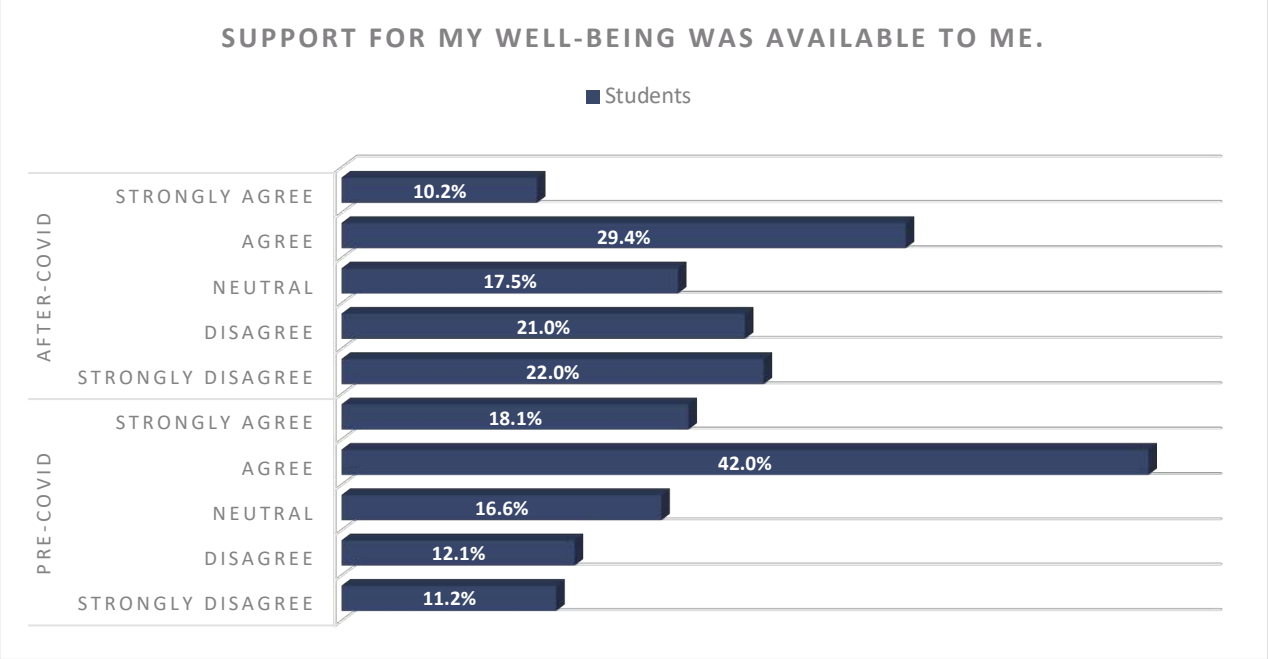


Figure 60

Additionally, students were queried about "opportunities to build relationships and community online" and whether they were able to make friends with their classmates and others online. Responses both pre- and post-COVID were consistent, though they indicate the need for more opportunities and support in these areas. Agreement or strong agreement ranged from 37.6-46.9%, and with approximately equal disagreement or strong disagreement at 36.8-43.1%.

Though responses specifically relevant to the survey items noted above indicate the need for improvement, particularly post-COVID, considerations of student support are holistic, and include social emotional components, including physical and mental health as well as financial situations. Many respondents noted that their schools provide access to medical services, and several noted that their schools educate students on health and hygiene, and provide supplies as needed. Additionally, respondents repeatedly indicated that they monitor social

emotional support needs to identify students who require services. One administrator said “We communicate with our students regularly, the counselor is responsible of following up with students, and keeping in touch with the teachers in case any issue or changes occurred on any of the students. We also keep communicating with the parents.” Direct financial support is indicated, as well as support for basic needs such as meals and clothing. Interview participants identified that providing services has been difficult during COVID. One administrator said “It is hard to make sure that every student is able to have support. You can make sure that the students have the important things while they are at school. But you do not have the right to access students’ rights. The conditions of families are different. But in general, schools they give hand the student to make sure to get everything they need, even in all life aspects, and everyone tries their best and gives everything they can for the students. But when it comes to online learning, when the student are at home, it’s really hard to make sure that everyone has the same support services because you do not have the right to access their lives to help them.” Another said “In e-learning, none of them [support services] were provided. Each student had to deal with his own personal resources and abilities.” However, awareness of support needs are present, and while it may not have been possible to provide them during COVID, interviews indicate that schools are actively developing situational assessments and focusing attention on solutions for providing social emotional support.

Recommendation: Develop and implement measures to evaluate student support needs related to social emotional areas. Ensuring confidentiality of responses is critical. Note that there is some overlap in this dimension between the equity and social emotional subdimensions and further recommendations are provided specific to equity supports in that section.

Target Audience	Administrators, Staff, Teachers, Parents, Students
Needs	Develop and implement evaluations to assess student support needs related to the provision of social emotional services
Initiatives	Develop and implement appropriate evaluations to assess social emotional student support needs
Goals	To increase the ability of schools to identify social emotional student support needs and provide solutions
Actions	Develop and implement appropriate evaluations to assess social emotional student support needs
CSFs	• Development of social emotional student support evaluations • Data collection from student support evaluations
KPIs	• Evaluations completed • Data is collected

Recommendation: Based on evaluations of social emotional student support needs, develop solutions to provide support that may be accessed by students either digitally, or that account for the inability for students to be on-site.

Target Audience	Administrators, Staff, Teachers
Needs	Develop and implement social emotional student support solutions that are not reliant on on-site delivery methods
Initiatives	Develop and implement social emotional student support solutions that may be accessed at a distance
Goals	To increase the ability of schools to provide social emotional support to students regardless of whether students are onsite or online
Actions	Develop and implement appropriate social emotional student support and delivery methods
CSFs	• Development of social emotional student support services that are accessible via distance • Provision of social emotional student support services that are not reliant on on-site presence
KPIs	• Implemented student support services related to social emotional needs • Number of times student support services related to social emotional needs are accessed by students

Recommendation: Provide course-based opportunities for the social emotional support of students, such as opportunities to build relationships and community online, in addition to intervention strategies as noted above.

Target Audience	Teachers, Students
Needs	Opportunities to develop social emotional support in normal course engagement, including relationship- and community-building
Initiatives	Develop and implement opportunities for students to build relationships and communities within their courses
Goals	To increase social emotional support of students through opportunities for relationship- and community-building
Actions	Develop and provide opportunities for students to build relationships and communities in the context of their regular course engagement
CSFs	Opportunities are present for students to build relationships and communities within their online courses
KPIs	• Students' social emotional support opportunities within their online courses • Student participation in such opportunities to effectively build social emotional support systems

Subdimension: Innovation

Innovation related to student support focused on communication modes and tools. Administrators, staff, and teachers were consistent in their responses both pre- and post-COVID, though there were slight improvements after COVID. Respondents agreed or strongly agreed at rates of 61.7-69.9%, and disagreed or strongly disagreed at 11.4-16.8%.

Recommendation: Include innovative communication modes and tools for supporting students in online environments.

Target Audience	Administrators, Staff, Teachers
Needs	Increased and effective communication in online courses
Initiatives	Discover and implement innovative methods of communicating with students in online courses
Goals	To improve communication methods in online courses
Actions	Discover and implement innovative methods of communicating with students in online courses
CSFs	Innovative communication methods are implemented in online courses
KPIs	Students recognize the presence and effectiveness of communication in online courses

Dimension VII: Training & Support

The Training and Support dimension measures five subdimensions including Technical Assistance, Professional Development, Orientation (Student & Parent), Mentoring, and Innovation.

Training and support readiness appears to have been commensurate with the pace of online learning development and delivery in a pre-COVID environment. Post-COVID, survey and interview results indicate that although training and support related to online learning was not fully prepared for the shift due to the pandemic, sufficient resources existed for prior needs and actions were taken to provide them for the COVID and post-COVID environments. Focus in all areas, building upon training and support initiatives continued or launched during COVID is recommended for improved readiness for effective online learning following the pandemic.

Overall findings within the Training and Support dimension indicate that school administrators, staff and teachers are satisfied with the relative activities and opportunities provided. By and large, school administrators, staff and teachers agreed or strongly agreed, at around 50%, that the queried practices in each subdimension are introduced and effectively actualized. The most impactful finding in measuring the Training and Support dimension is represented by the rise in satisfaction and strong satisfaction indices from pre- to post-pandemic phases, and the concurrent decline in the general and strong disagreement rates, alongside the proportion of neutral attitudes.

The majority of school administrators, staff and teachers agreed that teaching online courses has sufficient training and support for the transition to distance learning. These activities include continuing practice-oriented ministerial and non-ministerial courses on training, assistance, and support to prepare for classes and teaching online. There are some small discrepancies between perceptions of administrators, staff and teachers to the degree of their agreement, but they generally trend similarly positively.

While students were not asked to elaborate on the items from the included subdimensions, since it would be unlikely that they would have insight into these areas, interview questions reveal concerns that teachers were not always adequately prepared nor had sufficient technical assistance to support students and have high quality subject course delivery.

Not so long ago, teachers could have voluntarily taught online relying mainly on their personal interest in technology and willingness to develop online teaching skills. Today, transforming into an online teacher is a ubiquitous requirement, since education systems worldwide shift their focus to blended learning. Moreover, the overwhelming majority of students are denizens of the digital environment, and it is crucial that teachers keep up with the times and emergencies. Thus, the teacher training and supporting system must prepare educators for the new reality.

Subdimension: Technical Assistance

Measures of satisfaction with technical assistance both pre- and post-COVID among school administrators, staff and teachers display an obvious positive trend toward the upside in general and strong agreement rates, with the majority of participants indicating that they are overall satisfied or very satisfied about the survey items. Conversely, the degree of disagreement reduced through the pandemic, which is well supported by quantitative data thereto (decline of approximately 2%, corresponding to over 1000 respondents to the survey) (Figure 61).

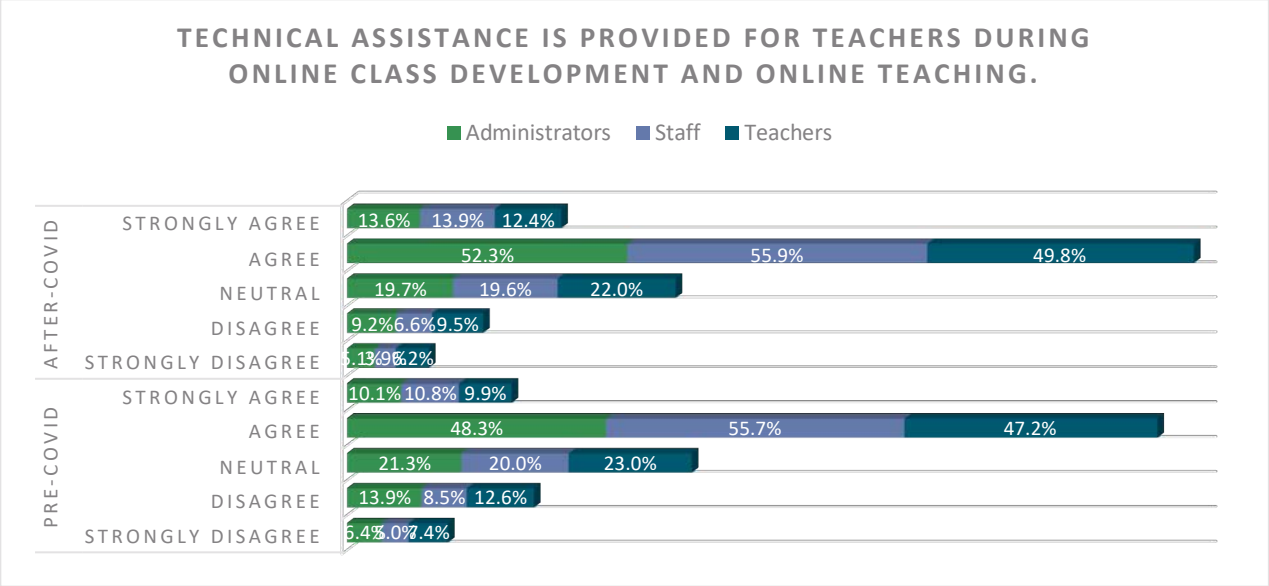


Figure 61

While students did not respond to this subdimension, the fact that teachers faced technical issues, concerning recorded lessons, 3D movie making, online scientific experimenting, education platforms (Future Gate or alternative) and smartboard utilization, remote exercising and evaluation, evidentiated the fact that, in principle, everyone needed more sufficient technical assistance to use advanced technologies and continuingly emerging instrumentality for teaching, learning and interaction.

Recommendation: Develop technology-facilitated web-mediated guidance and instruction program to integrate principles for meaningful and sustained online learning in addition to addressing workplace barriers to sustained learning through non-stop training. Feedback from all members of the education process is a pre-condition for ensuring appropriate technical assistance.

Target Audience	Administrators, Staff, Teachers, Students
Needs	Further improve technical assistance mechanisms for educators and students during online activity development and online teaching and learning
Initiatives	• Create a centralized support space through a website/education portal • Resources explicitly shared and stressed by teachers in syllabi and online course, and school
Goals	• To remove technical obstacles for teachers' pedagogical success and students' learning progress • To develop and implement online resources for common use and contribution
Actions	• Create expert teams of stakeholders at schools including student members to inspire and guide the development of most required resources

	• Create a centralized portal/website with curated resources (e.g., guides, videos, online video lectures, frequently asked questions) and support mechanisms (e.g.: live chats, chatbots, fora) • Communicate resources through Future Gate, online courses, and syllabi
CSFs	• Stakeholder expertise, adequate response to student needs and teacher requirements • Centralized website available with curated insightful resources and support mechanisms, and updated to ensure actuality of materials and urgency of assistance provided • Resources shared through Future Gate or alternative education platforms, online courses, and syllabi
KPIs	• Page views and hits on website • Future student technical issues duly collected and considered to update the resource base • Common support language in syllabi and online courses • Shared pedagogical elaborations and successful resources

Subdimension: Professional Development

Measures of satisfaction with professional development both pre- and post-COVID among school administrators, staff and teachers validated the growing satisfaction with the professional development opportunities ensured, with the majority of respondents satisfied (51%) or very satisfied (14.5%). It is noteworthy that the proportion of those strongly agreeing on the relative survey items rose by 3% from pre- to post-COVID times.

Overall, the majority of school administrators, staff, and teachers express that those teaching online receive training assistance and support to prepare for course development and remote education activities. Administrators and staff report that they agree or strongly agree at the rates of 54.6% and 15.5%, respectively, that professional development for online teaching and learning was continuingly and substantially ensured (Figures 62, 63).

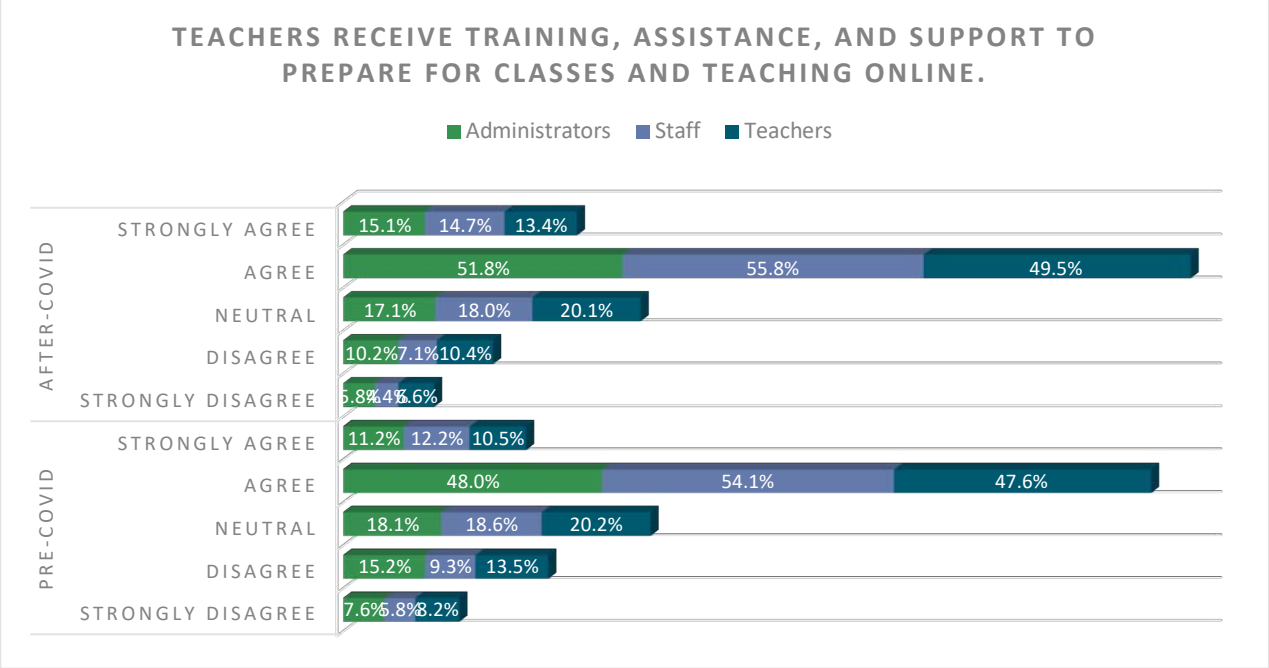


Figure 62

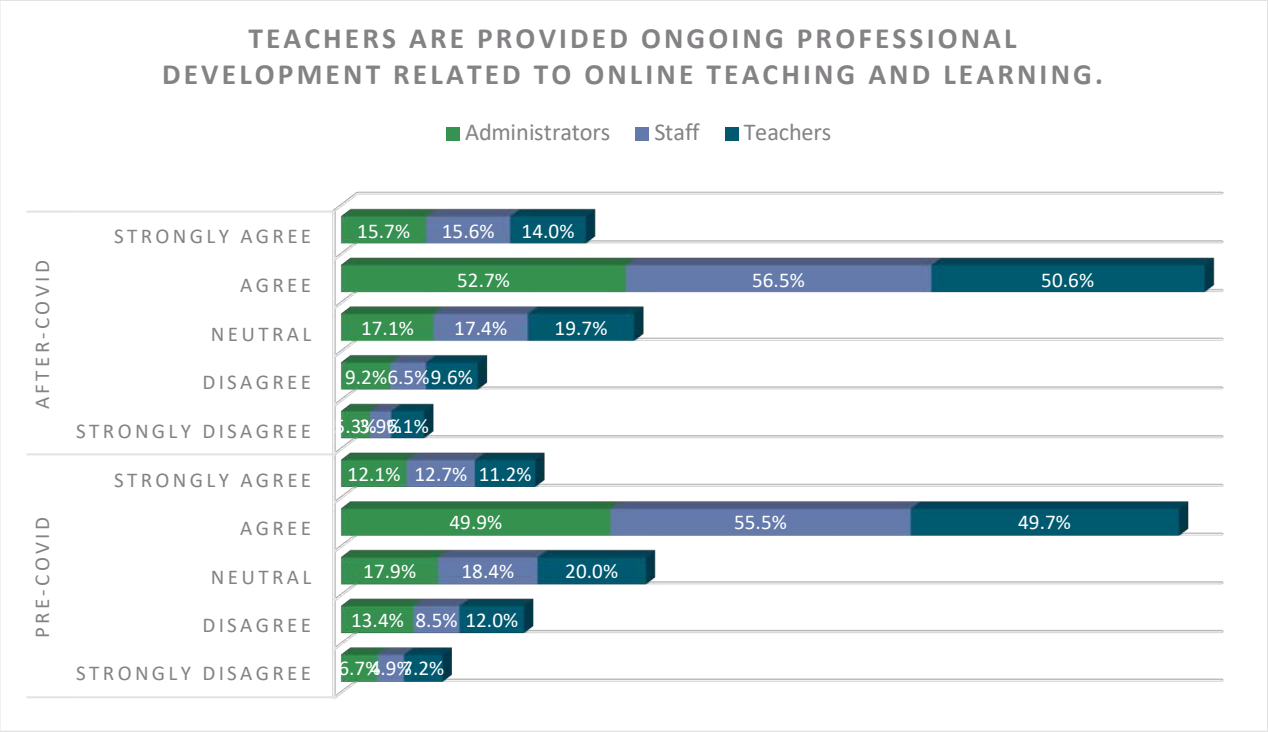

TEACHERS ARE PROVIDED ONGOING PROFESSIONAL DEVELOPMENT RELATED TO ONLINE TEACHING AND LEARNING.
Administrators
Staff
Teachers
AFTER-COVID
STRONGLY AGREE
AGREE
NEUTRAL
DISAGREE
STRONGLY DISAGREE
15.7%
15.6%
14.0%
52.7%
56.5%
50.6%
17.1%
17.4%
19.7%
9.2%
6.5%
9.6%
PRE-COVID
STRONGLY AGREE
AGREE
NEUTRAL
DISAGREE
STRONGLY DISAGREE
12.1%
12.7%
11.2%
49.9%
55.5%
49.7%
17.9%
18.4%
20.0%
13.4%
8.5%
12.0%

Figure 63

Expert Recommendation: Online learning will further increase in the future, and school administration and staff need to identify ways to provide ongoing support to their pedagogical staff in order to prepare them to teach in online learning environments. This includes subject-related content development, ability to interact with students efficiently, capacity to utilize new technology, etc. Thence, ensuring ongoing professional development, training and assistance in pedagogy and technology is essential for schools to develop the knowledge, skills, and abilities to design and teach online classes. This will gradually result in solid and widespread improvement within and beyond the school level itself.

Target Audience	Administrators, Staff
Needs	Regular access to comprehensive and up-to-date professional development
Initiatives	Continuing professional subject- and technology-related training and support for teachers to develop the knowledge, skills, and abilities essential for designing and giving online classes
Goals	To organize non-stop collaborative and job-embedded professional development to increase efficiency and confidence of teachers
Actions	• Conduct needs assessments using data from staff surveys to identify areas of professional development most requested and anticipated by teaching staff • Identify mentors and coaches (either in-house or through expert providers) to guide and support teacher learning specific to online education • Ensure access to demo online lessons, assignment co-designing, co-planning, curricular resources, including lesson units and assessment tools
CSFs	Sufficiently and adequately prepared educators to teach online through accessible and adequate collaborative and job-embedded professional development
KPIs	Teacher efficiency and self-efficacy

Expert Recommendation: Time can be an advantage and a challenge in an online learning environment. A recommendation might be moving a long synchronous training into a modular, asynchronous format. This will ensure opportunities for teachers to complete training activities and assignments with thorough approach and attention, when they have available time for that. Flexibility is a virtue of remote learning, thus, teachers should, as well, benefit from the "new reality" in their personal and professional advancement. Positive is the fact that overall dissatisfaction of school administrators, staff and teachers about adequacy of time to engage in professional development, decreased through the pandemic from 18.9% pre-COVID to 15.6% post-COVID.

Target Audience	Administrators, Staff
Needs	Increase opportunity for teachers to complete professional development and remove barriers to supporting online resources and instructions
Initiatives	Extend and reinforce teachers' professional advancement and promote educators' capacity building
Goals	To provide teachers with adequate time to learn, practice, implement, and reflect upon new strategies that facilitate changes in their professional practice
Actions	• Evaluate the use of time and redesign school schedules to increase opportunities for teachers' professional development, self-education and co-working • Organize active learning, aligned with national policies and school curricula, and provide sufficient learning time for teachers to engage and progress • Ensure availability of meaningful training sessions of convenient structure and duration within an academic year • Break longer training sessions into more manageable elements that can be completed over a longer period of time
CSFs	• Modular content that can be completed in less time • Technical support structure for short courses • Expert group of mentoring teachers and staff to ensure feedback on curated resources • Teachers made aware of resources through a variety of channels (e.g., school website, Future Gate or alternative online platforms, emails, etc.)
KPIs	• Time teachers have to learn, practice, implement, and reflect upon new teaching strategies • Number of opportunities to engage in learning around a single set of concepts or activities within an academic year • Students learning outcomes as a result of efficient teacher professional development schemes

Subdimension: Orientation

Measures of satisfaction with orientation both pre- and post-COVID among school administrators, staff and teachers show positive movement, with the majority of participants indicating that they are satisfied or very satisfied and their numbers and shares increasing through the pandemic.

Very close to or even over half of administrators, staff, and teachers felt that educators received a sufficient technology and instructional design orientation. Overall, administrators and staff reported satisfaction before and after the pandemic, at 65% and 68.4% respectively. Teachers' aggregated satisfaction rates pre- and post-COVID featured 59.8% and 62.9%, accordingly. At the same time, teachers' share of those very satisfied is recorded less than those of administrators and staff with higher "strongly agree" figures and rates (Figure 64).

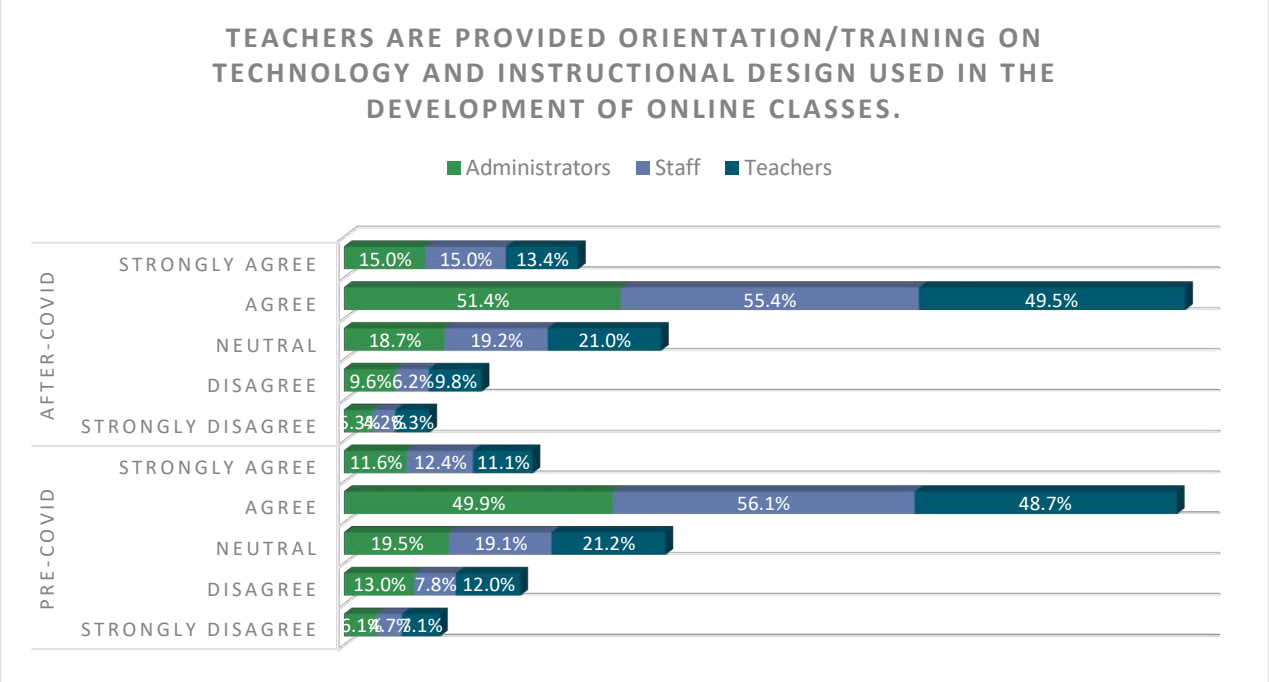


Figure 64

A school administrator from Jeddah shared specific encouraging experience, stating that the school educators start an academic year 2 weeks before students, when they have 2 courses per day. Several training sessions are held, particularly on the essentials of using a smartboard. All staff members attend training with ICT instructors in the labs. At the beginning of each academic year, the school teachers undergo training on Future Gate. Intensive training sessions are additionally available for new teachers. Administration starts the school year before teachers, so the first have one week, which includes much training on technology use.

Expert Recommendation: Most teachers state that they received abundant, comprehensive and sufficient pedagogical and technology-specific orientation. Quality interviews provide considerable evidence of the numbers obtained. Throughout the Kingdom of Saudi Arabia, technological equipment is quite similar across schools and regions. As mentioned by several respondents in the quality interviews, schools in the Kingdom do not lack technologies or instrumentality, what is required is relevant and valid expert training and support.

Target Audience	Ministry of Education, Education Departments, NELC
Needs	Improve access to orientations for widespread and promising technologies
Initiatives	Develop, test and share common orientation modules for schools
Goals	To decrease resistance and challenges among teachers for online learning technologies and improve student outcomes
Actions	• Generate shared vision on high-quality teaching standards, instruction and evaluation • Identify widespread technologies and determine most critical for development • Partner with relevant educational institutions to develop and pilot orientation modules • Use best national and international practices of teacher professional development, which have raised student performance, for better understanding of effective and rational orientation and support
CSFs	• Education-critical technologies identified • Regularly updated orientation modules to include new technologies • Piloted at schools to provide reasonable and actual feedback • Orientations easily accessible and shared with key personnel at institutions
KPIs	• Number of modules developed and updated periodically • Number of modules accessed and implemented by institutions

Subdimension: Mentoring

Measures of satisfaction with mentoring in the pre- and post-COVID times among school administrators, staff and teachers designated increase in overall satisfaction across the involved target groups, while negation rates decreased through the pandemic (total strong disagreement percentage decline by 3% from pre- to post-COVID). The majority of participants stated that they were satisfied (total rate of 49.1%), however the second popular response to the survey was neutral, though featuring a decrease by over 2%. It is important and encouraging to note that post-COVID, the "strongly agree" evaluation of the mentoring opportunities showed the highest rise from the pre-pandemic period (Figure 65).

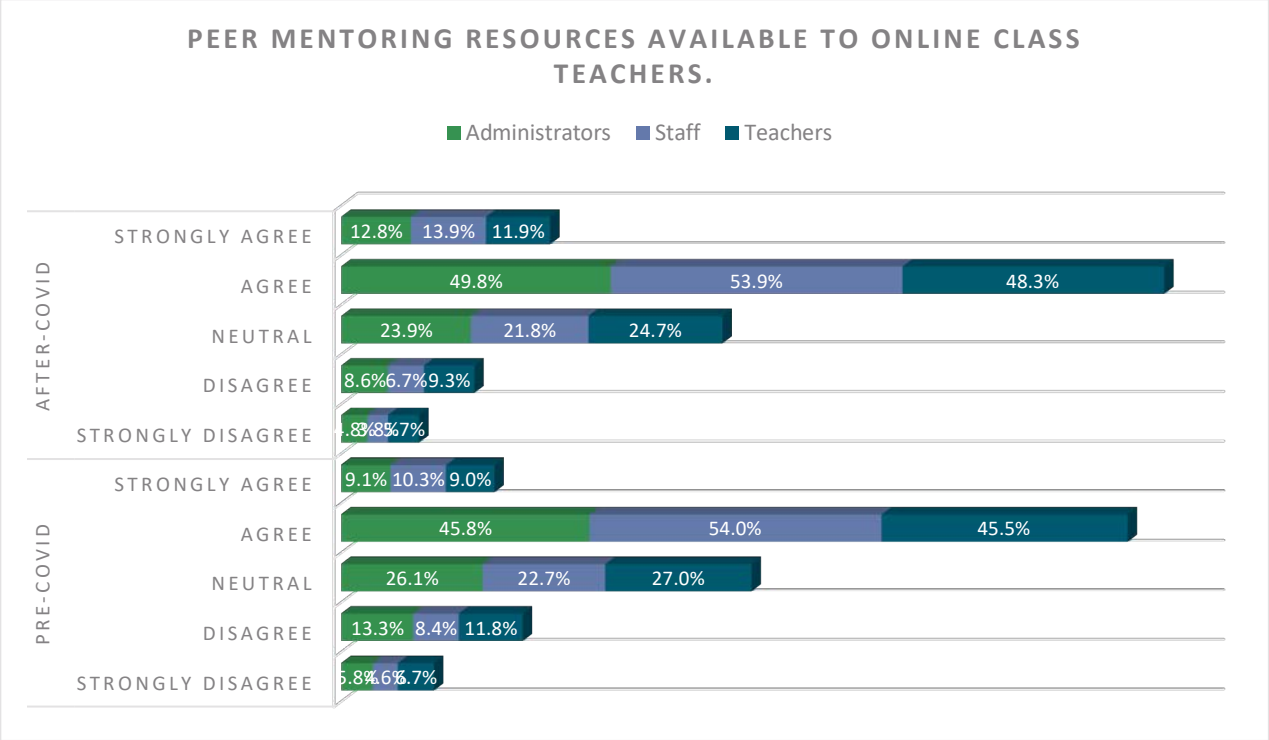


Figure 65

Recommendation: Not all teachers receive sufficient peer mentoring resources, some have never had the experience. Peer mentoring provides opportunities to support each other through the shift to remote and fully-online teaching and learning as well as basic life needs and continuing to grow as an academic. A centrally-coordinated virtual mentoring program can ensure opportunities for more consistent and viable connection and support.

Target Audience	Administrators, Staff, Teachers
Needs	Develop, sustain and improve opportunities for peer mentoring
Initiatives	Design a virtual peer support (peer observation/peer evaluation) and mentoring program for collegial learning groups
Goals	To provide flexible, continuing and consistent mentoring, coaching and sustained engagement in collaboration
Actions	• Communicate with teachers to identify acute mentoring needs • Connect mentors with mentees based on their needs and preferences • Provide resources and incentives where possible and appropriate
CSFs	• Teacher needs and preferences identified • Mentors and coaches approved and assigned • Schemes < procedures and criteria duly communicated to teachers-mentees • Feedback collected and considered to improve program where possible
KPIs	• Number of mentors and mentees • Academic output (e.g., publications, grants, etc.) • Staff retention • Teachers' health and wellbeing

Subdimension: Innovation

Measures of satisfaction with training and support innovation both pre- and post-COVID among school administrators, staff and teachers followed the positive trend toward the upside in general and strong agreement rates, with the majority of participants (total of 51.3%) indicating that they are overall satisfied with the provided opportunities to select new tools and pilot emerging technologies. It is noteworthy and remarkable that strong agreement on the survey innovation item is characterized by the highest rise in rates (upwards by over 3% post-COVID). Quite the contrary, dissatisfaction indicators decreased, as well as the proportion of neutral responses.

The majority of administrators, staff and teachers reported that educators were duly informed and encouraged about advanced technology and emerging tools. Post-COVID, administrators and staff reported at 52.8% and teachers similarly reported at 79.9% in aggregate and teachers as a sole group evidentiated their satisfaction at 50.4% (post-COVID) (Figure 66).

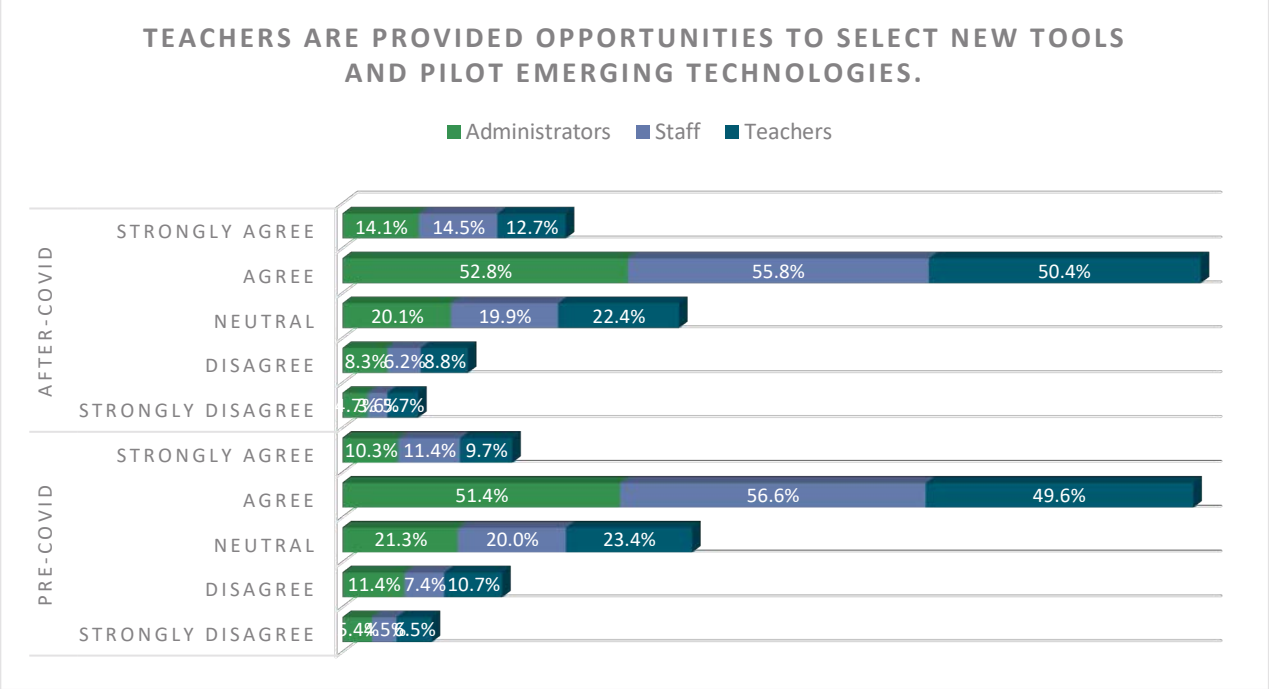


Figure 66

Expert Recommendation: Despite the expanding access to advanced technology and the fact that tech savvy teachers join education systems and communities, teachers still prevalently report "moderate" not "frequent" or "widespread" use of technology as instructional instrumentality (due to policies, age, infrastructure issues, etc). It is quintessential that, if technology is used as a teaching and learning tool, correlating to educational goals and assessment, embedded within a comprehensive pedagogical approach and guided by efficient techniques, technology can ensure better instruction, student collaboration, motivation and learning outcomes. The great way to support awareness and use of new technologies is through a teacher learning community program. Such programs can be led by external experts or members of the school teaching staff, or can even be coordinated centrally through regional education department(s) and teaching and learning centers.

Target Audience	Administrators, Staff, Teachers
Needs	Greater awareness and more impactful integration of advanced technologies
Initiatives	Develop a teacher learning community program
Goals	To build capacity around online learning tools and innovative pedagogical approaches
Actions	• Teachers form a community (or multiple communities) • Educational institutions recruit teachers/pedagogues into communities and provide centralized coordination
CSFs	• Community groups formulate their common and accepted objectives, set regular meetings, share resources, best practices and ideas • Clear and well-communicated expectations for program, regular meetings, a focal point to coordinate the group and ensure all needs and requirements are met, incentives for participation (resources, awards, grants, recognition, etc.), recruitment from all departments to grow best performers
KPIs	• Number of groups • Participation in groups • Dissemination of knowledge and skills

Dimension VIII: Evaluation & Continuous Improvement

The Evaluation and Continuous Improvement dimension measures five subdimensions including Evaluation of Course Outcomes and Program Quality, Student Satisfaction, Teacher Satisfaction, Staff Satisfaction, and Innovation.

Respondents indicated that improvements to readiness are needed regarding evaluation and continuous improvement. Areas requiring the most attention are evaluation of course outcomes and program quality, including the development and implementation of clear processes and metrics, as well as review and process implementation of student satisfaction measures. Both teacher and staff satisfaction increased following COVID, though recommendations are provided to further improve the ability to collect and constructively use feedback.

Survey questions focused on evaluation and continuous improvement were included for administrators/staff, teachers, parents and students. Qualitative data from interviews was also obtained from administrators/staff and teachers.

Subdimension: Evaluation of Course Outcomes & Program Quality

Regular review of online classes and programs are necessary to ensure that content is current and meeting the needs of the learners. A review of survey responses from administrators, staff and teachers reflects agreement that in most cases, that the procedures and policies for evaluating and improving online courses and programs were in place before and after COVID-19 (see Figure 67). Given the percentages that were neutral or not in agreement, this may still be an opportunity for improvement. As seen in Figure 68, similar results were identified regarding the question "intended learning outcomes at the class and program level are reviewed regularly to ensure alignment, clarity, utility, appropriateness, and effectiveness."

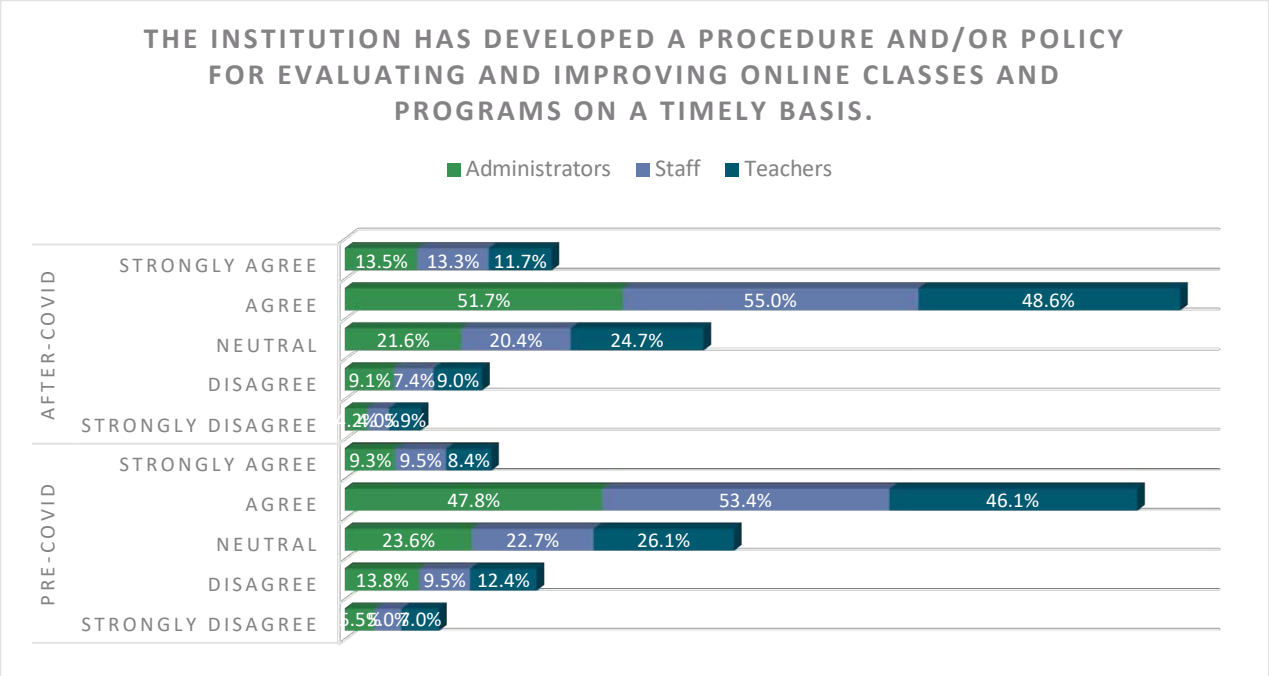


Figure 67

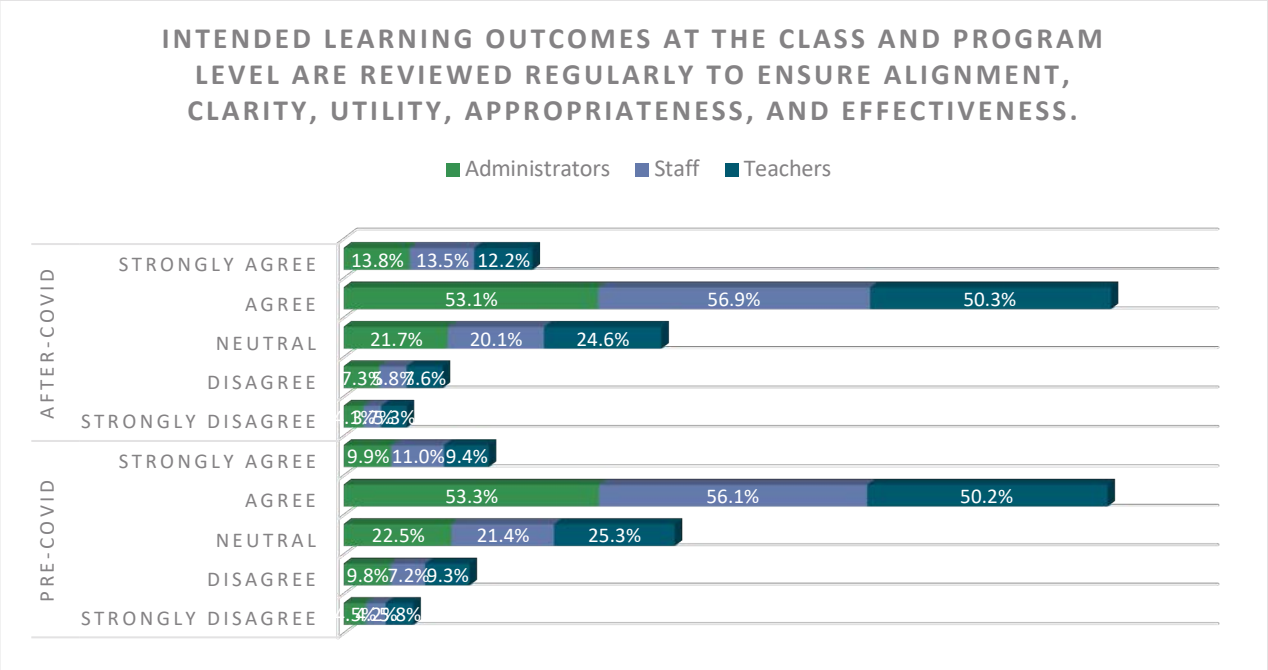


Figure 68

It appears that most administrators were satisfied that their programs used an evaluation process that applied specific established standards. The percent in agreement went up after COVID-19 to 63.6% agreement from 56.4% before COVID-19. Similarly, the number that were not in agreement about having a process in place went down after COVID-19 to 12.3% from 17.8% prior to COVID-19 (Figure 69).

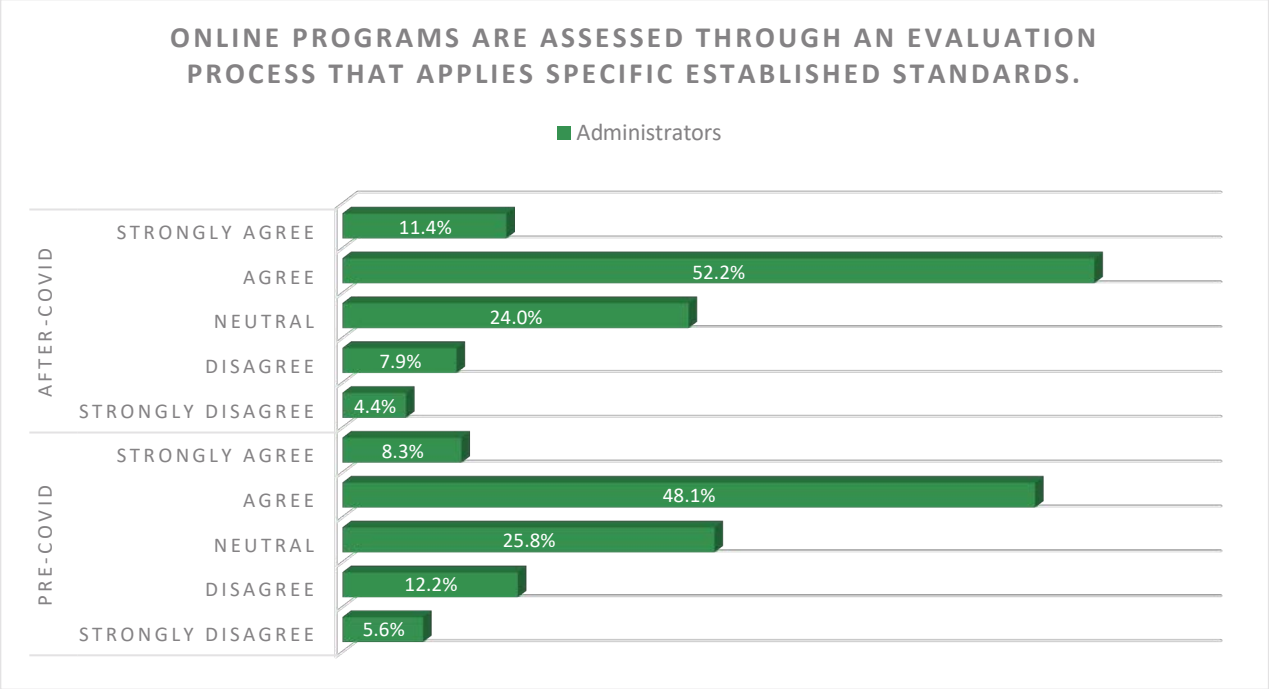


Figure 69

There is a lot of data available to help administrators make informed decisions especially in continuous improvement efforts. The majority of administrators indicated that data was being used to evaluate program effectiveness. The responses did show some improvement between pre-COVID (56.9%) and post-COVID (63.9%) efforts. However, there appears to be a disconnect between the survey results and responses by administrators and teachers in interviews that were conducted (Figure 70).

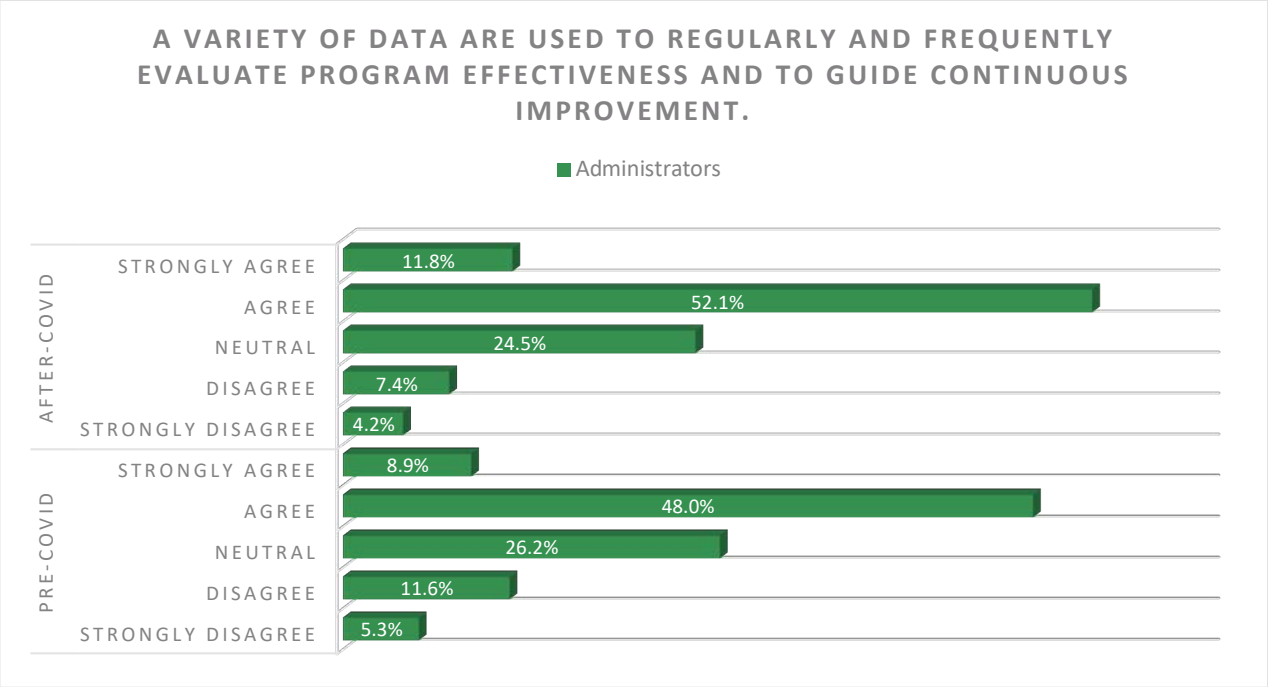


Figure 70

During interviews with administrators and teachers, a number of questions were included regarding the use of evaluation methods for online learning programs before, during and after COVID-19. The interviews reflected that a variety of methods are used to determine course quality, although in some cases it was noted that no data is used in the program evaluation process, either before or during transition to remote learning. There are external resources (e.g., achievement exams, supervisor reviews, etc.) and internal sources of data (e.g., student and parent satisfaction, pre-exams, student grades, etc.) that were identified as regular sources of data.

However, the measures used to determine quality in a course were not consistent or formal processes. As one administrator stated, “Through the teacher herself, I don’t interfere in courses and curriculums, but the teacher herself knows how to determine the quality of the course.” Another administrator noted, “Unfortunately, feedback is the weakest point in our schools. There’s no monitoring for the content presented to be developed.” This sentiment was echoed by some teachers, “Our school does not have a quality system or program. They have not set any quality programs.” Asked a similar question, another teacher stated, “The school doesn’t do anything, honestly.” While there similar responses noted, not all teachers indicate a lack of methods to review course quality. One teacher shared that the process at their school included a “…committee at school, consisting of the principal, the deputy and a group of teachers. They discuss each subject’s curricula, mistakes and books’ editing.”

When considering what might change post-COVID, there was an interest in having clear procedures provided by the Ministry of Education. There were also specific ideas shared regarding what could be used to improve course quality in the future. As one administrator noted, “To check if the teacher has delivered quality online learning,

through observing, surveys for parents and checking the results, surveys and feedback from the students, and meetings."

Also important in an evaluation of an online program is a process to assess teaching performance. When surveyed regarding the processes in place to accomplish this, the majority (55.5%) were in agreement that this was occurring before COVID-19. After COVID-19, it appears that steps may have been taken to improve this process since the level of agreement increased to 64.6% (Figure 71).

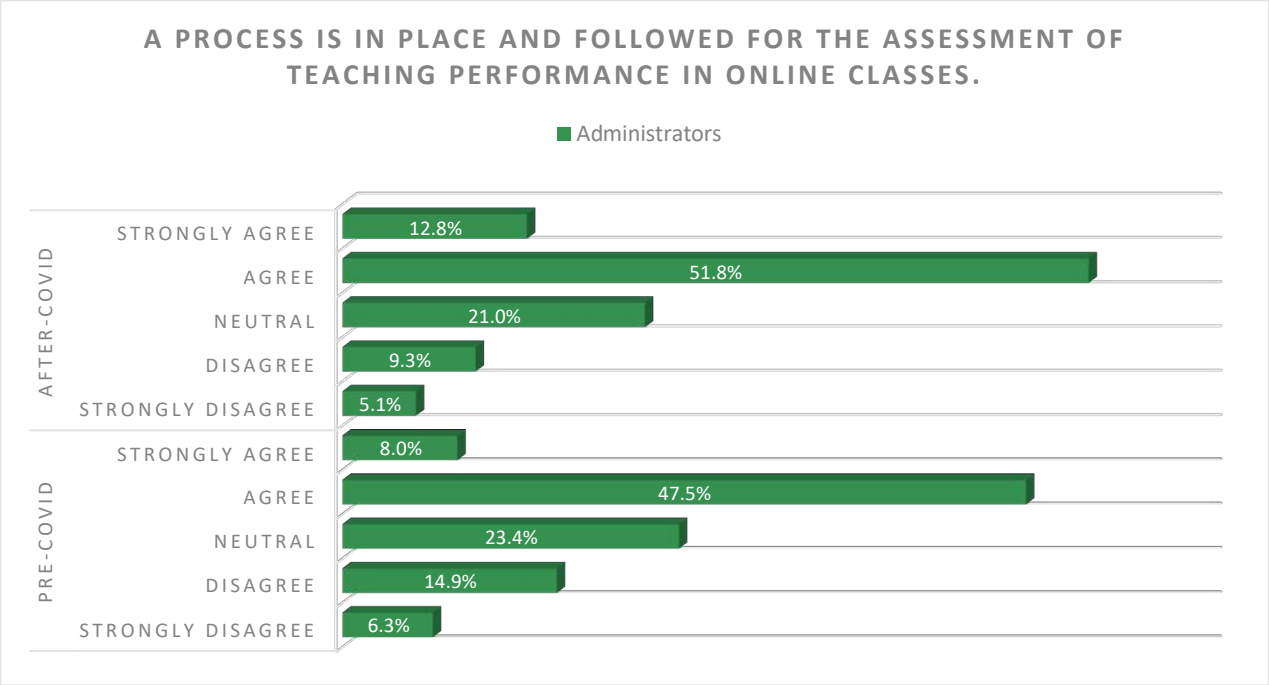


Figure 71

Administrators and staff indicated agreement that for the most part that there is a process in place that is followed for the assessment of support services for teachers and students. Similar to other survey responses, this indicated an increase in agreement after COVID-19 (65.3% Administrators; 69.6% Staff) as compared to prior to COVID-19 (58.1% Administrators; 67.7% Staff). This reflects the likely steps that many institutions took during the transition to remote learning to prepare for upcoming school years (Figure 72).

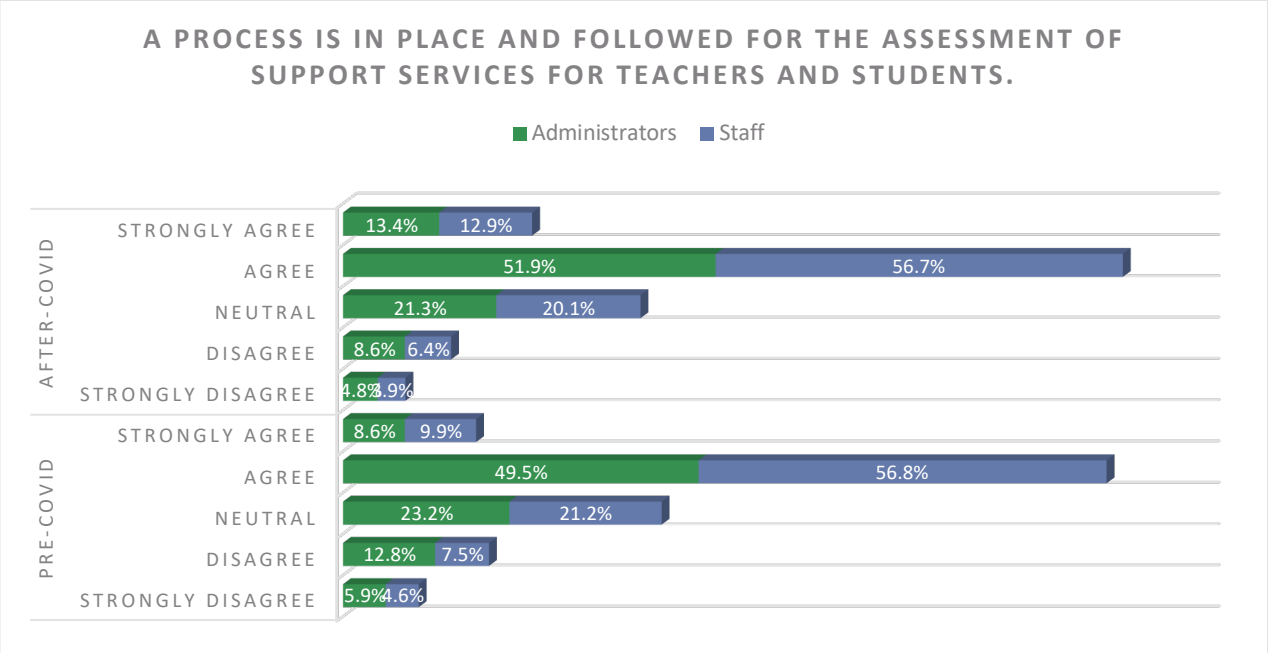


Figure 72

Recommendation: Provide processes, procedures, and policies on course and program evaluation, including regular review and updating.

Target Audience	Teachers, Parents, Students
Needs	Develop and implement clear processes, procedures, and policies on course and program evaluation, including regular review and updating
Initiatives	Processes, procedures, and policies on course and program evaluation, including review and updating, are developed and implemented
Goals	To maintain and/or increase a high level of adherence to processes, procedures, and policies for course and program evaluation, and to continually improve these items through regular review and updating
Actions	• Develop and implement course and program evaluation processes, procedures and policies • Regularly review and update course and program evaluation processes, procedures, and policies
CSFs	• Course and program evaluation processes, procedures, and policies are in place • Course and program evaluation processes, procedures, and policies are regularly reviewed and updated as appropriate
KPIs	• Percentage of course and programs in alignment with established processes, procedures, and policies

	• Frequency of review and updates for course and program processes, procedures, and policies

Subdimension: Student Satisfaction

Parents were given the opportunity to respond to several questions on the survey related to the evaluation of course outcomes and program quality both before and after the COVID-19 transition. When parents were asked if "parents and students were provided an opportunity to give feedback on their experiences with online classes," there was little change noted in their responses pre- and post-COVID. Prior to COVID-19, parents indicated only a 34.7% agreement (6.8% strongly agreed and 27.9% agreed) and 45.0% disagreement (21.9% strongly disagreed and 23.0% disagreed) with that statement. After COVID-19, that changed to 37.2% agreement (7.9% strongly agreed and 29.3% agreed) and 43.1% disagreement (22.0% strongly disagreed and 21.1% disagreed) (Figure 73).

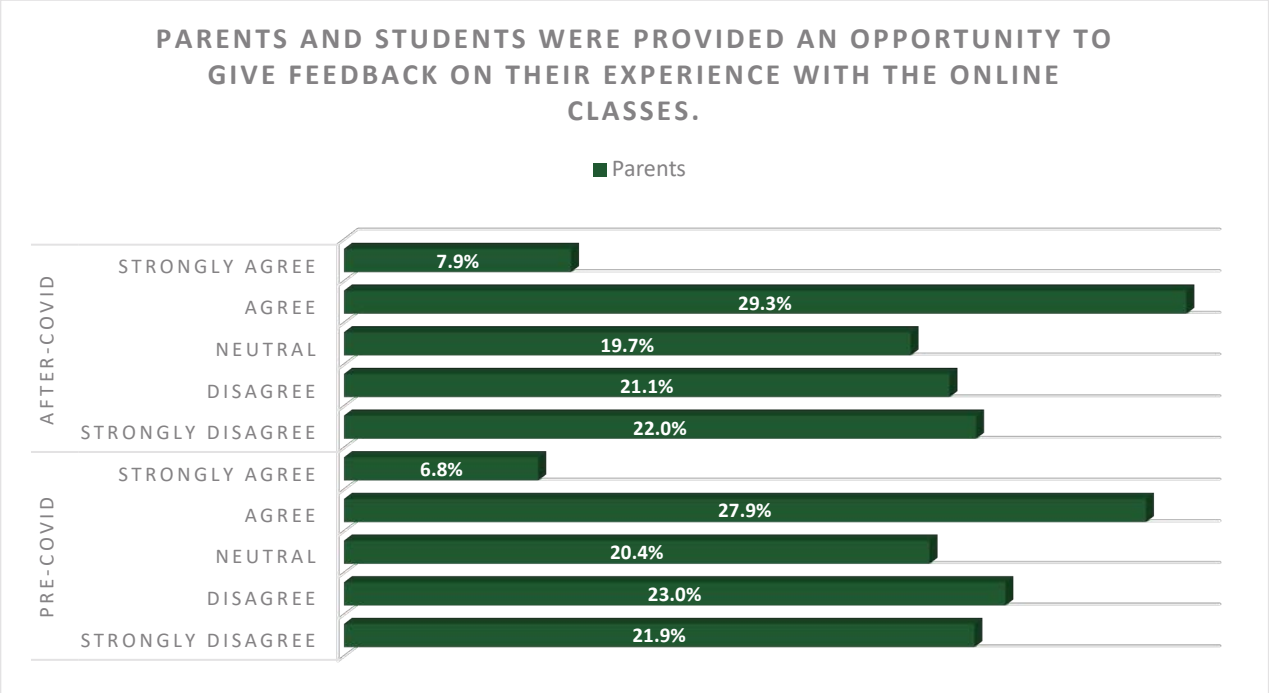


Figure 73

There was also consistency prior to and after COVID-19 in parents' responses to the question "I was informed about how my feedback (and my students' feedback) was used to develop or modify the online learning experience." Again, most disagreed with this statement at both points and prior to COVID-19 only 33.7% agreement (6.8% strongly agreed and 27.0% agreed) and 46.4% disagreement (22.3% strongly disagreed and 24.1% disagreed). After COVID-19, that changed to 36.2% agreement (7.8% strongly agreed and 28.4% agreed) and 44.0% disagreement (21.9% strongly disagreed and 22.1% disagreed) (Figure 74).

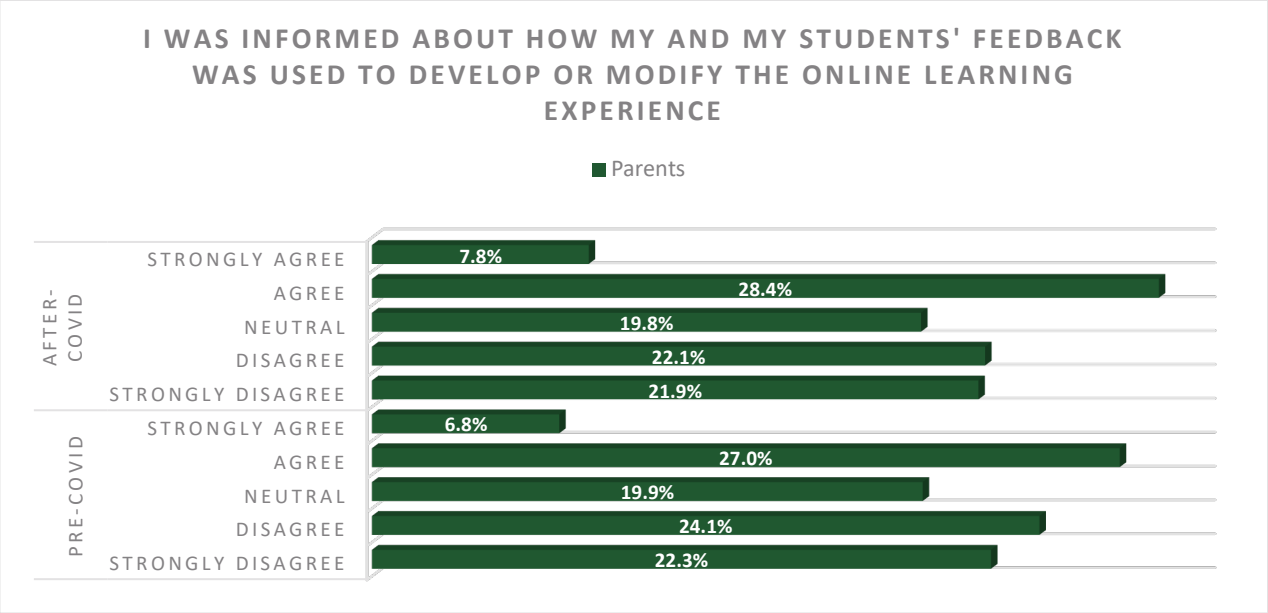


Figure 74

The last question that parents were asked related to student satisfaction was “class evaluations were conducted to collect feedback on the effectiveness of instruction and quality of online class materials.” Similar to other responses in this subdimension, parents remained fairly consistent prior to and after COVID-19. Most (43.8%) did not agree with this statement pre-COVID-19 with 22.3% indicating that they disagreed and 21.5% strongly disagreed. Only 34.8% were in agreement (6.8% strongly agreed and 28.0% agreed). After COVID-19, there was a slight increase (37.5%) in agreement with 7.9% indicating strongly agreed and 29.6% agreed. Disagreement with the statement decreased to 41.6% (21.2% strongly disagreed and 20.4% disagreed) (Figure 75).

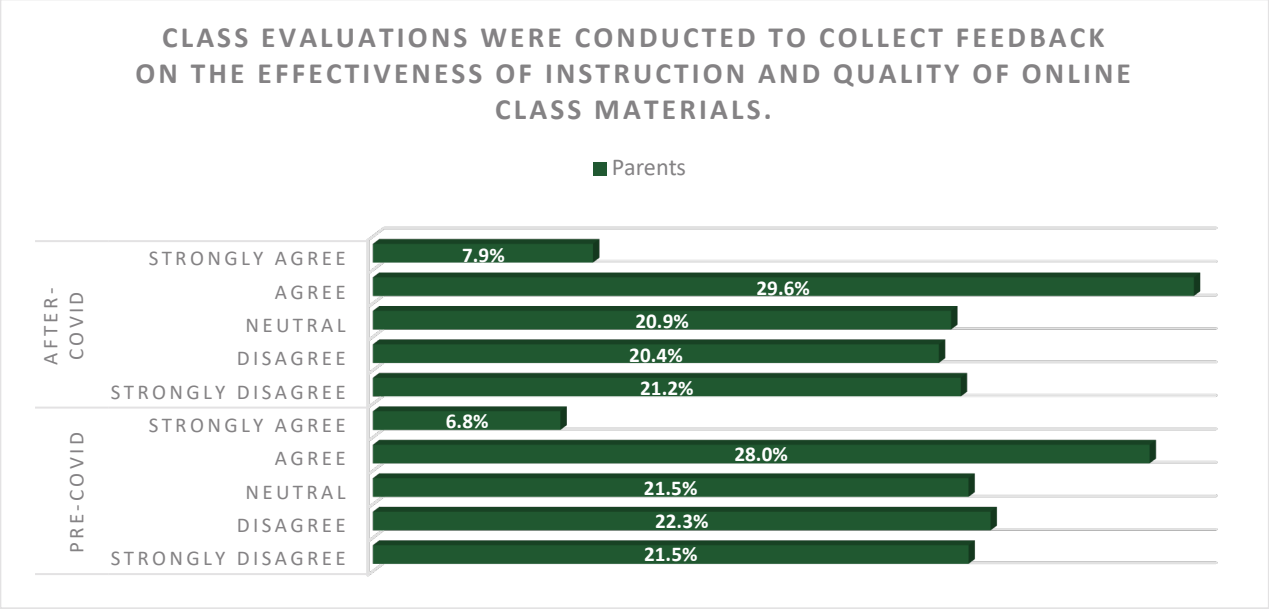


Figure 75

When asked to respond to the statement "I was given an opportunity to tell my teachers what I liked and didn't like about my online courses," student responses were more favorable prior to COVID-19. In fact, there was 51.9% agreement (15.9% strongly agreed and 36.0% agreed) prior to COVID-19 and 31.5% disagreement (14.3% strongly disagreed and 17.2% disagreed). After COVID-19, satisfaction seemed to drop with only 37.5% agreement (10.5% strongly agreed and 27.0% agreed) and 46.4% disagreement (23.6% strongly disagreed and 22.8% disagreed) (Figure 76).

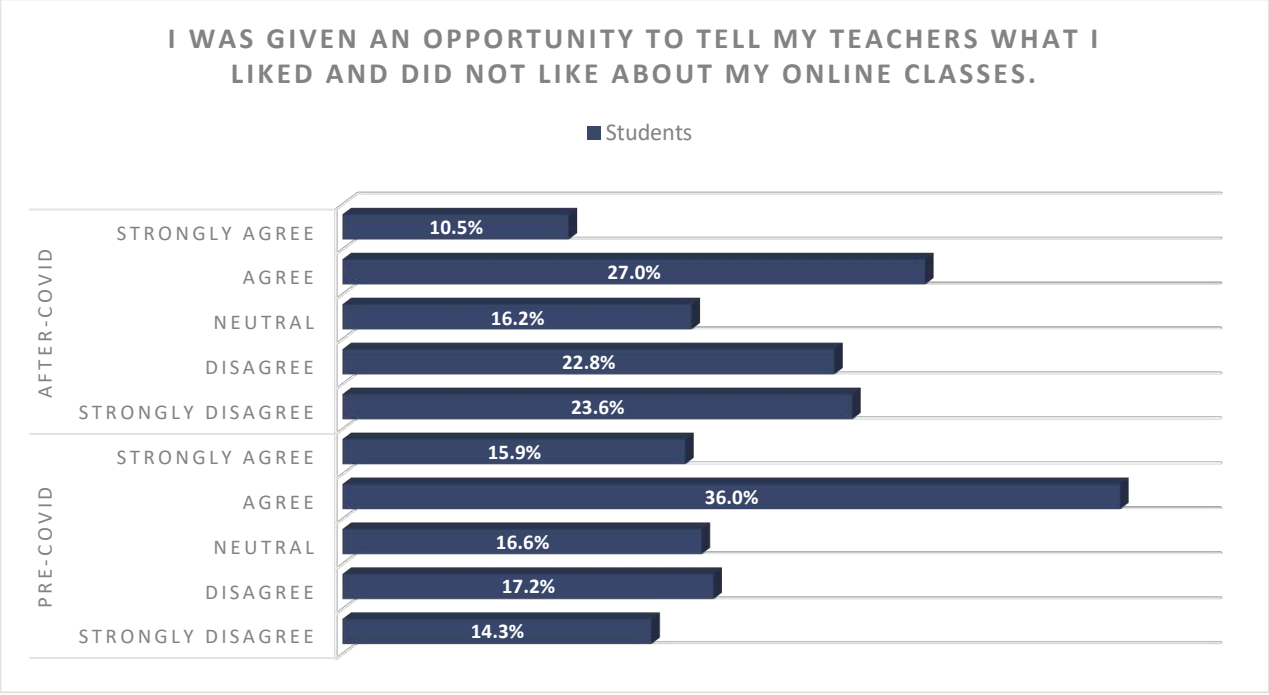


Figure 76

When administrators and teachers were asked about opportunities to assess student satisfaction with online classes and programs, the majority (55.7% Administrators and 54.5% Teachers prior to COVID-19; 63.6% Administrators and 50.3% Teachers after COVID-19) indicated that there were processes in place to gather this information (Figure 77).

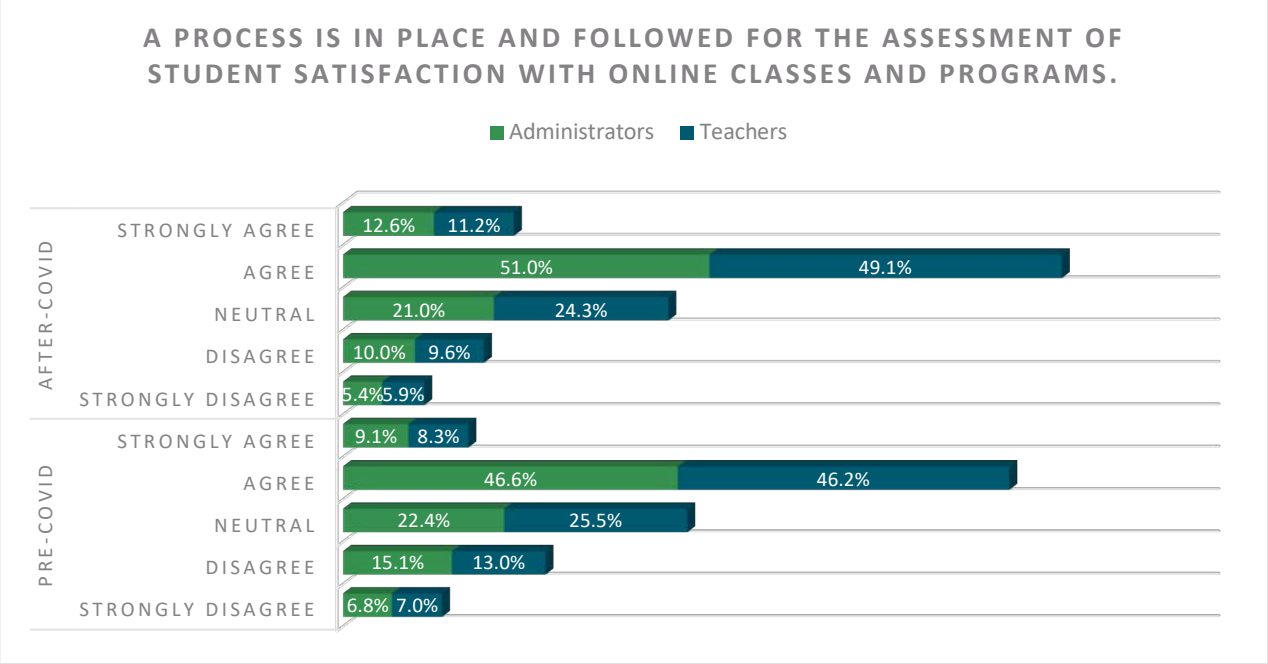


Figure 77

Administrators and teachers were also asked about opportunities to assess parent satisfaction with online classes and programs. Once again, the majority (56.2% Administrators and 55.1% Teachers prior to COVID-19; 64.2% Administrators and 60.7% Teachers after COVID-19) indicated that there were processes in place to gather this information (Figure 78).

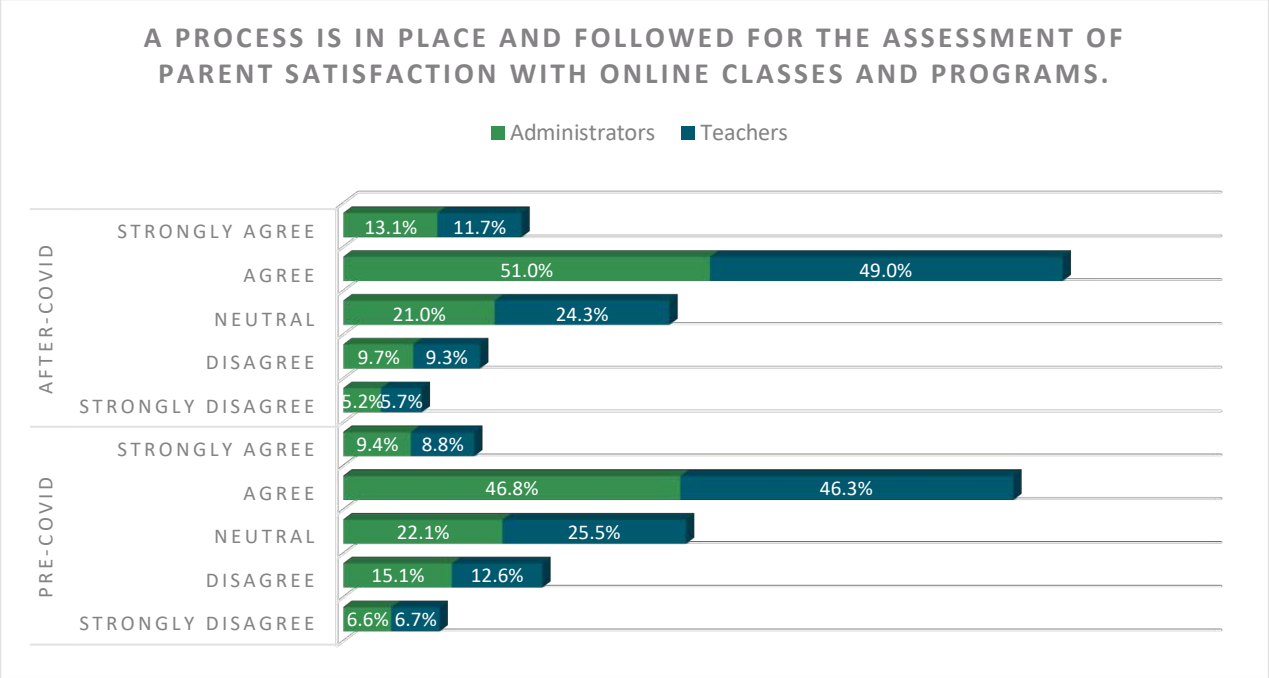


Figure 78

These responses from administrators and teachers reflect a disconnect from student and parent responses. This could mean that more communication needs to occur regarding how students and parents can provide feedback.

Recommendation: Provide opportunities to gather student and parent satisfaction with online classes and programs.

Target Audience	Parents, Students
Needs	Communications to students and parents regarding evaluation opportunities, their purpose, and how feedback is incorporated into course and program improvements
Initiatives	Create a communication plan for students and parents regarding evaluation opportunities, purposes, and uses
Goals	To increase awareness and opportunities for student and parent evaluations
Actions	Develop and implement a communication plan regarding evaluation opportunities, purposes, and uses for students and parents
CSFs	Timely and comprehensive communications are provided to students and parents regarding evaluation opportunities, purposes, and uses
KPIs	Student and parent participation in evaluation opportunities

Recommendation: Communicate with parents and students about how their feedback has been used to improve the online learning experience.

Target Audience	Parents, Students

Needs	Increased communication
Initiatives	Show students and parents how their feedback has helped to improve the online learning courses or program
Goals	To provide clear and consistent communication to students and parents regarding how their feedback has improved courses and programs
Actions	Develop and implement a communication plan regarding how feedback has been incorporated
CSFs	Timely and comprehensive communications are provided to students and parents
KPIs	Student and parent satisfaction with online learning

Subdimension: Teacher Satisfaction

In terms of satisfaction measures for teachers, both administrators and teachers indicated high agreement that opportunities to collect this information existed both prior to and after COVID-19. In fact, there were 57.5% of administrators and 55.5% of teachers who indicated agreement that these processes were in place prior to COVID-19. After COVID-19, those rates went up for both administrators (64.6%) and teachers (60.5%) (Figure 79).

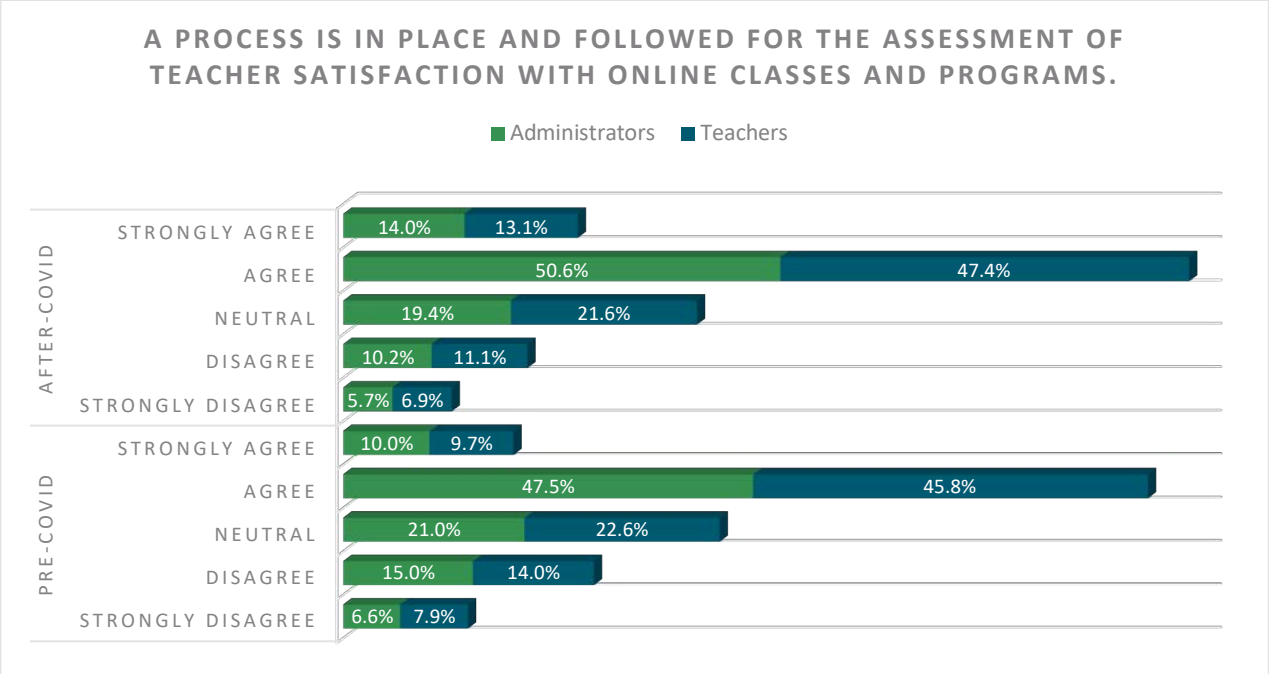


Figure 79

Expert Recommendation: Consistently provide and communicate opportunities to assess teacher satisfaction with online classes and programs.

Target Audience	Teachers
Needs	Communications to teachers regarding evaluation opportunities, their purpose, and how feedback is incorporated into course and program improvements
Initiatives	Create a communication plan for teachers regarding evaluation opportunities, purposes, and uses
Goals	To increase awareness and opportunities for teacher evaluations
Actions	Develop and implement a communication plan regarding evaluation opportunities, purposes, and uses for teachers
CSFs	Timely and comprehensive communications are provided to teachers regarding evaluation opportunities, purposes, and uses
KPIs	Teacher participation in evaluation opportunities

Subdimension: Staff Satisfaction

In terms of satisfaction measures for staff, both administrators and staff indicated high agreement that opportunities to collect this information existed both prior to and after COVID-19. In fact, there were 55.2% of administrators and 62.7% of staff who indicated agreement that these processes were in place prior to COVID-19. After COVID-19, those rates went up for both administrators (62.3%) and staff (67.4%) (Figure 80).

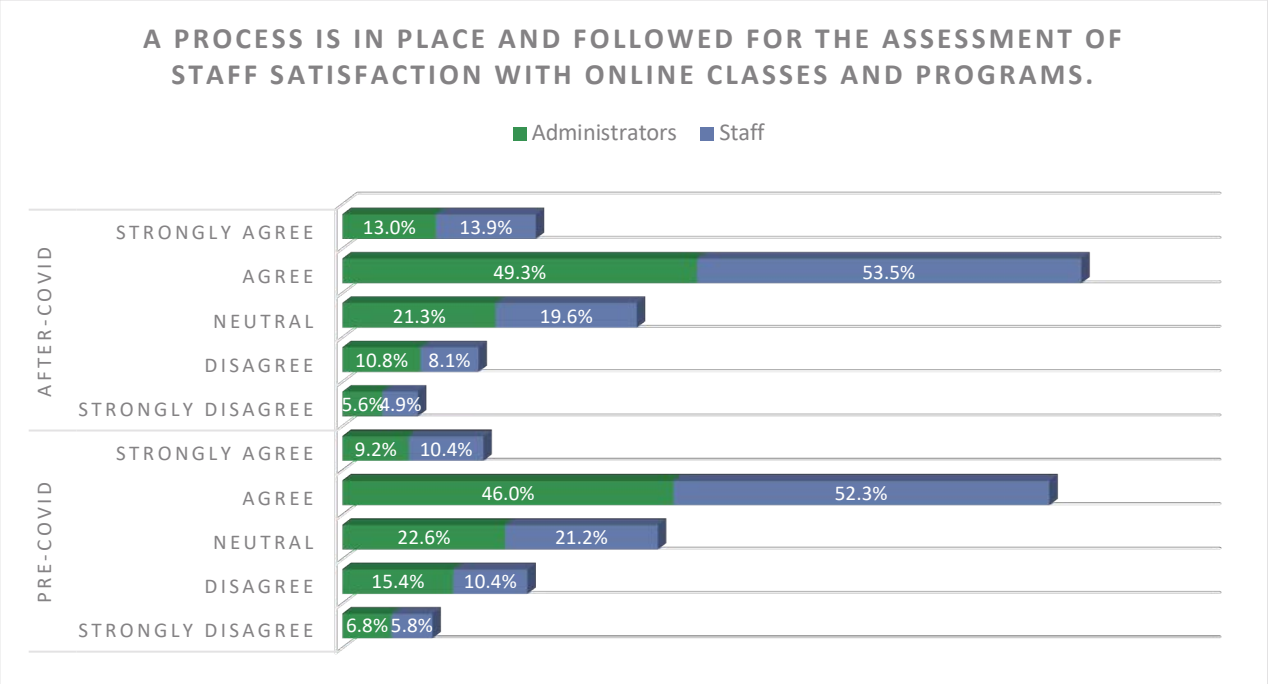


Figure 80

Expert Recommendation: Consistently provide and communicate opportunities to assess staff satisfaction with online classes and programs.

Target Audience	Staff
Needs	Communications to staff regarding evaluation opportunities, their purpose, and how feedback is incorporated into course and program improvements
Initiatives	Create a communication plan for staff regarding evaluation opportunities, purposes, and uses
Goals	To increase awareness and opportunities for staff evaluations
Actions	Develop and implement a communication plan regarding evaluation opportunities, purposes, and uses for staff
CSFs	Timely and comprehensive communications are provided to staff regarding evaluation opportunities, purposes, and uses
KPIs	Staff participation in evaluation opportunities

Subdimension: Innovation

There seemed to be agreement both before and after COVID-19 in the use of innovation to guide instructional and programmatic decisions about online teaching and learning. Prior COVID-19, 64.3% of administrators were in agreement while after COVID-19, the level of agreement increased slightly to 67.9%. In fact, there was little disagreement by administrators with the use of innovation since only 13.7% before COVID-19 and 11.5% after COVID-19 indicated that they disagreed or strongly disagreed with the survey item.

Expert Recommendation: Incorporate best practices.

Target Audience	Administrators, Staff, Teachers
Needs	Access to research and international experts
Initiatives	Implement best practices identified by online learning experts
Goals	To ensure quality of online learning by benchmarking against best practices
Actions	• With due regard for national and local specifics, review quality standards (rubrics, scorecards, research, etc.) shared by online learning experts, groups, and/or organizations • Apply best practices to online learning courses and programs
CSFs	Improved quality of online learning
KPIs	• Use of rubrics or scorecards to evaluate quality of online learning • Adoption of best practices

Summary of Recommendations

The recommendations resulting from the quantitative and qualitative analyses of this study indicated a number of needs and actions that will allow the Kingdom of Saudi Arabia to effectively increase and continuously evaluate and improve the quality, effectiveness, and capacity of K-12 online education. Recommendations are drawn from a wealth of research foundations and expertise, and are all focused on addressing both short- and long-term needs. Several expert recommendations in addition to the key actions are also provided to further support online education initiatives and Vision 2030. Overall findings indicate that high-need areas for online education were made a priority during and following COVID-19. As stated in the OECD report and document on the Saudi Arabian COVID perspective as well as the Ministry of Education's *Actions to Complete the School Year Amid the COVID-19 Pandemic*, K-12 education in Saudi Arabia was as well-positioned as possible at the time to respond to immediate and forthcoming needs. This is further confirmed by the many survey items that reflected improvements in perceptions and experiences with regard to online education following COVID. Study results indicated many opportunities to build upon the actions and initiatives that were in place prior to the pandemic and those implemented during, as well as new considerations to improve online K-12 education in alignment with the needs and goals of K-12 online education across the Kingdom.

Overall, study results indicate that there were many areas in which the K-12 education system was prepared and/or able to address quickly for online education in the COVID environment. This is potentially due to actions previously implemented or planned for the accomplishment of Vision 2030, and study results suggest that communication and understanding of such actions increased during and after COVID. The priority on increasing online education and Kingdom-level support for unified governance and curriculum helped schools effectively respond to the unexpected demands of the current environment, but because online education had not reached full implementation, the pandemic raised some known needs to the surface and created new needs in some areas. The most clear needs arose in technology (devices, internet access/reliability, and the ability of the infrastructure to support high-volume online education), online teaching and learning (communication, engagement, interaction, and feedback), assessment as related to the development and delivery of effective assessments as well as the need for a clear understanding of the viability and use of online assessment, and student support, as most of these services were previously designed for on-site usage. In continuing to evaluate and improve existing strengths as well as prioritizing the development and implementation of improvements for areas where gaps currently exist, the KSA will be able to not only progress further toward its long-range goals for online learning, but address educational needs related to and resulting from COVID-19.

Recommendations are provided in detail in the narrative above and summarized in Appendix IV: Future Action Framework (including priority recommendations for COVID). Recommendations are primarily in support of furthering existing actions and addressing identified challenges related to online education. Additionally, areas where discrepancies are noted among stakeholder groups include recommendations to both address overall needs and close gaps. Primary challenges result from the unanticipated demands introduced to a system still undergoing planning and implementation of online education. Prior to the pandemic, the KSA strategic plan was in-process and steps toward building effective K-12 online education were being taken. Both during and following the pandemic, adjustments will need to be made to adapt to the new environment, meet immediate needs, and remain on track to accomplish the goals of Vision 2030. An action plan for implementing recommendations within the context of readiness, challenges, responses, and impact is summarized in Appendix II: Research Findings.

Considerations of Future Study

This developmental study is comprehensive in scope and the establishment of an online learning evaluation framework, evaluation of pre-, peri-, and post-COVID contexts, practices, and needs and included both quantitative descriptive data and nuanced qualitative data. Resulting from the development process of the survey and interview protocols and evaluation frameworks, as well as from the actual study findings, several considerations for expanded and additional future studies are recommended.

An expansion of this study into multivariate analysis could lend further exploration and indications for each dimension and subdimension, resulting in further recommendations for the development and implementation of effective practices, meeting stakeholder needs, and supporting proactive development of adequate capacity for current and future infrastructure, design, and delivery of online courses. Additionally, expanding on this work to include multivariate analyses may be valuable for the evaluation and continuous improvement of the evaluation framework.

Developing and implementing longitudinal measures to follow this study is recommended for optimal evaluation of existing and evolving needs, and to provide clear markers of changes, successes, challenges, and opportunities.

Additionally, consideration should be given to the development of several smaller studies designed to provide deep analysis of institution and stakeholder responses at more granular levels such as by school type (government, national, international), sector (private or public), and grade levels (e.g. primary or secondary) and by further disaggregated stakeholder characteristics. These analyses would benefit kingdom-level planning and resource allocation, as well as regional and institutional-level stakeholders by providing recommendations specific to their diverse environments and contexts.

Students in the K-12 sector often need home support for successful online learning. This study indicated several potential challenges, including internet and device access, cultural understanding of the need for students to access devices and internet services, and competing priorities with regard to parental working needs and multiple children in the same home that need to access online learning. Case studies related to these issues, for the purpose of understanding challenges and opportunities to allow for more effective planning and support services are recommended.

There are a number of expansions and/or additional studies that may be beneficial to K-12 education in the KSA. The primary recommendations described above were selected as those most likely to provide maximum benefit based on the development and analysis of the present study.

Appendices

Appendix I: NELC Evaluation Framework

		Pre-COVID-19	During COVID-19			Post-COVID-19
	Dimension	**Readiness**	**Challenges**	**Response**	**Impact**	**Recommendations**
1	Leadership					
	Governance, Strategies, Policies, Processes, Resource Allocation, Staffing, Innovation					
2	Curriculum Design & Planning					
	Instructional Design Methods & UDL, Learning Objectives, Alignment, Course Materials & Content, Innovation					
3	Online Teaching & Learning					
	Communication, Engagement, Expectation Setting, Outcomes, Course Interaction, Feedback, Innovation					
4	Assessment					
	Assessment Strategies, Assessment Processes, Assessment Methodology, Innovation					
5	Technology					
	Centralized Online Education Infrastructure, Operability, Modality, Security, ITSM Compliance, Internet Access, Reliability, Coverage, Innovation					
6	Student Support					
	Student Orientation & Support, Equity, Accessibility, Compliance Standards, Social Emotional, Innovation					
7	Training & Support					
	Technical Assistance, Professional Development, Orientation, Mentoring, Innovation					
8	Evaluation & Continuous Improvement					

	Evaluation of Course Outcomes & Program Quality, Student Satisfaction, Teacher Satisfaction, Staff Satisfaction, Innovation

Appendix II: Research Methodology Framework Mapping

Sl.No	Dimensions	Measurements	Pre COVID-19	During COVID-19			Post COVID-19
			Readiness	Challenges	Response	Impact	Recommendations
1	**Leadership**	**Objectives**	Baseline measures of subdimensions; what existing governance, strategies, policies, processes, resource availability and allocation, and innovations existed prior to COVID-19 for leadership?	Within each subdimension, what challenges remained, arose, or became more amplified as a result of COVID-19?	Within each subdimension, how has leadership responded to COVID-19?	Within each subdimension, what impact has occurred due to leadership responses to COVID-19?	Recommendations resulting from analyses, both by overall dimension and subdimension.
		Methodology	Qualitative; survey analysis and policy analysis	Qualitative; survey analysis and policy analysis	Qualitative; survey analysis and policy analysis	Qualitative; survey analysis and policy analysis	Qualitative; survey analysis and policy analysis
		Instruments (Data Source)	Data collected via survey; policies provided for analysis by NELC	Data collected via survey; policies provided for analysis by NELC (if there has been policy change and/or new policy following COVID-19)	Data collected via survey; policies provided for analysis by NELC (if there has been policy change and/or new policy following COVID-19)	Data collected via survey; policies provided for analysis by NELC (if there has been policy change and/or new policy following COVID-19)	Data collected via survey; policies provided for analysis by NELC
		Governance, Strategies, Policies, Processes, Resource Allocation, Staffing, Innovation					
2	**Curriculum Design & Planning**	**Objectives**	Baseline measures of subdimensions; what instructional design methods, application of UDL, alignment with standards, course syllabi and course materials and content were employed prior to COVID-19?	Within each subdimension, what challenges remained, arose, or became more amplified as a result of COVID-19?	Within each subdimension, what has the response related to curriculum design and instruction been?	Within each subdimension, what has the impact of COVID-19 on curriculum and instruction been?	Recommendations resulting from analyses, both by overall dimension and subdimension.
		Methodology	Qualitative; survey analysis and document review	Qualitative; survey analysis and document review	Qualitative; survey analysis and document review	Qualitative; survey analysis and document review	Qualitative; survey analysis and document review

		Instruments (Data Source)	Data collected via survey; documents for review requested as part of survey instrument	Data collected via survey; documents for review requested as part of survey instrument	Data collected via survey; documents for review requested as part of survey instrument	Data collected via survey; documents for review requested as part of survey instrument	Data collected via survey; documents for review requested as part of survey instrument
		Instructional Design Methods & UDL, Learning Objectives, Alignment, Course Materials & Content, Innovation					
3	**Online Teaching & Learning**	**Objectives**	Baseline measures of subdimensions; what methods of online course communication, engagement, expectation setting, outcomes, course interaction, feedback, and resources were employed prior to COVID-19?	Within each subdimension, what challenges remained, arose, or became more amplified as a result of COVID-19?	Within each subdimension, what has the response related to online teaching and learning been?	Within each subdimension, what impact has occurred due to online teaching and learning responses to COVID-19?	Recommendations resulting from analyses, both by overall dimension and subdimension.
		Methodology	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis
		Instruments (Data Source)	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument
		Communication, Engagement, Expectation Setting, Outcomes, Course Interaction, Feedback, Innovation					

4	**Assessment**	**Objectives**	Baseline measures of subdimensions; what assessment strategies, processes, methodologies, and types were employed prior to COVID-19?	Within each subdimension, what challenges remained, arose, or became more amplified as a result of COVID-19?	Within each subdimension, what has the response related to assessment been?	Within each subdimension, what impact has occurred due to online assessment responses to COVID-19?	Recommendations resulting from analyses, both by overall dimension and subdimension.
		Methodology	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis
		Instruments (Data Source)	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument
		Assessment Strategies, Assessment Processes, Assessment Methodology, Innovation					
5	**Technology**	**Objectives**	Baseline measures of subdimensions; what was present and used regarding operability, centralized online education infrastructure, modality, security, ITSM Compliance, internet access, reliability, and coverage prior to COVID-19?	Within each subdimension, what challenges remained, arose, or became more amplified as a result of COVID-19?	Within each subdimension, what has the response related to technology been?	Within each subdimension, what impact has occurred due to technology responses to COVID-19?	Recommendations resulting from analyses, both by overall dimension and subdimension.
		Methodology	Qualitative; survey analysis	Qualitative; survey analysis	Qualitative; survey analysis	Qualitative; survey analysis	Qualitative; survey analysis
		Instruments (Data Source)	Data collected via survey	Data collected via survey	Data collected via survey	Data collected via survey	Data collected via survey

		Centralized Online Education Infrastructure, Operability, Modality, Security, ITSM Compliance, Internet Access, Reliability, Coverage, Innovation					
6	**Student Support**	**Objectives**	Baseline measures of subdimensions; what was the availability and use of student orientation and support services, equity, accessibility, and compliance prior to COVID-19?	Within each subdimension, what challenges remained, arose, or became more amplified as a result of COVID-19?	Within each subdimension, what has the response related to student support been?	Within each subdimension, what impact has occurred due to online student support needs and responses to COVID-19?	Recommendations resulting from analyses, both by overall dimension and subdimension.
		Methodology	Mixed methods; survey analysis, document review, and data analysis	Mixed methods; survey analysis, document review, and data analysis	Mixed methods; survey analysis, document review, and data analysis	Mixed methods; survey analysis, document review, and data analysis	Mixed methods; survey analysis, document review, and data analysis
		Instruments (Data Source)	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument
		Student Orientation & Support, Equity, Accessibility, Compliance Standards, Social Emotional, Innovation					
7	**Training & Support**	**Objectives**	Baseline measures of subdimensions; what was the availability and use of technical assistance, professional development, orientation, mentoring, and/or other support prior to COVID-19?	Within each subdimension, what challenges remained, arose, or became more amplified as a result of COVID-19?	Within each subdimension, what has the response related to training and support been?	Within each subdimension, what impact has occurred due to training and support responses to COVID-19?	Recommendations resulting from analyses, both by overall dimension and subdimension.
		Methodology	Mixed methods; survey analysis and data analysis	Mixed methods; survey analysis and data analysis	Mixed methods; survey analysis and data analysis	Mixed methods; survey analysis and data analysis	Mixed methods; survey analysis and data analysis

		Instruments (Data Source)	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument
		Technical Assistance, Professional Development, Orientation, Mentoring, Innovation					
8	**Evaluation & Continuous Improvement**	**Objectives**	Baseline measures of each subdimension; levels of student, teacher, and staff satisfaction, evaluation of course outcomes, and program quality prior to COVID-19.	Within each subdimension, what challenges remained, arose, or became more amplified as a result of COVID-19?	Within each subdimension, what has the response related to evaluation and continuous improvement been?	Within each subdimension, what impact has occurred due to evaluation and continuous improvement responses to COVID-19?	Recommendations resulting from analyses, both by overall dimension and subdimension.
		Methodology	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis	Mixed methods; survey analysis, document review, data analysis
		Instruments (Data Source)	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument	Data collected via survey; documents for review and data for analysis requested as part of survey instrument
		Evaluation of Course Outcomes & Program Quality, Student Satisfaction, Teacher Satisfaction, Staff Satisfaction, Innovation					

Research Findings

Dimensions	Subdimensions	Before	During Covid 19			Post Covid 19
		Readiness	**Challenges**	**Response**	**Impact**	**Recommendations**
Leadership	Governance	Appropriate governance structures were in place	Timely communication and decisions	Increased communications and inclusion of teachers and staff in decision-making	Increased satisfaction, awareness, and understanding of governance structures and decisions	Share and communication decision-making rationale and processes with local school stakeholders
	Strategies	Overall satisfaction with strategic planning and alignment	Aligning strategies for online learning with other strategies (i.e. academic, technology)	Increased communication and development of plans potentially occurred	Increased satisfaction with online learning strategies and identification of gaps with other plans	Create alignment with and between the institution's strategic plan for online learning with other strategic planning components
	Policies	Policies broadly supported the effective development and delivery of online education	Implementation of policies regarding academic integrity, online teaching and learning, and innovation	Policies have been reviewed and updated to encourage online learning and address issues of academic integrity, online teaching and learning, and innovation	Increased satisfaction with policies directly relevant to and supporting online education	Explore policies that aim to improve quality in online teaching, learning, and innovation
	Process	Affirmation that processes were in place to support online education needs, though some needs were identified	Clarity and implementation of processes related to teacher evaluations and resource allocations	Increased communication and implementation of processes and potential development or revision of processes during COVID	Increased agreement that effective processes are in place	Improve clarity in processes for evaluation
	Resource Allocation	Majority agreement on support and efforts, though uneven allocations were noted	Uneven distribution of resources overall and a need for more professional development resources	Resource review and provision to sustain and scale online learning	Increased agreement that resource allocations are sufficient to support needs; uneven distribution remains a concern	Explore the extent to which resources are distributed equitably across schools; seek opportunities to address resource allocation related to incentivizing or providing financial compensation for teacher training and instructional design professional learning

	Staffing	Majority agreement that sufficient qualified, professional, administrative, support, and technical staff were available to support online learning	Additional staffing resources are needed to adequately address online learning in the fully-online COVID environment	Staffing was provided across a variety of roles to support fully-online learning, though a need for additional resources remains	Increased satisfaction with available staffing resources; stated appreciation in interviews affirming an increase in needs being met	For leadership to continue to pursue opportunities and incentives for innovation and outstanding service provision on the part of staff members
	Innovation	Majority agreement that innovation is supported	Determine the role of innovation in staff evaluations and promotions	No explicit actions were indicated relevant to alignment	Increase in agreement that innovation is supported	For leadership to continue to pursue opportunities and incentives for innovation and outstanding service provision on the part of staff members
Curriculum Design & Planning	Instructional Design Methods & UDL	Instructional design and UDL was sufficient to meet pre-COVID needs, but the pandemic revealed pedagogical considerations that may not have been originally included in the curriculum	Improvement of design to address new or newly-identified needs such as maintaining student relationships and addressing social-emotional needs in the online environment	Instructional design support from teachers, instructional designers, technical experts, and evaluators as well as the Ministry of Education	Satisfaction decreased, indicating that while additional resources were provided, they may not have been able to fully address unanticipated needs resulting from the pandemic	Utilize and articulate the instructional design decisions, frameworks, and philosophies that guide the K-12 curriculum design across the Kingdom; Add pedagogical and design context around course materials
	Learning Objectives	A development process was followed to ensure that online classes are designed for students to develop the necessary knowledge and skills to meet measurable learning objectives	Engagement of students in building meaningful understanding and intrinsic motivation to achieve learning objectives	No explicit actions were indicated relevant to learning outcomes	Agreement increased regarding the presence of measurable learning objectives, suggesting that the pandemic required closer attention to and/or engagement with existing processes	For teachers to engage students in building meaningful understanding and intrinsic motivation to achieve learning outcomes
	Alignment	There were guidelines regarding standards for class development, supported by alignment with instructional design and delivery	Aligning content and learning activities with assessments and learning objectives	No explicit actions were indicated relevant to alignment	Slight decrease in agreement that content and learning activities are aligned with assessments and learning objectives, suggesting difficulty with unique challenges resulting from COVID-19	For teachers to incorporate supports to ensure that standards-based curriculum and instruction is aligned to learning outcomes, as well as being accessible and understandable to each student

	Course Materials & Content	Current, sufficient, and rich content, both instructional and operational/functional, was present in classes	Time and skill needed to continually create engaging content	A variety of materials, including interactives and OER are available; the Ministry provides a variety of content sources	Slight increases in agreement that these items are present in online courses, with the acknowledgment that maintenance will require time and skill	For the Ministry of Education regularly review course materials and content for sufficient coverage and currency, and update as appropriate with current and media-rich content
	Innovation	Majority agreement that innovation was supported, though some indicated that this may be localized by school	Broad and equal support for innovation across all schools	Potential increases in support for innovation in online education	Slight increase in agreement that innovation is supported	For teachers to expand their efforts to innovate and redesign their curriculum
Online Teaching & Learning	Communication	Majority agreement that opportunities for a variety of communication types were present and expectations were in place	Effectively communicating in a fully-online environment	Changes made to better support students via communications (frequency and/or method) during transition and while fully-online; increased adoption of expectations	Increase in satisfaction with communication opportunities and effectiveness	Develop processes and policies for expectations around communications
	Engagement	Classroom environments were both academically challenging and provided social interaction	Identification and use of communication methods to support and encourage student engagement	Teachers independently created strategies for providing engagement opportunities and communicating directly with students to support engagement	Increase in satisfaction that engagement opportunities are present and effective	Provide engagement opportunities, both formal and informal, for students to interact with one another and teachers, and ensure that academic challenge is incorporated into these experiences as appropriate
	Expectation Setting	Clear, concise, and useful assignment instructions as well as expectations for participation and feedback were provided	Ensuring clarity and communication of expectations in a fully-online environment	Teacher indications that they eliminated barriers to success by providing clear expectations for participation and performance	Increase in agreement that clear expectations are provided throughout online courses	Ensure that online courses include clearly defined student activity expectations, and that these expectations are communicated to students

	Outcomes	Outcomes were sometimes, but not always, comparable between on-site and online courses	Equivalence in outcomes between on-site and online courses; alignment between outcomes, objectives, learning activities, and assessments	Outcomes for online courses as well as alignment of outcomes potentially revised for more congruence in the online environment	Increases in agreement that both congruence in outcomes increased as well as alignment of outcomes with other course components	Measure, review, and communicate student learning outcomes for online courses, and if appropriate and/or useful, include communicating comparisons to student learning outcomes for onsite courses; Provide rubrics for all assignments
	Course Interaction	Student-to-student and teacher-to-student interaction opportunities in a variety of formats were provided and encouraged	Synchronous communication barriers present a challenge to the effective provision of interaction opportunities	Levels of communication created enough of a challenge that interactions suffered	Decrease in the agreement that interaction opportunities are present in online courses	Encourage opportunities for teacher-to-student and student-to-student interaction in the online classroom; Establish the presence of the online educator
	Feedback	Teachers provided students with constructive, timely feedback	Difficulty keeping up with expectations for feedback while also meeting student needs resulting from the rapid transition to remote learning	Feedback may have been less frequent or timely due to the rapid transition and shifting needs resulting from the pandemic	Decrease in agreement that constructive, timely feedback is provided	Set expectations for feedback provision and methods, as well as when feedback will be provided and how it is related to course learning objectives
	Innovation	Majority agreement that innovation was encouraged	Potential challenges in shifting innovation focus to the online environment	Encouragement and support for innovation increased; evidence of a strong willingness by teachers and staff to engage with innovation	Increase in agreement that innovation is encouraged	Consistently provide and encourage opportunities for innovation in online teaching and support of students
Assessment	Assessment Strategies	Most participants agreed or were neutral with regard to whether assessment strategies were satisfactory	Adoption of a variety of assessment strategies in the online environment	Assessment strategies were piloted to address learning needs as well as to implement diverse formative assessment strategies	Slight increases in agreement that assessment strategies are satisfactory; neutral responses consistent	Reduce the existing gaps between school administrators, staff, teachers, and students in communication, expectations, and implementation of assessment strategies, processes, methodologies, as well as types of assessment

	Assessment Processes	Majority agreement that effective assessment processes were in place including alignment and communication of assessment criteria, grading, expectations, and feedback	Online implementation and ensuring student understanding of assessment procedures in the online environment	No explicit actions were indicated relevant to assessment processes	Decrease in agreement and increase in neutral responses and disagreement that effective assessment processes are in place	Ensure alignment of students' learning objectives and assessments through transparent quality review processes; Clearly describe assessment criteria when assignments are issued, provide grading rubrics and samples of assignments illustrating teacher/ school/ system expectations
	Assessment Methodology	Majority agreement that assessment methods were satisfactory	Opportunities and ability to create diverse online assessments and concern about perceptions of the viability of peer- and self-assessment	No explicit actions were indicated relevant to assessment methodology	Decrease in agreement and increase in both neutral responses and disagreement that assessment methods are satisfactory	Provide students opportunities to demonstrate their subject proficiency in various ways; Diversify formative and summative assessment
	Innovation	General satisfaction with the level and support of innovation	Encouragement and sufficient training on the conceptualization, design, and delivery of assessment innovations	No explicit actions were indicated relevant to assessment innovation, though teacher enthusiasm for the integration of advanced technology, platforms, instruments, and tools was high	Decrease in satisfaction with support for innovation	Innovation in assessment strategies, processes, methods, and types is encouraged, supported, and actualized; adequate and consistent professional development on design, development, and delivery is provided
Technology	Centralized Online Education Infrastructure (SSO, LMS, etc.,)	Majority agreement that centralized online education infrastructure was present and sufficient	Centralization is not supported at a level sufficient to manage the increase in needs due to COVID-19	No explicit actions were indicated relevant to centralized education infrastructure	Increase in agreement and decrease in disagreement that centralized education infrastructure is present and sufficient	Provide a centralized learning system with single sign-on (SSO) or single identification. Focus should prioritize schools that have not yet implemented online learning as supported by the Future Gate initiative, as these are the most

						likely to indicate absence of centralized solutions
	Operability	Majority agreement that technology operability was sufficient	Parent and student perceptions of operability are less favorable than administrators, staff, and teachers	No explicit actions were indicated relevant to operability	Perceptions of agreement remained consistent with pre-COVID responses	Given the disconnect between the educators and parents and students, schools can develop feedback channels and provide orientation and training around learning technologies
	Modality	Majority agreement that online classes are delivered asynchronously and/or synchronously dependent on learning outcomes	Availability of devices and internet service sufficient to support asynchronous and synchronous functions of online courses	Potential improvements to modality of course offerings necessitated by the pandemic	Increase in agreement in suitable modality use depending on learning outcomes	Evaluate the student experience in synchronous and asynchronous online learning in order to improve course design and outcomes
	Security	Majority agreement that digital security measures are in place to ensure the integrity and validity of information, including identity access	Need for teaching students to understand internet security and protect themselves; lower parent agreement than for other groups	Individual school or teacher efforts to increase awareness and safe practices related to online security among students	Perceptions of online security remain stable and similar to pre-COVID rates of agreement/disagreement	Greater transparency and clear policies and guidelines can increase stakeholder trust and buy-in
	ITSM Compliance	Majority agreement that ITSM designed, delivered, operated, and controlled information supporting online course delivery and development	Despite agreement by most, many disagreed that ITSM support is sufficient	No explicit actions were indicated relevant to ITSM compliance	Increase in agreement and decrease in disagreement that ITSM support is sufficient, potentially due to increased use and awareness	Administrators should evaluate current processes, plans, and resources that are available and where gaps or inefficiencies exist
	Internet Access	Availability of adequate internet access and schools and homes was widely variable	Equitable access to sufficient internet to support online learning	Some schools and teachers made independent efforts to increase availability of devices and internet access	Increase in agreement and decrease in disagreement regarding the availability of internet access; however, this remains a top	For students who have poor or no internet access at home, schools can provide mobile hotspots and develop content that requires minimum bandwidth

					challenge for effective online education	
	Reliability	Reliability of technology was varied among schools and students	Ensuring consistent reliability of core learning technology systems and courses due to support needs and network load	No explicit actions were indicated relevant to reliability	Decrease in agreement that technology is sufficiently reliable to support current online education needs	Monitor the reliability of learning technology systems and courses as related to infrastructure (i.e. challenges resulting from infrastructure, not from individual internet access, etc.); Identify and address areas needing system-level solutions
	Coverage	Coverage was inconsistent among respondents	Providing consistent and equitable coverage across the country	No explicit actions were indicated relevant to coverage	Indication that coverage improvements remain necessary	Given the need for increased learning technologies coverage, a plan that includes monitoring and feedback loops to continually determine need, as well as mechanisms to provide access to technologies is critical
	Innovation	Majority agreement that new technologies were piloted, supported, and encouraged in online classes	Specific challenges are not identified for technology innovation	Encouragement and support for innovation potentially increased	Slight increase in agreement and decrease in disagreement that technological innovation is encouraged and supported	With the significant increase in data collection through online tool use, teachers and administrators have increased potential to improve student outcomes through real-time, actionable insights to inform interventions
Student Support	Student Orientation & Support	Clear discrepancies between administrators/staff/teachers and parents/students about the adequate availability of orientation, academic and technical support, and interpersonal issues support	Online orientation and support was largely unavailable prior to COVID; Students indicated high need for more academic support	No explicit actions were indicated relevant to student orientation and support, though some individual examples were provided	Consistent with pre-COVID perceptions, except for academic support among students, which decreased in agreement and increased in disagreement	Provide mandatory orientation to online courses, including technology, class design, academic support resources, and technological support resources; Ensure that academic support resources are available and may be accessed online

	Equity	Slight majority agreement that resources were in place to ensure all students have an equitable experience	The online environment presents unique challenges related to equity, including identifying needs and providing support services	Some schools and teachers made independent efforts to increase equity	Slight increase in agreement and decrease in disagreement that resources to provide equity are in place	Develop and implement measures to evaluate student support needs related to equity, including financial, health, and academic areas; Based on evaluations of student support needs, develop solutions to provide student support that may be accessed by students either digitally, or that account for the inability for students to be on-site
	Accessibility	Accessibility efforts including policies, processes and available resources were primarily concentrated on on-site courses	Providing adequate accessibility online following the rapid shift due to COVID-19	No explicit actions were indicated relevant to coverage	Accessibility efforts reflect responses consistent with pre-COVID perceptions	Ensure that online courses follow accessibility standards
	Compliance Standards	Slight majority agreement that online classes demonstrate compliance with accessibility standards	Ensuring that compliance standards are met in the online environment	No explicit actions were indicated relevant to compliance standards	Increase in agreement and decrease in disagreement that compliance standards are met in online courses	Ensure that accessibility standards are in alignment with compliance standards
	Social Emotional	Majority agreement that students were provided with opportunities for social-emotional learning and support	Providing social-emotional support in the online environment, particularly with new or changed needs resulting from COVID-19 and as related to support for student well-being	Some schools and teachers made independent efforts to provide social-emotional support services in the online environment	Slight increase in agreement that social-emotional learning and support are provided	Develop and implement measures to evaluate student support needs related to social emotional areas; Based on evaluations of social emotional student support needs, develop solutions to provide support that may be accessed by students either digitally, or that account for the inability for students to be on-site; Provide course-based opportunities for the social emotional support of students

	Innovation	Majority agreement that innovation for student support communication modes and tools was present	Discovery and implementation of online student support services	No explicit actions were indicated relevant to innovation in student support	Slight increase in agreement, potentially related to necessary development of student support services in the online environment	Include innovative communication modes and tools for supporting students in online environments
Training & Support	Technical Assistance	Majority satisfaction with technical assistance provision for online class development and teaching	Teachers face a variety of technical challenges related to the effective use and support of technology	No explicit actions were indicated relevant to technical assistance; however, outcomes indicate increased availability and/or use of services	Increase in agreement and decrease in disagreement that technical assistance is satisfactory to support development and teaching for online classes	Develop technology-facilitated web-mediated guidance and instruction program to integrate principles for meaningful and sustained online learning in addition to addressing workplace barriers to sustained learning through non-stop training; Feedback from all members of the education process is a pre-condition for ensuring appropriate technical assistance
	Professional Development	Majority agreement that teachers receive training assistance and support to prepare for course development and remote education	Providing adequate professional development amid multiple priorities accelerated by the pandemic	Potential changes to the delivery and relevant topics covered by professional development as a result of the pandemic	Increase in agreement, and particularly in strong agreement that adequate professional development opportunities are provided	Ensure ongoing professional development, training and assistance in pedagogy and technology; Move long, synchronous trainings into modular, asynchronous formats
	Orientation (Student & Parent)	Majority agreement that sufficient orientation to technology and instructional design was present	Developing and maintaining relevant orientation amid rapidly changing circumstances due to COVID-19	Potential increase in the development and availability of orientation to technology and instructional design	Increase in agreement that sufficient orientation is provided	Provide abundant, comprehensive and sufficient pedagogical and technology-specific orientation
	Mentoring	Some peer mentoring opportunities were available to teachers	Uneven opportunities for teachers to participate in peer mentoring activities	No explicit actions were indicated relevant to peer mentoring; however, the circumstances of COVID-19 may have encouraged formal or informal engagement in such opportunities	Increase in agreement that peer mentoring opportunities are available	A centrally-coordinated virtual mentoring program can ensure opportunities for more consistent and viable connection and support

	Innovation	Majority agreement that there was support for selecting new tools and piloting emerging technologies	Balancing immediate online learning needs with piloting innovative opportunities	No explicit actions were indicated relevant to innovation	Increase in agreement and decrease in disagreement that innovation is supported	Support awareness and use of new technologies through a teacher learning community program
Evaluation & Continuous Improvement	Student Satisfaction	Disagreement among parents and students that students were provided with an opportunity to provide course feedback and that they were informed about the outcomes of such feedback	Improved communication is needed regarding how students and parents provide feedback, and how that feedback is used	No explicit actions were indicated relevant to student satisfaction	Consistent rates of agreement and disagreement both before and after COVID-19	Provide opportunities to gather student and parent satisfaction with online classes and programs; Communicate with parents and students about how their feedback has been used to improve the online learning experience
	Teacher Satisfaction	Majority agreement that opportunities to collect teacher satisfaction evaluations were available	Frequency and clarity of information to teachers regarding satisfaction measures and feedback opportunities	No explicit actions were indicated relevant to teacher satisfaction; however, it is possible that additional communications, opportunities, and/or increased participation in such opportunities occurred	Increase in agreement that opportunities to assess teacher satisfaction are provided	Consistently provide and communicate opportunities to assess teacher satisfaction with online classes and programs
	Staff Satisfaction	Majority agreement that opportunities to collect staff satisfaction evaluations were available	Frequency and clarity of information to staff regarding satisfaction measures and feedback opportunities	No explicit actions were indicated relevant to staff satisfaction; however, it is possible that additional communications, opportunities, and/or increased participation in such opportunities occurred	Increase in agreement that opportunities to assess staff satisfaction are provided	Consistently provide and communicate opportunities to assess staff satisfaction with online classes and programs

	Evaluation of Course Outcomes and Program Quality	Majority agreement that procedures and policies for evaluating and improving online courses and programs were in place	Lack of consistent or formal processes, as well as availability and use of data for evaluation and improvement	Steps may have been taken to improve processes as reflected by increases in agreement	Increase in agreement and identification of a need for clear procedures to be provided by the Ministry of Education	Provide processes, procedures, and policies on course and program evaluation, including regular review and updating
	Innovation	Majority agreement that innovation is used to guide instructional and programmatic decisions regarding online education	No explicit challenges indicated	No explicit actions were indicated relevant to innovation	Increase in agreement and decrease in disagreement that innovation guides instructional and programmatic decisions regarding online education	Incorporate best practices

Appendix III: Terminology

This appendix contains the most common current terms used to describe various iterations of learning via remote, distance, and online means. Below are commonly accepted terminology definitions, but it should be noted that they often overlap and even contradict one another. Guidelines for selecting terms to be used institutionally or on a larger scale, such as system- or kingdom-wide can be found in the Terminology section of Appendix VII: Literature Review.

- **Emergency Remote Teaching**: A temporary shift of instructional delivery from its original modality to one that fits the current situation due to crisis situations.
- **Online Education**: Courses are designed, developed, and implemented in a fully online environment. Courses may be synchronous, asynchronous, or a combination.
- **Distance Education**: Teaching and learning is provided at a distance and may be offered through various means such as online, video, correspondence, etc.
- **eLearning**: Teaching and learning is provided through the use of electronic technologies.
- **Hybrid/Blended Courses**: Courses are provided in a format blending multiple modalities. Most often, some face-to-face components are combined with online and/or distance education.
- **HyFlex Courses**: Courses are designed and offered in a flexible format allowing for face-to-face, online, or hybrid/blended modalities that may be selected based on need or preference.

Embedded in these terms used to describe overall variations in online learning are several terms describing common practices.

- **Synchronous**: The learner and instructor are online at the same time for synchronous instructional delivery, course activities, and/or interaction and engagement.
- **Asynchronous**: Content delivery, course activities, and opportunities for engagement and interaction may be completed independently or at different times for each instructor and learner.
- **Online Collaborative Learning**: The use of synchronous, asynchronous, or mixed methods for course delivery and completion
- **Computer-Based Training:** The provision of modular online learning, often in a self-paced format. This type of online learning is typically used in continuing education or professional development.
- **Digital Education, or Technology-Enhanced Learning:** The use of digital technologies to provide education, including systems (i.e. Learning Management Systems), tools (i.e. applications for communication or learning activities), or course artifacts (i.e. digital activities and interactions).

There are also a number of course-level terms that are essential for development and delivery of online learning.

- **Instructional Design**: The systematic process of designing, developing, and delivering effective instruction through effective structure and presentation of learning materials and content, course activities and interactions, and assessment.

- **Universal Design for Learning (UDL)**: A framework to improve and optimize teaching and learning for all individuals.
- **Learning Outcomes**: What the learners will demonstrably know and/or be able to do at the end of a course.
- **Learning Objectives**: What the learners will demonstrably know and/or be able to do as a result of individual units or activities.
- **Course Materials and Content**: Learning content and supporting materials designed to support learning outcomes and objectives.
- **Communication**: Provision and exchange of information, including email, discussions, synchronous meetings, documents, etc. in a course.
- **Engagement**: The level of student thinking, communication, and interaction with course content, materials, activities, and participants.
- **Course Interaction**: Active student engagement with course components and participations. Generally considered in three forms.
    - **Student-Content Interaction**: Active student engagement with learning content, materials, activities, and assessments.
    - **Student-Student Interaction**: Active student engagement with other students, including video or discussion, group projects, collaborative work, etc.
    - **Student-Instructor Interaction**: Active student engagement with instructors, including communications, discussions, feedback, participation through course activities, etc.
- **Feedback**: Communication about performance (or experience) that is provided and subsequently used to increase understanding and/or improve outcomes.
- **Assessment**: The evaluation, measurement, and documentation of learning and/or achievement of outcomes and objectives.

Appendix IV: NELC Future Action Framework for K-12

NELC FUTURE ELEARNING ACTION FRAMEWORK - K-12

Dimensions	Subdimensions	Needs	Initiatives	Goals	Action Lines	Critical Success Factors	KPIs	Target Audience	Priority for COVID
Leadership	Governance	Frequent and timely communication with local school stakeholders	Provide specific and timely communication related to fluidity with COVID and online learning	To communicate decision-making rationale and processes with local school stakeholders	- Identify existing communication strategies and channels - Explore possibilities for ongoing communication with school-level stakeholders - Solicit feedback from school-level stakeholders - Evaluate effectiveness of communications	Schools receive timely communication as COVID fluidity may influence decision-making	- Frequency of regular communication channels and flows - Percentage of resources aligned to communication channels	Administrators	X
	Strategies	Articulation of and resource allocation for strategic alignment between online learning plans and other strategic planning components	Comprehensive strategic planning to account for any discrepancies or disparities between planning goals and organizational alignment	To articulate a coherent, congruent strategic plan that accounts for online learning in a way that aligns with other priorities and plans	- Review current strategic planning across the organization (including but not limited to online learning, technology, and assessment) - (Re)Establish strategic planning team and schedule regular reviews for congruences and discrepancies across strategic planning efforts - Establish congruent and aligned strategic plan, accounting for online learning	Sensemaking and synthesizing planning at various school sites and contexts	- Strategic plan action items are aligned with short- and long-term goals - Strategic plan is communicated to relevant stakeholders	Administrators	

	Policies	Policy environment that improves quality in online teaching, learning, and innovation	Policies that meet the needs of quality and innovative online teaching and learning	To implement appropriate processes to support online teaching and learning	- Review existing policies related to online teaching, learning, academic integrity, and innovation - Convene stakeholders to explore potential policies to improve - Articulate updated policies toward quality online teaching and learning - Ensure full compliance with the nationally/locally approved curricula and teaching/learning outcomes	Effective implementation of online teaching and learning	Creation and dissemination of updated policies for quality in online teaching, learning, and innovation	Administrators	
	Process	Clarity on processes for evaluating teacher performance in online teaching	Processes that clarify teacher performance evaluation	To create clear processes for evaluating teacher performance	- Review existing processes and modify for evaluating quality of online teaching performance - Identify and develop additional processes needed to support teachers - Consider feedback on the existing policies and introduced initiatives from all stakeholders to consult interests of the entire education community	Teachers delivering quality online instruction, with both administrators and teachers understanding the criteria and quality standards for teacher performance	- Short term: Clearly articulated teacher evaluation processes - Long term: Teacher evaluation results	Administrators, Teachers	X

	Resource Allocation	- Equitable resource allocation (physical devices, teacher training) across urban and rural schools - Incentives and/or compensation for teacher training and professional learning related to online instruction	- Explore opportunities for equitable resource allocation for schools - Processes that incentivize teacher participation in training and professional learning for online teaching	- To create more equitable resource allocation for schools across geographies - To further incentivize teachers to participate in professional learning for online teaching	- For equitable resource allocation: Explore current resource allocation policies and processes to identify potential gaps between school designations; Establish plan to remediate any identified gaps - For incentivizing teachers to participate in professional learning: Establish core and/or essential offerings for teacher professional learning related to online teaching; Identify and share funding opportunities or incentives with teachers	- Capacity to deliver more equitable distribution of physical devices and resources - Teachers' responses to incentives for professional learning	- Equitable access to resources across school contexts - Teacher participation in professional learning	Administrators	X
	Staffing/ Innovation	Expanded drive and incentivization for innovation on the part of administrators, staff, and teachers	Create pathways for innovation in online teaching and learning	To enhance a culture of innovation and service across school level stakeholders	- Establish regular opportunities and light incentives for innovation - Identify barriers to innovation and "pain points" and/or "fear factors" that may prevent innovative behavior on the part of administrators, staff, and teachers	School level stakeholders feel safe seeking to innovate without reprisal or punishment	Number of school-level stakeholders who show increased innovative behaviors	Administrators	

	Instructional Design Methods & UDL	Utilize and articulate to school stakeholders - teachers, in particular - the specific instructional design frameworks, including UDL, in the design of curricula	Embrace instructional design practices like UDL explicitly in the design of curricula	To disseminate awareness and importance of instructional design considerations of UDL	- Review the existing frameworks used for instructional design - Identify with instructional designers and curriculum developers the most appropriate frameworks going forward with strong support for UDL - Introduce stimuli for increasing teacher motivation for innovative tech-based practice - Develop means for proactive pedagogue retention	Quality online teaching and learning across K-12 schools in the Kingdom	Percentage of teachers who report better preparation to deliver curricula, regardless of the fluidity of face-to-face, hybrid, or online instruction	Ministry of Education	X
Curriculum Design & Planning	Learning Objectives	Help students understand and make meaningful connections to the learning outcomes and their required performance to meet those objectives	Create opportunities for student participation in meaning-making around course learning objectives, and to articulate what success means in a way that they can understand and begin to own	To guide students to articulate for themselves what the learning objectives mean and to know how they can assess their own progress toward those learning objectives	- Teachers take time at the beginning of courses, terms, and content units to review course learning objectives - Teachers ask students to create shared understandings of course learning objectives and what success means in relation to those	Students and teachers are engaged in high quality online teaching and learning	Student mastery of course learning objectives	Teachers	X

	Alignment	Alignment between content and learning activities to the assessments and learning objectives in online instruction	Teachers clarify learning outcomes that align with guidelines regarding standards for instructional planning	To create alignment between learning activities and the assessments and learning objectives in online instruction	School teacher teams hold regular meetings to peer review alignment of learning outcomes to curriculum and instructional planning	Regular communications from teachers back to the Ministry of Education/NELC sharing their learnings	Percentage of learners that report that instruction, assignments, and content meets their needs	Teachers	X
	Course Materials & Content	Ensure that course materials and content included are aligned to assessment and learning objectives, are of a high quality, accessible, and are regularly updated with current and media-rich content	- Regularly review course materials and content - Regularly update course materials and content with current and media-rich sources	To continually ensure that course materials are aligned to assessment and learning objectives, are of a high quality, accessible, and are regularly updated	- Develop regular review and updating processes and timelines for course content and materials - Seek opportunities to promote OER in course materials	Course content and materials are regularly reviewed for currency and resource content and updated as appropriate	- Percentage of course content and materials reviews completed - Number of resources updated with current and media-rich content	Ministry of Education	X
	Innovation	Expand the opportunity set for teachers to innovate with their curricular and/or instructional design	Encourage teachers to be more pedagogically or technologically innovative	To promote a supportive climate and culture for teacher innovation with respect to curricular designs and redesigns, such as design thinking	- Incorporate innovation efforts as a metric for performance evaluations - Explore possibilities for incentivizing or promoting innovative design efforts (e.g. regular sharing opportunities at professional learning or team meetings; celebrating “what didn’t work” as a way to workshop innovative lesson improvements; solicit submissions for	Teachers feel supported and encouraged to innovate in their instructional design	Reported enthusiasm to new lessons by students and teachers	Administrators	X

					a periodic/regular innovation award)				
Online Teaching & Learning	Communication	Policies and processes for expectations around communications	Establish expectations for responsiveness	To set expectations regarding when students can expect to communicate with the teacher	Develop, define and communicate expectations for when students can expect responses (to emails, phone calls, etc.) from the teacher	Established parameters for when teachers will respond to student communications	Teacher response time	Teachers	X
	Engagement	Increase opportunities for students to interact with their fellow students and the teacher	Implement both formal and informal opportunities for students to interact with each other and the teacher	To increase student engagement with course content, their peers, and the teacher through academically challenging components	Include intentional opportunities for academically challenging interactions with students and the teacher in course design (formal) and delivery (informal)	Stronger connections between the students and the teacher	- Quality course reviews - Presence of academically challenging interactive opportunities - Percentage of students who indicate that interactive opportunities are present and academically challenging - Teacher satisfaction	Teachers, Students	X
	Expectation Setting	Expectations for student activity are clearly defined and communicated to students	Develop, define, and communicate expectations for student activity	To increase presence, communication, and awareness of student activity expectations to support successful student learning	- Develop and define student activity expectations - Communicate expectations to students	- Student activity expectations are present in the syllabus - Student activity expectations are communicated to students	- Quality course review - Student activity expectations	Teachers	X

	Outcomes	Measure, review, and communicate student learning outcomes in online courses, and provide comparative onsite data as appropriate	- Develop and implement student learning outcome metrics for online courses - Communicate findings, including onsite comparisons as appropriate	To develop and communicate an understanding of student learning outcomes in online courses, including comparative onsite data as appropriate, to aid in both continual course improvements as well as to provide accurate perceptions of the efficacy of online courses	- Develop student learning outcome metrics for online courses - Measure student learning outcomes in online courses - Communicate findings, including comparative onsite data as appropriate - Use findings to aid in continual improvement of courses	- Student learning outcome metrics are developed and implemented for online courses - Results of these metrics and comparative data are communicated - Findings are utilized in continual improvement processes	- Student learning outcomes - Frequency of communication - Percentage of administrators, staff, and teachers that indicate that they understand student learning outcomes data for online courses - Administrator, staff, and teacher perceptions regarding the efficacy of online courses	Administrators, Staff, Tteachers	X
		Rubrics for all students learning activities and assignments	Clearly articulate criteria for assignments	To provide students with clearly defined criteria for the grading of all assignments	Develop rubrics linked to student learning outcomes to show grading criteria	Increased awareness of grading criteria	Percentage of assignments and activities that have developed rubrics	Teachers	X
	Course Interaction	Policies and processes regarding interactions in the online classroom	Support teacher-to-student and student-to-student interactions	To encourage teacher-to-student and student-to-student interactions in online classes	- Develop and implement policies and process at the national and local level to encourage interactions in online classes - Teachers need to encourage and ensure opportunities for	- Teacher-to-student and student-to-student interactions occur in the online classroom	- Student satisfaction with interactions - Teacher satisfaction with interactions	NELC, Ministry of Education, Administrators, Staff, Teachers	X

					interactions in their classes				
		Opportunities for the student to get to know the teacher	Establish online presence of the educator	To provide opportunities for the student to better know their teacher	- Include a teacher biography and contact information - Share expertise with students through external resources (especially those written/prepared by the educator, such as teacher portfolios) - Regularly participate in discussions or other collaborative activities	Increased engagement between the teacher and students	Frequency of teacher contributions in the virtual classroom	Teachers	X
	Feedback	Feedback provision and methods, timing, and connection to learning objectives is present and communicated to students	Develop and communicate methods for providing feedback, and set expectations for timing and explanations of how feedback is related to learning objectives	To support successful student learning outcomes by establishing and communicating clear processes and expectation for feedback	- Develop processes and methods of feedback provision in alignment with course activities - Communicate feedback processes and methods, and set expectations including timing and how feedback is connected to learning objectives and to students	- Feedback processes and methods are developed and implemented - Communication to students regarding feedback processes, methods, connection to learning objectives, and expectations is provided	- Percentage of teachers who implement processes and methods of feedback - Frequency of communication to students regarding feedback - Percentage of students reporting that feedback processes, methods, and provision are implemented, understood, and support learning	Teachers	X

	Innovation	- Encourage the discovery, dissemination, and implementation of innovation - Provide professional development on the design, development, and delivery of innovative teaching and student support	- Explicitly encourage innovation through communications, activities, and professional development - Develop and implement professional development opportunities on innovative teaching and student support	To increase the design, development, and delivery of innovative teaching and student support	- Develop and implement strategies for the discovery and dissemination of innovative teaching and student support techniques - Develop and implement professional development opportunities for teachers and staff on the design, development, and implementation of innovative teaching and student support	- Innovation actively encouraged - Professional development opportunities related to innovative teaching and student support are provided	- Frequency of communications to teachers and staff encouraging innovation - Teacher and staff participation in professional development opportunities - Percentage of teachers and staff that implement and measure innovative practices	Administrators, Staff, Teachers	X
Assessment	Assessment Strategies	Provide insightful information on assessments, their objectives and overall learning outcomes to students	Elaborate and implement subject-related communications to students regarding assessments, their objectives and overall learning outcomes	To ensure student understanding and appreciation of assessment activities to increase learning efficiency and promote successful educational outcomes	Develop and provide communications to students via various media (syllabi, webinars, email, LMS communications, fora, etc.), clearly identifying assessment strategies, processes, methodologies, types of assessments, their objectives and overall learning outcomes	Schools provide insightful and accurate information about the existing and/or developed assessment types and procedures, the rationale behind these strategies and their clearly-worded objectives	Frequency of communication to students for comprehensive and up-to-date information on ongoing assessment strategies (formative and summative assessment), their objectives, overall learning outcomes and educational impact	Administrators, Teachers, Students	X

	Assessment Processes	Ensure alignment of learning objectives and assessments	Promote open dialogue with all members of the educational process	To support successful student learning through setting out clear and direct objectives for what is expected nationally of students, teachers, schools and the entire K-12 system where assessment serves to advance teaching and learning	- Align assessment with national goals for student learning - Create constructive interaction between school administration, teachers and students to help students progress and be even better motivated to learn and achieve	Assessments and reporting of results are aligned with the learning standards, so that teachers, students, school administration and parents have a clear understanding of students' advancement and/or of any gaps and difficulties in their learning	- Student learning outcomes met - Alignment of learning objectives with assessments	Administrators, Teachers	
		Align subject materials, including criteria, assignments, expectations, and grading rubrics with best practices	Ensure that assessments pursue generally accepted best practices and directly correlate to teacher expectations	To support student excellence in learning outcomes through the use of effective course design and assessment for a more student-focused, competency-based education	- Align subject-related assessments with adequate course design, including delivery and placement - Ensure that assignments, criteria, expectations, and grading rubrics are present and that these elements are timely and clearly communicated to students	- Subject-related assessment delivery and placement follow the established course design standards - Assignments, criteria, expectations, and grading rubrics are present and are timely and clearly communicated to students	- Quality reviews - Number of communications concerning assignments, criteria, expectations, and grading rubrics meaningfully provided to students - Student learning outcomes met - Course evaluations and feedback	Administrators, Teachers	X

	Assessment Methodology	Ensure a greater variety of assessment methods to enable most accurate student subject proficiency and individual student's mastery of the curriculum in response to instruction and self-education	Use diverse assessment approaches and techniques to better meet various students' needs	To raise levels of student success and achieve greater equity of learning outcomes through more frequent, transparent, engaging and interactive assessments	Develop, gain approval and implement engaging assessment methods for students (peer- and self-assessment)	- Peer- and self-assessment methods are developed and used on a regular basis - Students gain diversified opportunities to display their subject proficiency and individual mastery of the curriculum	- Quality ratings of student learning outcomes - Frequency of transparent, engaging, and interactive assessments	Teachers	X
	Innovation	- Development, dissemination, and implementation of innovative (ICT-based) assessment strategies, processes, methods, and types - Provide professional development on the design, development, and delivery of innovative assessment	Encourage innovative assessment through communications, activities, and related professional development - Develop and implement professional development opportunities on innovative (ICT-based) assessment	To beneficate teacher-student interaction and enhance the ways in which students receive evaluations and engage with feedback	- Develop and implement strategies for the discovery and dissemination of innovative assessment techniques - Design various ICT-based assessment components - Conduct follow-up on the use of innovative assessment activities to ensure timely improvements and avoid confusion - Develop and implement professional development opportunities for teachers on the design, development, and implementation of	- Innovation relevant to assessment is actively encouraged and supported - Various ICT-based assessment components developed and implemented; student responses obtained - Professional development opportunities related to innovative assessment are provided	- Number and clarity of communications - Participation in professional development opportunities related to innovative assessment methods - Percentage of teachers who implement and measure innovative assessment practices in their practice	Administrators, Teachers	

					innovative assessment methods				
Technology	Centralized Online Education Infrastructure (SSO, LMS, etc.,)	Increase access to a centralized online learning program	Identify schools that have not yet implemented online learning and provide a centralized LMS with SSO	To increase the number of schools successfully implementing online learning	- Identify schools who do not have a LMS - Help schools determine any contextual needs - Ensure interoperability standards between the LMS and other systems - Implement SSO	- Schools with needs identified and contextualized - LMS and SSO adopted and implemented - Students successfully log into LMS	Percentage of schools with an LMS and SSO	Ministry of Education	X
	Operability	Improve the ability for students and parents to use learning technologies	- Develop a feedback loop to ensure parent and student needs are met - Create centralized resources that are comprehensible and policy accessible for parents and students	To improve understanding about using learning technologies	- Create a mechanism for parents and students to ask questions about learning technologies - Curate relevant resources related to challenges - Develop an open, centralized space for parents and students to share common pain points for the school and access resources	- Parents and students share challenges - Students have access to technology - Curated resources are easy to find and access	- Percentage of students who can use learning technologies - Website visits, page views, and hits	Administrators, Staff, Parents, Students	X
	Modality	Understand the student experience in online learning to improve courses	- Evaluate student experience over time - Reflect on course design and areas for improvement based on needs	To better support students and improve learning outcomes	- Collect feedback from students about asynchronous and synchronous learning experiences - Evaluate feedback and use to inform appropriate course changes	- Students sharing feedback - Feedback is implemented into course design	- Student outcomes - Frequency of feedback collection	Teachers, Students	

	Security	- Increase trust and confidence in for data security - Clear policies and practices to ensure data security	- Develop a clear data security plan and share with stakeholders - Develop policies around the use of third-party applications	To decrease privacy and security risks	- Educate practitioners and families about the risks of using third-party applications that have not been appropriately vetted - Create a process for vetting applications and share with practitioners - Develop guidelines for student data use and share with stakeholders	- Practitioners avoiding potentially malicious applications - Stakeholders participating in conversations - Sufficient expertise to vet technologies and use of ministry-provided websites and applications	- Number of applications in schools - Reported trust	Administrators, Staff, Teachers, Parents, Students	X
	ITSM Compliance	Evaluate current processes, plan, and resources to ensure successful online course delivery	- Determine IT pain points among stakeholders - Evaluate current processes, plans and resources - Develop new resources to address pain points	To increase support for online course delivery	- Communicate with different stakeholder groups (staff, students, teachers, parents) to determine pain points (survey, focus group, town hall, etc.) - Use identified pain points to examine current internal and outward-facing resources and address gaps or areas to improve - Create new resources and share in a manner that is easy to find	- Various stakeholders engaged - Pain points determined and addressed	- Number of support tickets/requests - Number of resources accessed - Stakeholder satisfaction	Administrators, ITSM	X

	Internet Access	Determine and address student internet access needs	- Identify student internet needs- Develop a distribution plan to share mobile hotspots - Evaluate course content to ensure options for students to continue work with poor internet	To maintain continuity of learning to the greatest possible extent	- Communicate with families through different channels to determine need - Procure and distribute mobile hotspots with a guide for use - Maintain a feedback loop for future internet access needs - Teachers evaluate content to minimize the amount of synchronous online sessions, high resolution recordings and images, etc.- Teachers develop print contingency materials for students to complete in the event of a sudden, sustained loss of internet	- All students have access to internet to complete their work - Families can report loss of internet and receive technology after start of the school year - Teachers trained on how to vet high-bandwidth content	- Percentage of students who have access to internet - Number of hotspots distributed - Percentage of students who continue to make satisfactory academic progress	Administrators, Staff, Teachers, Students	X
	Reliability	Identify system-level and/or infrastructure challenges related to the reliability of access to learning technology systems and courses	Develop processes for monitoring and addressing the reliability of infrastructure and learning technology systems and courses	To increase the awareness and problem-solving of system-level infrastructure reliability as related to access of learning technology systems and courses	- Develop processes for monitoring reliability - Develop processes for problem-solving system reliability issues - Implement solutions to address reliability challenges	- Processes for monitoring reliability are developed and implemented - Processes for resolving reliability challenges are developed and implemented	- Number of system reliability issues - Feedback from stakeholders	Administrators, ITSM	X

	Coverage	Developing mechanisms to determine stakeholder needs and ways to appropriately address them	- Stakeholders have multiple ways to report needs - Periodic follow-ups and opportunities to acquire new technologies	To decrease coverage gaps for learning technologies	- Determine appropriate communication channels for stakeholder groups - Communicate via all channels and follow-up with non-respondents - Maintain feedback loop to ensure coverage throughout the year - Ensure that schools have enough technologies to support student remote/online learning	- Stakeholders report needs - Continued communication and opportunity to determine needs - Adequate technologies to support needs - Needs are evaluated and technologies are provided	- Percentage of stakeholders have appropriate access over time - Number of technologies to meet needs	Administrators, Staff, Teachers, Students	X
	Innovation	Increase training on educational data and learning analytics tools and approaches in educator preparation programs	Curriculum modification to include gaining experience working with student data at different levels of granularity	To increase data literacy and understanding of analytics to improve student outcomes	- Work with educator preparation programs to evaluate and revise curriculum for developing data literacy and analytics skills - Develop and provide sustained training at different experience levels for practitioners - Provide time for teachers to work with their students' learning data	- Educator preparation programs and curricula are revised to include skill development over the course of the program - Training is sustained and builds skills over time instead of one-off sessions - Teachers have time incentive to explore data	- Number of educator preparation programs that revise curriculum - Number of trainings offered in schools - Percentage of practitioners that attend trainings - Blocks of time to explore data	Ministry of Education, NELC, Universities, School Administrators	

Student Support	Student Orientation & Support	Clear and comprehensive orientation provided that includes all necessary elements of technology, class design, academic support resources, and technological support resources	Develop and implement comprehensive online course orientations	To increase student awareness of and ability to access support needs for courses as well as to effectively use learning technologies used in courses	Develop and implement comprehensive online course orientations	Orientations are developed, include all necessary elements, and provided to students	- Percentage of students that complete online course orientations - Percentage of students that indicate awareness and use of support resources - Number of support tickets related to students' ability to effectively navigate courses and use course technologies	Teachers, Students	X
		Provide academic support resources that are accessible online	- Develop sufficient academic support resources - Implement digital access for academic support resources	To increase student awareness of and ability to access academic support resources	- Develop academic support resources - Implement digital access for academic support resources	Academic support resources are developed and accessible to students online	- Percentage of students that indicate awareness of available academic support resources - Students access/engagement with academic support resources	Administrators, Staff, Teachers, Students	X

	Equity	Develop and implement evaluations to assess student support needs related to the provision of equitable education opportunities, including financial, health, and academic areas	Develop and implement appropriate evaluations to assess student support needs	To increase the ability of schools to identify student support needs and provide solutions	Develop and implement appropriate evaluations to assess student support needs	- Development of student support evaluations - Data collection from student support evaluations	- Evaluations completed - Data collected	Administrators, Staff, Teachers, Parents, Students	X
		Develop and implement student support solutions that are not reliant on on-site delivery methods	Develop and implement student support solutions that may be accessed at a distance	To increase the ability of schools to provide student support regardless of whether students are onsite or online	Develop and implement appropriate student support and delivery methods	- Development of student support services that are accessible via distance - Provision of student support services that are not reliant on on-site presence	- Implemented student support services - Number of times student support services are accessed by students	Administrators, Staff, Teachers	X
	Accessibility	Ensure that online courses follow accessibility standards to support students with disabilities	Review the use of accessibility standards in online courses and ensure that gaps are addressed	To increase the ability of students with disabilities to fully access and participate in online learning	Review the use of accessibility standards in online courses and ensure that they are duly met/maintained to the fullest possible extent	- Courses are reviewed for adherence to accessibility standards - Any gaps identified are addressed	- Percentage of courses reviewed for adherence to accessibility standards - Percentage of gaps identified and addressed - Access and participation by students with disabilities in online learning	Administrators, Staff, Teachers	X

	Compliance Standards	Ensure that online course accessibility is in compliance with standards	Review online courses for compliance with accessibility standards	To increase the compliance of online courses with accessibility standards	Review courses for compliance with accessibility standards and address courses where compliance is not met	- Courses are reviewed for compliance with accessibility standards - Areas in which compliance are not met are addressed	- Percentage of courses reviewed as compliant with accessibility standards - Percentage of gaps that are identified and addressed - Percentage of compliance standards met in online courses	Administrators, Staff, Teachers	
	Social Emotional	Develop and implement evaluations to assess student support needs related to the provision of social emotional services	Develop and implement appropriate evaluations to assess social emotional student support needs	To increase the ability of schools to identify social emotional student support needs and provide solutions	Develop and implement appropriate evaluations to assess social emotional student support needs	- Development of social emotional student support evaluations - Data collection from student support evaluations	- Evaluations completed - Data is collected	Administrators, Staff, Teachers, Parents, Students	X
		Develop and implement social emotional student support solutions that are not reliant on on-site delivery methods	Develop and implement social emotional student support solutions that may be accessed at a distance	To increase the ability of schools to provide social emotional support to students regardless of whether students are onsite or online	Develop and implement appropriate social emotional student support and delivery methods	- Development of social emotional student support services that are accessible via distance - Provision of social emotional student support services that are not reliant on on-site presence	- Implemented student support services related to social emotional needs - Number of times student support services related to social emotional needs are accessed by students	Administrators, Staff, Teachers	X

		Opportunities to develop social emotional support in normal course engagement, including relationship- and community-building	Develop and implement opportunities for students to build relationships and communities within their courses	To increase social emotional support of students through opportunities for relationship- and community-building	Develop and provide opportunities for students to build relationships and communities in the context of their regular course engagement	Opportunities are present for students to build relationships and communities within their online courses	- Students' social emotional support opportunities within their online courses - Student participation in such opportunities to effectively build social emotional support systems	Teachers, Students	X
	Innovation	Increased and effective communication in online courses	Discover and implement innovative methods of communicating with students in online courses	To improve communication methods in online courses	Discover and implement innovative methods of communicating with students in online courses	Innovative communication methods are implemented in online courses	Students recognize the presence and effectiveness of communication in online courses	Administrators, Staff, Teachers	X
Training & Support	Technical Assistance	Further improve technical assistance mechanisms for educators and students during online activity development and online teaching and learning	- Create a centralized support space through a website/education portal - Resources explicitly shared and stressed by teachers in syllabi and online course, and school	To remove technical obstacles for teachers' pedagogical success and students' learning progress - Develop and implement online resources for common use and contribution	- Create expert teams of stakeholders at schools including student members to inspire and guide the development of most required resources - Create a centralized portal/website with curated resources (e.g., guides, videos, online video lectures, frequently asked questions) and support mechanisms (e.g.: live chats, chatbots, fora) - Communicate resources through Future Gate, online courses, and syllabi	- Stakeholder expertise, adequate response to student needs and teacher requirements - Centralized website available with curated insightful resources and support mechanisms, and updated to ensure actuality of materials and urgency of assistance provided - Resources shared through Future Gate or alternative	- Page views and hits on website - Future student technical issues duly collected and considered to update the resource base - Common support language in syllabi and online courses - Shared pedagogical elaborations and successful resources	Administrators, Staff, Teachers, Students	X

						education platforms, online courses, and syllabi			
	Professional Development	Regular access to comprehensive and up-to-date professional development	Continuing professional subject- and technology-related training and support for teachers to develop the knowledge, skills, and abilities essential for designing and giving online classes	To organize non-stop collaborative and job-embedded professional development to increase efficiency and and self-efficacy of teachers	- Conduct needs assessments using data from staff surveys to identify areas of professional development most requested and anticipated by teaching staff - Identify mentors and coaches (either in-house or through expert providers) to guide and support teacher learning specific to online education - Ensure access to demo online lessons, assignment co-designing, co-planning, curricular resources, including lesson units and assessment tools	Sufficiently and adequately prepared educators to teach online through accessible and adequate collaborative and job-embedded professional development	Teacher efficiency and self-efficacy	Administrators, Staff	

		Increase opportunity for teachers to complete professional development and remove barriers to supporting online resources and instructions	Extend and reinforce teachers' professional advancement and promote educators' capacity building	To provide teachers with adequate time to learn, practice, implement, and reflect upon new strategies that facilitate changes in their professional practice	- Evaluate the use of time and redesign school schedules to increase opportunities for teachers' professional development, self-education and co-working - Organize active learning, aligned with national policies and school curricula, and provide sufficient learning time for teachers to engage and progress - Ensure availability of meaningful training sessions of convenient structure and duration within an academic year - Break longer training sessions into more manageable elements that can be completed over a longer period of time	- Modular content that can be completed in less time - Technical support structure for short courses - Expert group of mentoring teachers and staff to ensure feedback on curated resources - Teachers made aware of resources through a variety of channels (e.g., school website, Future Gate or alternative online platforms, emails, etc.)	- Time teachers have to learn, practice, implement, and reflect upon new teaching strategies - Number of opportunities to engage in learning around a single set of concepts or activities within an academic year - Students learning outcomes as a result of efficient teacher professional development schemes	Administrators, Staff	X

	Orientation (Student & Parent)	Improve access to orientations for widespread and promising technologies	Develop, test and share common orientation modules for schools	To decrease resistance and challenges among teachers for online learning technologies and improve student outcomes	- Generate shared vision on high-quality teaching standards, instruction and evaluation - Identify widespread technologies and determine most critical for development - Partner with relevant educational institutions to develop and pilot orientation modules - Use best national and international practices of teacher professional development, which have raised student performance, for better understanding of effective and rational orientation and support	- Education-critical technologies identified - Regularly updated orientation modules to include new technologies - Piloted at schools to provide reasonable and actual feedback - Orientations easily accessible and shared with key personnel at institutions	- Number of modules developed and updated periodically - Number of modules accessed and implemented by institutions	Ministry of Education, Education Departments, NELC	X
	Mentoring	Develop, sustain and improve opportunities for peer mentoring	Design a virtual peer support (peer observation/peer evaluation) and mentoring program for collegial learning groups	To provide flexible, continuing and consistent mentoring, coaching and sustained engagement in collaboration	- Communicate with teachers to identify acute mentoring needs - Connect mentors with mentees based on their needs and preferences - Provide resources and incentives where possible and appropriate	- Teacher needs and preferences identified - Mentors and coaches approved and assigned - Schemes < procedures and criteria duly communicated to teachers-mentees - Feedback collected and considered to	- Number of mentors and mentees - Academic output (e.g., publications, grants, etc.) - Staff retention - Teachers' health and wellbeing	Administrators, Staff, Teachers	

						improve program where possible			
	Innovation	Greater awareness and more impactful integration of advanced technologies	Develop a teacher learning community program	To build capacity around online learning tools and innovative pedagogical approaches	- Teachers form a community (or multiple communities) - Educational institutions recruit teachers and pedagogues into communities and provide centralized coordination	- Community groups formulate their common and accepted objectives, set regular meetings, share resources, best practices and ideas - Clear and well-communicated expectations for program, regular meetings, a focal point to coordinate the group and ensure all needs and requirements are met, incentives for participation (resources, awards, grants, recognition, etc.), recruitment from all departments to grow best performers	- Number of groups - Participation in groups - Dissemination of knowledge and skills	Administrators, Staff, Teachers	X

Evaluation & Continuous Improvement	Evaluation of Course Outcomes and Program Quality	Develop and implement clear processes, procedures, and policies on course and program evaluation, including regular review and updating	Processes, procedures, and policies on course and program evaluation, including review and updating, are developed and implemented	To maintain and/or increase a high level of adherence to processes, procedures, and policies for course and program evaluation, and to continually improve these items through regular review and updating	- Develop and implement course and program evaluation processes, procedures and policies - Regularly review and update course and program evaluation processes, procedures, and policies	- Course and program evaluation processes, procedures, and policies are in place - Course and program evaluation processes, procedures, and policies are regularly reviewed and updated as appropriate	- Percentage of course and programs in alignment with established processes, procedures, and policies - Frequency of review and updates for course and program processes, procedures, and policies	Teachers, Parents, Students	X
	Student Satisfaction	Communications to students and parents regarding evaluation opportunities, their purpose, and how feedback is incorporated into course and program improvements	Create a communication plan for students and parents regarding evaluation opportunities, purposes, and uses	To increase awareness and opportunities for student and parent evaluations	Develop and implement a communication plan regarding evaluation opportunities, purposes, and uses for students and parents	Timely and comprehensive communications are provided to students and parents regarding evaluation opportunities, purposes, and uses	Student and parent participation in evaluation opportunities	Parents, Students	X
		Increased communication	Show students and parents how their feedback has helped to improve the online learning courses or program	To provide clear and consistent communication to students and parents regarding how their feedback has improved courses and programs	Develop and implement a communication plan regarding how feedback has been incorporated	Timely and comprehensive communications are provided to students and parents	Student and parent satisfaction with online learning	Parents, Students	X

	Teacher Satisfaction	Communications to teachers regarding evaluation opportunities, their purpose, and how feedback is incorporated into course and program improvements	Create a communication plan for teachers regarding evaluation opportunities, purposes, and uses	To increase awareness and opportunities for teacher evaluations	Develop and implement a communication plan regarding evaluation opportunities, purposes, and uses for teachers	Timely and comprehensive communications are provided to teachers regarding evaluation opportunities, purposes, and uses	Teacher participation in evaluation opportunities	Teachers	X
	Staff Satisfaction	Communications to staff regarding evaluation opportunities, their purpose, and how feedback is incorporated into course and program improvements	Create a communication plan for staff regarding evaluation opportunities, purposes, and uses	To increase awareness and opportunities for staff evaluations	Develop and implement a communication plan regarding evaluation opportunities, purposes, and uses for staff	Timely and comprehensive communications are provided to staff regarding evaluation opportunities, purposes, and uses	Staff participation in evaluation opportunities	Staff	X
	Innovation	Access to research and international experts	Implement best practices identified by online learning experts	To ensure quality of online learning by benchmarking against best practices	- With due regard for national and local specifics, review quality standards (rubrics, scorecards, research, etc.) shared by online learning experts, groups, and/or organizations - Apply best practices to online learning courses and programs	Improved quality of online learning	- Use of rubrics or scorecards to evaluate quality of online learning - Adoption of best practices	Administrators, Staff, Teachers	

Appendix V: Benchmarking Report

Covid-19
Global Education Response
Benchmarking Report
K-12

Introduction

Saudi Arabia's K-12 and higher education sectors had considerable experience in implementing online learning before the pandemic. It helped the Kingdom to swiftly move online during the pandemic.

At the national level, the Ministry of Education (MoE) had several initiatives for online learning and several solutions targeting all education sectors including public, private, K-12, and the higher education sectors.

To name a few, the launching of the virtual school web portal (https://vschool.sa) used to login all K-12 students across the country. This platform includes a number of eLearning tools and a huge library of Learning Resources covering almost all curriculums, one of which is len (ien.edu.sa). On the other hand, to cater for those who do not have access to the internet or computers, there included the launching of 20 live TV channels that broadcast live lessons targeting all levels.

In the higher education sector, most of the Universities had exclusive Deanship of eLearning who in collaboration with the National eLearning Center (NELC) and MoE immediately implemented the education continuity plan and moved online with their existing eLearning infrastructure.

The National OER platform SHMS (shms.sa) with about 0.38 Million resources majority of them being in Arabic was readily available for both K-12 and higher education sectors to be used in their online teaching and learning.

In summary, Saudi Arabia promptly responded to the pandemic by an education continuity plan, online platform, e-Content, open educational resources, video lessons through YouTube channels, and satellite TV for K-12. Similarly higher education institutions had most of these solutions delivered independently to their learners.

Benchmarking

With this background, a benchmarking analysis was done comparing the national response by countries across the world in comparison to the solutions offered by Saudi Arabia for K-12.

Methodology

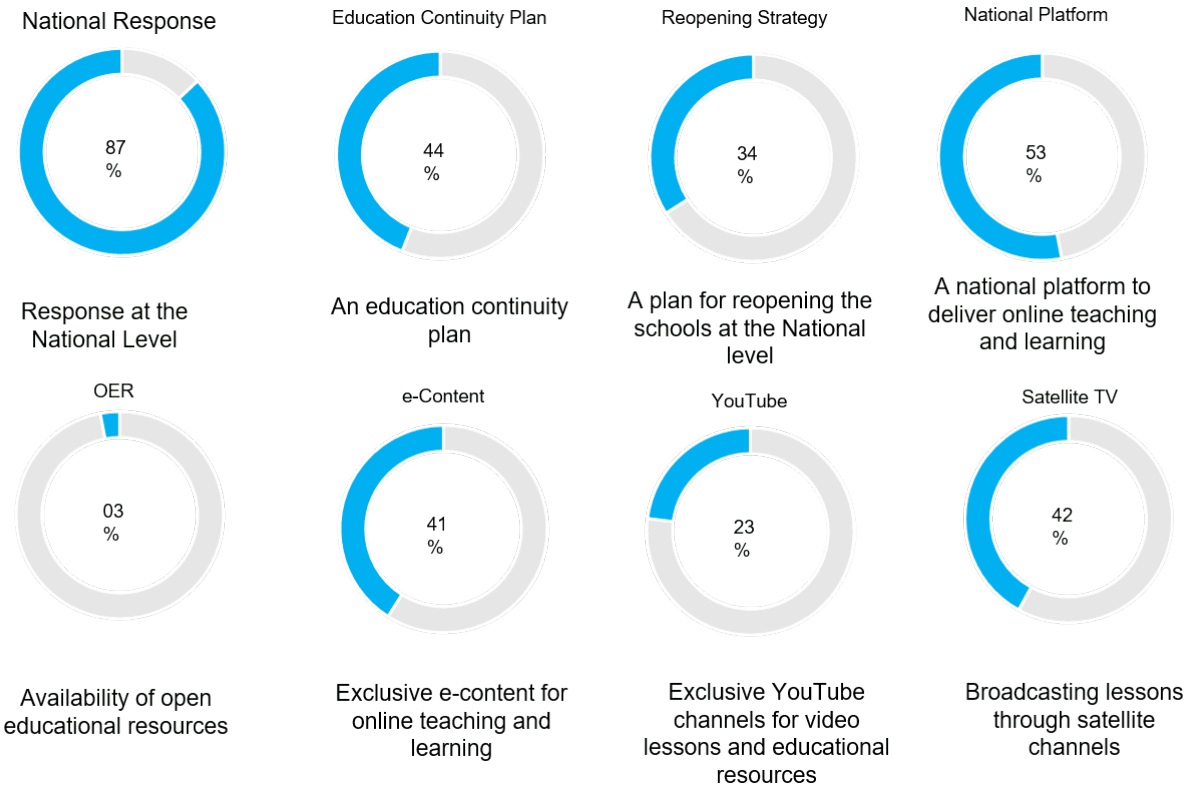
All reference data for the analysis were collected by data mining the information available in the public domain. The primary references for the data collection were UNESCO's *National*

responses and school closures tracker for COVID-19, the World Bank's report on *How countries are using edtech (including online learning, radio, television, texting) to support access to remote learning during the COVID-19 pandemic and School, OECD Education responses to COVID-19: Embracing digital learning and online collaboration,* and ISC Research's Coronavirus COVID-19 update. In addition, each country's official reports were referenced including the online news media. The data collection period was from March-May 2020.

The indicators for the analysis are listed below:

1. Education Continuity Plan (ECP): Presence of education continuity plan
2. Post-Covid -Strategy: Presence of plan for reopening the schools at the National level
3. Online Platform: A national platform to deliver online teaching and learning
4. MOOCS/OER: Availability of OER and/or MOOC at the National Level
5. e-Content: Exclusive e-content for online teaching and learning
6. YouTube: Exclusive YoutTube channels for video lessons and educational resources
7. Satellite TV: Broadcasting lessons through satellite channels.

Summary of Analysis: National response by the Government at the country level in the percentage of 193 countries analyzed.



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Appendix VI: Recommended Resources

The following resources (many free) are being provided to support the recommendations provided throughout this review. These resources are available through the contributors of this report.

Dimension	Resource	Contributor
Leadership	Access and Accessibility in Online Learning: Issues in Higher Education and K-12 Contexts	Online Learning Consortium
	Emergency Preparedness and Continuity Planning for K-12 Educators	Online Learning Consortium
	UNESCO Resources	UNESCO IITE
	Administrator Guide to Online Learning	Michigan Virtual Learning Research Institute
	School Board Guide to Online Learning	Michigan Virtual Learning Research Institute
	Learning Continuity: Planning Considerations for School Leaders	Michigan Virtual Learning Research Institute
	ISTE Standards	International Society for Technology in Education (ISTE)
	ISTE Standards for Education Leaders	International Society for Technology in Education (ISTE)
	Emergency Remote Instruction Checklist	Quality Matters
	K-12 Communicating New Policies for Online Courses	Quality Matters
	National Standards for Quality Online Programs	Quality Matters and the Virtual Learning Leadership Alliance
Curriculum Design & Planning	Guidance on Open Educational Practices during School Closures	UNESCO IITE
	Guidance for Principals and Administrators	UNESCO IITE and partners
	Handbook on Facilitating Flexible Learning during Educational Disruption	UNESCO IITE and partners
	Guidance on Open Educational Practices During COVID-19 Pandemic	UNESCO IITE and partners
	OLC OSCQR Course Design Review	Online Learning Consortium
	OLC Instructional Designer Programs - Master Series, Certificate, and Courses	Online Learning Consortium

	Launch into Learning Sciences: How Learning Works	International Society for Technology in Education (ISTE)
	QM Rubric for Course Review	Quality Matters
	Applying the QM K-12 Rubric Workshop	Quality Matters
	K-12 Online Course Design	Quality Matters
	K-12 Instructional Materials: Investigating What Works	Quality Matters
	Objectives and Alignment: The Framework for Student Success	Quality Matters
	K-12 Bridge to Quality Design Guide	Quality Matters
Online Teaching & Learning	Delivering High Quality Instruction Online in Response to COVID-19	Online Learning Consortium, Every Learner Everywhere, Association of Public & Land-Grant Universities
	Quality Course Teaching & Instructional Practice scorecard	Online Learning Consortium
	OLC Online Teaching & Advanced Online Teaching Certificates	Online Learning Consortium
	OLC New to Online Workshops	Online Learning Consortium
	Learning Keeps Going	International Society for Technology in Education (ISTE)
	Online Teaching Microcourse	International Society for Technology in Education (ISTE)
	Guidance for Teachers	UNESCO IITE and partners
	Guidance on Active Learning at Home During Educational Disruption: Promoting Student's Self-Regulation Skills during COVID-19 Outbreak	UNESCO IITE and partners
	Handbook on Facilitating Flexible Learning during Educational Disruption	UNESCO IITE and partners
	Teaching in a Digital Age: A 12-Part Video Series on Digital Education	UNESCO IITE and partners
	K-12 Introduction to Teaching Online	Quality Matters
	Teaching Online Certificate	Quality Matters

	How the Online Classroom is Different	Quality Matters
	Learning is not a Spectator Sport: Make it Active!	Quality Matters
	National Standards for Quality Online Teaching	Quality Matters and Virtual Learning Leadership Alliance
Assessment	Creating Effective Assessments Workshop	Online Learning Consortium
	Assessing Learning in Online Environments Microcourse	International Society for Technology in Education (ISTE)
	Connecting Learning Objectives & Assessments	Quality Matters
Technology	ISTE Essential Conditions	International Society for Technology in Education (ISTE)
	Guidance for Using Technologies and Platforms	UNESCO IITE and partners
	Personal Data Security Technical Guide for Online Education Platforms	UNESCO IITE and partners
	Personal Data and Privacy Protection in Online Learning: Guidance for Students, Teachers and Parents	UNESCO IITE and partners
	Flip the Switch: Motivate Learners with Course Tools and Tech	Quality Matters
	QM Gauging Your Technology Skills Workshop	Quality Matters
Student Support	Addressing the Social-Emotional Needs of Remote K-12 Learners Webinar	Online Learning Consortium
	Supporting Your Child with Online Learning: A Webinar for Parents Webinar	Online Learning Consortium
	Student Guide to Online Learning	Michigan Virtual Learning Research Institute
	Parent Guide to Online Learning	Michigan Virtual Learning Research Institute
	Guidance for Students	UNESCO IITE and partners
	Guidance for Parents and Communities	UNESCO IITE and partners
	Setting Expectations and Learner Support: Helping Learners Be Successful	Quality Matters
Training & Support	OLC Institute for Professional Development	Online Learning Consortium
	ISTE U	International Society for Technology in Education (ISTE)

	ISTE Standards for Educators	International Society for Technology in Education (ISTE)
	QM Professional Development	Quality Matters
	Teacher Guide to Online Learning	Michigan Virtual Learning Research Institute
	Mentor Guide to Online Learning	Michigan Virtual Learning Research Institute
	Understanding the Impact of OER: Achievements and Challenges	UNESCO IITE and partners
Evaluation & Continuous Improvement	OLC Quality Scorecard for the Administration of Online Learning	Online Learning Consortium
	QM K-12 Rubric	Quality Matters
	QM K-12 Reviewer Course	Quality Matters
	National Standards for Quality Online Learning	Quality Matters and Virtual Learning Leadership Alliance

Other Recommended Resources:

- (Leadership) Digital Learning Collaborative. (2019). *Planning for quality: A guide for starting and growing a digital learning program*. A Keeping Pace with Digital Learning Report. Retrieved from https://www.digitallearningcollab.com
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Appendix VII: Literature Review

Literature Review

Introduction

Online education has rapidly increased worldwide in the past two decades. The implementation of online education in K-12 schools began in 1991, and by 1998, many traditional K-12 institutions regularly documented the use of online tools and several fully virtual schools had been implemented (Barbour, 2019). There are many iterations of online education for K-12 audiences, including the most common use of online education for supplementary course support, as well as fully virtual schools. The global pandemic environment resulting from COVID-19 has created pressure for rapid development of additional quality online education options in the K-12 sector. These needs have converged with a period of prolific technology advancements, which have increased opportunities for online education and resolved many of the early challenges to teaching and learning in an online environment.

Online in Saudi Arabia

General education in Saudi Arabia includes 45 departments of education overseeing the five main geographical regions. Despite decreases in educational budgets, general education remains a priority for the Kingdom of Saudi Arabia (KSA), with existing initiatives to prepare students for the knowledge economy, increase the overall level of the population, and invest in technology and infrastructure (Allahmorad, S., & Zreik, 2020). In 2018 alone, 718 new schools were built. Kamal (2009) indicates that an explicit focus on the implementation of educational technology has been present in various kingdom-level strategic initiatives since 2002. Alahmari and Kyei-Blankson (2016) report that this focus has rapidly advanced since 2011.

The effective development and implementation of digital education infrastructure in K-12 schools is essential to the achievement of Vision 2030, and in 2017, the KSA launched the Future Gate initiative, designed to provide a country-wide centralized Learning Management System (LMS) reaching 25,000 middle and secondary schools, 4,500,000 students, and 500,000 teachers (Ohail, Suhaibani, Palavitsinis, & Koutoumanos, 2018). The Future Gate initiative includes both technical and practical implementation plans, and key performance indicators and usage statistics are measured, with preliminary findings indicating broad success across measures. Although there are clear markers of success to date, there are several challenges of note that should be considered in the context of pressure for rapid expansion of online education amid the pandemic. Infrastructure challenges are focused on technology and include the availability and reliability of sufficient internet access, the provision of equipment such as

smartboards, projectors, and teacher laptops, and technology for students as not all students are able to obtain and/or access a computer. Region- and school-level challenges include orientation and training for teachers on the LMS, ongoing and present support for teachers, including the development and provision of training and support materials, the development and implementation of quality assurance measures and procedures, and change management and motivation.

The Saudi Ministry of Education recognized these challenges early on, and has taken clear steps to develop solutions, primarily based in online education and technology. In 2005, the National eLearning Center was established to lead research, development, and implementation of online infrastructure and education (NELC, n.d.). In addition, the Ministry of Education has consistently supported the exploration and development of online education opportunities through workshops and research (Hamdan, 2014).

Terminology

Before reviewing literature on pertinent topics and issues related to online education, a brief discussion of terminology is needed. Worldwide, there are a number of terms used to discuss and describe online education, and while they are often used interchangeably, there are some differences. Understanding those differences and using the same terms and definitions across institutions and environments can help ensure that development, implementation, and measurement of initiatives are as effective as possible. Singh and Thurman (2019) found that between 1988 and 2018, 46 different definitions of 18 common terms were used to describe concepts of online learning, sometimes with contradictory implications. Further increasing the need to understand and use standard terms and definitions, Moore, Dickson-Deane, and Galyen (2011) found that though terms may be used interchangeably, they often include different expectations and perceptions.

While there is still not broad consensus regarding the selection and use of specific terms in the field, there are several key considerations of meaning and perception that can guide those seeking to establish standard terms and meaning (Singh & Thurman, 2019). The first and most impactful consideration for terms is the use of technology. The wide advent of online capabilities in 1995 marked the largest shift in terminology. For example, prior to inclusion of the internet, terms such as distance learning or were most common, and after, new terms, such as e-learning and online learning emerged. Rather than replacing former terms, they added to the lexicon, and are still frequently used interchangeably. However, the terms convey information and expectations to teachers and students, and selecting and consistently using the most appropriate descriptor can be helpful. Additionally, the use and expectations of time should be considered. Time plays an important role in the perception of terms, as it can indicate synchronicity or asynchronicity, as well as convey expectations regarding meetings and interactions (i.e., online, on-campus, blended), and communicate information about the course expectations (for example, in a flipped classroom model, expectations are independent learning

of material but interactive participation). In the continued vein of expectation and perception setting, the educational context indicated by various terms should be considered. If the institution offers a variety of course contexts, such as for-credit, non-credit, continuing education, and/or professional development, using clear and distinct terminology for these differences can help teachers and staff develop these different courses appropriately, and can help students select and participate per their needs. Finally, interactivity is a key delineator of terminology. The key difference is whether the distance interface (internet, video, etc.) is used to provide materials and content, or whether there is a virtual learning environment in which all course and learning activities take place. Although there is not a broad community consensus about specific terminology across the field, these considerations can assist those seeking to develop common terms across institutions, systems, or larger environments in choosing and implementing the terms most appropriate for their contexts.

Compounding these challenges and accelerating the need for scalable, effective online education opportunities is the current global Coronavirus pandemic. The pandemic forced educational institutions across the world to rapidly shift to remote teaching in the middle of the Spring 2020 term, a phenomenon that has now given rise to the need to develop and implement long-term solutions much more quickly than many had previously planned.

Online vs Emergency Remote Teaching

Despite the marked increase in courses delivered through the online modality due to Coronavirus - UNESCO estimates that 1.5 billion total students (more than 90% of the student population) were shifted to fully online courses - it is important to note that there is a difference between this situation, referred to as Emergency Remote Teaching (ERT) and online education (Affouneh, Salha, & Khlaif, 2020; Bozkurt & Sharma, 2020; Hodges, Moore, Lockee, Trust, & Bond, 2020; Karalis, 2020; Schlesselman, 2020). Therefore, it is also necessary to understand the differences and how ERT may translate into long-term solutions for scalable online education.

Hodges, Moore, Lockee, Trust, & Bond (2020) succinctly sum up the primary difference between ERT and online learning: “In contrast to experiences that are planned from the beginning and designed to be online, emergency remote teaching (ERT) is a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances.” Schlesselman (2020) elaborates on the meaning of online learning, stating that “In contrast to emergency remote teaching, online learning is bound by many standards to ensure optimal learning. Online learning provides opportunities for community building among students and with the instructor; online learning provides opportunities for learner engagement with the material through realistic practice, spaced repetition, real-world context, and feedback; online learning provides opportunities to support learners. Online learning focuses on the achievement of

learning objectives, rather than covering content. Online learning also creates a safe environment that addresses the needs of all learners, including accessibility."

The assumption with ERT is that it is a stopgap designed to provide as much academic continuity as possible during an emergent situation, and that courses will return to their previous modalities following the crisis. Coronavirus presents a unique challenge for two reasons. First, as Bozkurt and Sharma (2020) and Karalis (2020) point out, this is the first crisis of such scale and severity to occur in the current digital knowledge economy. Second, the full impact and trajectory of the coronavirus pandemic remains to be seen; educational institutions find themselves in a situation of uncertainty, grappling with simultaneous demands to not only provide flexible solutions for the upcoming Fall 2020 term, but also to design, implement, and scale online education options that were either previously unplanned or were not planned with such immediacy (Hodges, Moore, Lockee, Trust, & Bond, 2020; Schlesselman, 2020).

As institutions prepare to make the second large-scale shift resulting from the pandemic, from ERT to the design and delivery of online courses, there are several key principles to consider: planning, design, and development, pedagogy, quality, communication, technology, student support, and teacher support.

Planning, Design, and Development

A primary difference between ERT and online learning is the planning and design of the course. For online courses, this phase typically ranges from six to nine months or more (though this may be less for K-12 given Ministry oversight and provision of curriculum, and provides a foundation for both teachers and students to have a successful learning experience (Hodges, Moore, Lockee, Trust, & Bond, 2020; Schlesselman, 2020; Shisley, 2020). This phase is a marked difference in which a course is thoughtfully created with the goal of effective online learning as opposed to the hurried translation of large quantities of material originally prepared for on-campus instruction and improvised solutions that accommodate the unexpected change in modality.

Effective online course design begins with a focus on learning; alignment between learning objectives, instructional activities, and assessments, as well as planned immersive, adaptive, and other innovative learning experiences. Studies have shown that misalignment among these items is the primary cause of poor outcomes. In an emergent situation, attending to these elements is key: reviewing learning objectives and revising as appropriate, communicating changes, and providing aligned materials and assessments is the most important step toward ensuring learning continuity (O'Keefe, Rafferty, Gunder, & Vignare, 2020).

It is also critical to consider accessibility when designing an online course, including both web accessibility and the broader principles included in Universal Design for Learning (UDL), which shifts the focus from accomodations to accessible design for all (CAST, n.d.; O'Keefe, Rafferty, Gunder, & Vignare, 2020). UDL is beneficial for both planned online learning as well as ERT (whenever possible). For example, providing captioned videos ensures accessibility for deaf or hard-of-hearing students, but also provides solutions for students who may be non-native speakers, or working in a loud or distracting environment. Lastly, teachers should attend to providing not just an accessible environment, but an equitable one. In course design, equity may be addressed through review for, and replacement of, biased language, images, videos, or other materials. Additionally, online course design should include explicit attention to equitable design, including academic, pedagogical, psychological, social, and technological considerations (Kelly, 2019), and these elements are included in their respective sections below.

Pedagogy

While the elements of effective pedagogy are similar in on-campus and online environments, the delivery, method, and implementation of instructional strategies is markedly different. At a basic level, effective pedagogy builds on course design and aligned objectives, activities, and assessments to provide regular and high-quality interaction between students and content, students and peers, and students and instructors. In addition to interaction, the Community of Inquiry Framework identifies the need for instructors to provide social presence (participant identification with the community), teaching presence (design and facilitation of meaningful and educationally valuable learning outcomes), and cognitive presence (the ability to construct and confirm meaning) (COI, n.d.).

In an online course, these elements are carefully designed to align with the learning objectives and facilitate mastery of the material. However, this type of immersive experience requires planning and preparation, and in an ERT environment, it is most useful to focus on translating on-campus strategies that lend themselves well to online alternatives, such as group discussions, writing activities, and project-based learning (O'Keefe, Rafferty, Gunder, & Vignare, 2020).

When considering accessibility and pedagogy, UDL is once again a primary tool in ensuring that optimal standards are met. By designing learning for all, it is not just the online experience, but interactions that impact students. For example, by providing learning opportunities through multiple means (slides/notes, video, a variety of activities), all students may access and learn the same material as appropriate for their needs (CAST, n.d.; Kelly, 2019). In addition to following best practices for interaction and presence, equity in pedagogy may be developed through the intentional creation of an inclusive environment, including authentic and equity-focused strategies for teaching and interaction.

Quality

Ensuring and maintaining course quality is critical to continued effectiveness in online design, teaching, and learning. Course design is foundational for a high-quality course, and teachers may not have the knowledge or skills in pedagogy and instructional design to translate their subject-matter expertise and/or classroom experience into quality online learning (McGahan, Jackson, & Premer, 2015). There are many models which address this potential gap and provide options for evaluation and continuous improvement, including the Online Learning Consortium (OLC) Quality Scorecard Suite, Quality Matters (QM), and Quality Learning and Teaching (QLT), among others (McGahan, Jackson, & Premer, 2015; O'Keefe, Rafferty, Gunder, & Vignare, 2020).

Though each approach has variations, the goal is to both ensure that key quality indicators are present in the course, and to build confidence in design and pedagogy processes, and there are clear common elements among quality measures. These are typically comprised of a combination of course navigation and information, course design, accessibility, technology/tools, content, activities, and assessments, interaction, and feedback (McGahan, Jackson, & Premer, 2015; OLC, n.d.).

When designing an online course, these elements may be planned for in advance, and quality evaluation and assurance provided. It should be noted that even courses designed for online learning should be assessed regularly and continually improved to ensure best practices for quality. In an ERT situation, it is helpful for teachers to be familiar with quality standards for online learning, but the focus during these events is often just to move forward. Following the initial point of crisis, it may be possible but is not always the best solution to convert an ERT course into an online course, and it may be more efficient and effective to redesign the course with online quality standards in mind (O'Keefe, Rafferty, Gunder, & Vignare, 2020).

Communication

Communication, and planning for communication, is important in any course, and is critical in online courses, where students and instructors do not necessarily interact synchronously on a regular basis. Research has clearly linked high-quality communication between both students and instructors as well as students and their peers to higher levels of course engagement, positive outcomes, and student satisfaction (Jaggars & Xu, 2016; Leh & Burk, 2016).

Effective communication in online courses is marked by opportunities for students to connect both individually and in groups, and with each other and their instructor(s) in an open, inclusive, and equitable environment. In online course design, these opportunities may range from welcome messages and icebreaker activities to synchronous and asynchronous communication through various media (i.e., video, discussion boards, etc.), and include a variety of instructional activities such as discussion, peer critique/review, group projects, etc. (Leh & Burk, 2016; O'Keefe, Rafferty, Gunder, &

Vignare, 2020; Roddy, et. al., 2017). In an ERT situation, particular care should be taken to ensure that course changes and expectations are clear, that students are able to contact the instructor, and that the change of format from either on-campus or blended to fully remote includes communication opportunities that are accessible to all students. In both planned online learning experiences and ERT environments, the communication focus should remain on creating an open and equitable community, and in translating the human elements of communication in teaching and learning to the online environment.

Technology

The rapid advancement of educational technology over the past two decades has made it possible to provide highly engaging, accessible, and effective online learning experiences to a wide audience of students. However, it has also brought an expansive catalog of possibilities that can be challenging to navigate when designing an online course, and even more so when shifting to ERT. In either situation, it is key to bear in mind that technology should be selected to fit course needs and learning outcomes, and the success of technological tools will depend upon their implementation (Hodges, Moore, Lockee, Trust, & Bond, 2020; O'Keefe, Rafferty, Gunder, & Vignare, 2020).

Typically, the learning management system (LMS) is the primary technological tool for delivering online or remote instruction. In addition to the LMS, there are many options, both technology and digital courseware, that provide additional choices for content delivery, engagement, and assessment. Primary considerations for selecting technology tools and digital courseware in both online learning and ERT, beyond ensuring that the tools selected meet the needs of the course, include consideration of asynchronous and synchronous capabilities, any associated costs to either the institution or student, and how the tool will be integrated into the course (via LMS or independently) and supported (O'Keefe, Rafferty, Gunder, & Vignare, 2020; Roddy, et al., 2017). In an emergent situation, it is particularly important to consider the flexibility needs of students, as well as the potential costs, including financial, time and effort to learn the tool(s), and reliable access to the tool(s) (O'Keefe, Rafferty, Gunder, & Vignare, 2020).

Student Support

Student support is critical to student success in all learning environments, but requires dedicated forethought for online learners, as they may not have access to on-campus resources (Roddy et al., 2017). As Roddy et al. synthesized, there are four key areas for supporting online students: academic support, technology assistance, health and well-being resources, and a sense of belonging and/or community.

Academic support includes the aforementioned student-instructor interaction, orientation services, appropriate scaffolding for effective online learning, and access to resources such as tutoring and library services (O'Keefe, Rafferty, Gunder, & Vignare, 2020; Roddy et al., 2017). Additionally, any

resources specific to the course should be provided in online-accessible options. Technology assistance includes proactive support in selecting user-friendly and flexible options and providing training opportunities up front as well as access to ongoing technical support, as needed. Health and well-being services for online students can be challenging; there are some barriers with regard to geographical location and even funding models for student fees that potentially limit access to such services. However, there are options for providing care and referral services, and technology has enhanced the availability of such services - through both institutions and third-party providers. It is important for teachers to be open, available, and observant of potential needs in order to optimally support student needs for health and well-being services. Finally, establishing belonging and community is considered an essential support for online students. Communication among students and peers as well as instructors is critical, and it is most effective to both ensure that these interactions are high-quality and infused with human connection.

In an ERT situation, it is not always possible to quickly provide all of these areas of student support. In such environments, reviewing critical needs for course success (such as library services/access, for example) can guide prioritization, and teachers communication and awareness of indicators of student needs are the most important considerations (O'Keefe, Rafferty, Gunder, & Vignare, 2020).

Teacher Support

In addition to student support, teacher support is essential for successful experiences in both online teaching and learning as well as ERT (Serianni, 2020). The transition to successful online teaching and learning includes the acquisition of both pedagogical and technical skills suited to the online environment along with an understanding of the needs of online learners (Roddy et al., 2017; Serianni, 2020). Though many skills do translate from other modalities to online teaching, some specific competencies identified in the literature for online environments include effective communication skills, adequate technological/technical skills, and proficiency with monitoring student progress, providing student feedback, and appropriate follow-up are essential to reduce student disengagement. In addition to these individual needs, it is important for teachers to have access to instructional design support and technology support and/or training (O'Keefe, Rafferty, Gunder, & Vignare, 2020).

In ERT situations, not only do teachers not have the time to engage in support services prior to teaching in the online environment, they may have limited or no access to services that are normally provided (O'Keefe, Rafferty, Gunder, & Vignare, 2020). Many organizations and institutions may gather self-serve resources in these situations, and in addition to these, teachers should attend to recommendations noted previously regarding course design, content, assessment, technology, and support.

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Appendix VIII: Survey Protocols

K-12 Survey

Introduction

Thank you for your participation in this study. The purpose is to conduct a developmental study to understand the national position to provide quality online learning across institutions during the COVID-19 pandemic in the Kingdom of Saudi Arabia (KSA) and identify areas for future investment and improvement. The resulting recommendations will provide information to support capacity and quality in online education throughout the kingdom to enhance the potential for Vision 2030 excellence in a diversified and knowledge-based economy.

* What best describes your role?

- Administrator
- Staff
- Teacher
- Parent
- Student

K-12 Survey

Directions

In this section, questions are designed to understand the perceptions and experiences of administrators, staff, and teachers with regard to online education. Please respond to these items as they relate to your role, and select 'N/A' for any items that do not apply to your role or experience. The first block of questions is for prior to COVID-19 and the second block is for after COVID-19 influenced the state of learning.

K-12 Survey

Leadership: Governance - Admin/Staff/Teachers

The leadership is accountable to a governance body and is responsible for setting and meeting the operational and strategic goals in support of the online education mission and vision statements.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The governance structure enables clear, effective, and comprehensive decision making related to online education.	○	○	○	○	○	○
The governance structure incorporates a diverse body of decision-makers, including teachers and staff, and those who are knowledgeable about K-12 online learning.	○	○	○	○	○	○
The governance structure requires and enables systematic and continuous improvement related to online education.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The governance structure enables clear, effective, and comprehensive decision making related to online education.	○	○	○	○	○	○
The governance structure incorporates a diverse body of decision-makers, including teachers and staff, and those who are knowledgeable about K-12 online learning.	○	○	○	○	○	○
The governance structure requires and enables systematic and continuous improvement related to online education.	○	○	○	○	○	○

K-12 Survey

Leadership: Strategies - Admin/Staff/Teachers

The leadership is accountable to a governance body and is responsible for setting and meeting the operational and strategic goals in support of the online education mission and vision statements.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A mission, vision, and strategic plan is developed addressing the importance of quality in online learning.	○	○	○	○	○	○
A strategy for online learning is articulated and updated regularly incorporating emerging educational and business trends and requirements.	○	○	○	○	○	○
The strategic plan for online learning aligns with other strategic plans (e.g., academic, technology) within the school or district.	○	○	○	○	○	○
Leadership has developed goals that align with the strategy for online learning.	○	○	○	○	○	○
Leadership identifies measures of goals and collects timely data to ensure quality and identify areas of improvement.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A mission, vision, and strategic plan is developed addressing the importance of quality in online learning.	○	○	○	○	○	○
A strategy for online learning is articulated and updated regularly incorporating emerging educational and business trends and requirements.	○	○	○	○	○	○
The strategic plan for online learning aligns with other strategic plans (e.g., academic, technology) within the school or district.	○	○	○	○	○	○
Leadership has developed goals that align with the strategy for online learning.	○	○	○	○	○	○
Leadership identifies measures of goals and collects timely data to ensure quality and identify areas of improvement.	○	○	○	○	○	○

K-12 Survey

Leadership: Policies - Admin/Staff/Teachers

The leadership is accountable to a governance body and is responsible for setting and meeting the operational and strategic goals in support of the online education mission and vision statements.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Policies and procedures for online learning are reviewed and updated regularly.	○	○	○	○	○	○
Policies encourage the development of online classes and programs (e.g., a policy for intellectual property of class materials).	○	○	○	○	○	○
Policies address academic integrity of online class assignments and assessments.	○	○	○	○	○	○
Promotion policies of teachers and staff include criteria supporting online teaching, learning, and innovation.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Policies and procedures for online learning are reviewed and updated regularly.	○	○	○	○	○	○
Policies encourage the development of online classes and programs (e.g., a policy for intellectual property of class materials).	○	○	○	○	○	○
Policies address academic integrity of class assignments and assessments.	○	○	○	○	○	○
Promotion policies of teachers and staff include criteria supporting online teaching, learning, and innovation.	○	○	○	○	○	○

K-12 Survey

Leadership: Process - Admin/Staff/Teachers

The leadership is accountable to a governance body and is responsible for setting and meeting the operational and strategic goals in support of the online education mission and vision statements.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Processes exist to provide professional development, training, support, and evaluation of online learning.	○	○	○	○	○	○
Evaluations are conducted periodically by qualified and objective external parties who have a demonstrated ability to deliver a comprehensive review of internal processes.	○	○	○	○	○	○
A process for planning and allocating resources for online learning, including financial resources, in accordance with the strategic plan is established.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Processes exist to provide professional development, training, support, and evaluation of online learning.	○	○	○	○	○	○
Evaluations are conducted periodically by qualified and objective external parties who have a demonstrated ability to deliver a comprehensive review of internal processes.	○	○	○	○	○	○
A process for planning and allocating resources for online learning, including financial resources, in accordance with the strategic plan is established.	○	○	○	○	○	○

K-12 Survey

Leadership: Resource Allocation - Admin/Staff/Teachers

The leadership is accountable to a governance body and is responsible for setting and meeting the operational and strategic goals in support of the online education mission and vision statements.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Sufficient resource allocation, including financial resources, to effectively support the mission of online education is demonstrated.	○	○	○	○	○	○
Incentives and/or financial compensation are provided to teachers and staff for professional development and instructional design activities.	○	○	○	○	○	○
Resources are adequately allocated and projected to sustain and scale online learning.	○	○	○	○	○	○
An investment is made in instructional personnel and staff time to support online learning and instructional technologies.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Sufficient resource allocation, including financial resources, to effectively support the mission of online education is demonstrated.	○	○	○	○	○	○
Incentives and/or financial compensation are provided to teachers and staff for professional development and instructional design activities.	○	○	○	○	○	○
Resources are adequately allocated and projected to sustain and scale online learning.	○	○	○	○	○	○
An investment is made in instructional personnel and staff time to support online learning and instructional technologies.	○	○	○	○	○	○

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K-12 Survey

Leadership: Staffing/Innovation - Admin/Staff/Teachers

The leadership is accountable to a governance body and is responsible for setting and meeting the operational and strategic goals in support of the online education mission and vision statements.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A senior level academic position leads online learning.	○	○	○	○	○	○
Sufficient qualified professional, administrative, and support staff are provided to meet online learning strategic goals.	○	○	○	○	○	○
Technical staff are provided to support the learning environment and the technology needs of students and teachers.	○	○	○	○	○	○
Leadership incorporates an expectation of innovation in teaching and learning through staff evaluations and promotions.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A senior level academic position leads online learning.	○	○	○	○	○	○
Sufficient qualified professional, administrative, and support staff are provided to meet online learning strategic goals.	○	○	○	○	○	○
Technical staff are provided to support the learning environment and the technology needs of students and teachers.	○	○	○	○	○	○
Leadership incorporates an expectation of innovation in teaching and learning through staff evaluations and promotions.	○	○	○	○	○	○

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K-12 Survey

Curriculum Design & Planning: Instructional Design Methods - Admin/Staff/Teachers

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Implementation of curriculum developed by the Ministry of Education is a core responsibility for teachers.	○	○	○	○	○	○
The instructional design of online classes is supported by teachers, instructional designers, technical experts, and evaluators.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Implementation of curriculum developed by the Ministry of Education is a core responsibility for teachers.	○	○	○	○	○	○
The instructional design of classes is supported by teachers, instructional designers, technical experts, and evaluators.	○	○	○	○	○	○

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K-12 Survey

Curriculum Design & Planning: Instructional Design Methods - Teachers

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The instructional design focuses on authentic and active learning that is student-centered creating opportunities for students to interact with each other and the teacher.	○	○	○	○	○	○
The instructional design includes a consistent class structure, manageable units, and similar organization techniques across classes for coherency of student experience.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The instructional design focuses on authentic and active learning that is student-centered creating opportunities for students to interact with each other and the teacher.	○	○	○	○	○	○
The instructional design includes a consistent class structure, manageable units, and similar organization techniques across classes for coherency of student experience.	○	○	○	○	○	○

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K-12 Survey

Curriculum Design & Planning: Universal Design for Learning - Admin/Staff/Teachers

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Instructional materials are quality materials and accessible to all students, easy to use, and accessible on any Internet-ready device.	○	○	○	○	○	○
Online classes are designed based on research-design principles and accessibility guidelines with consideration for usability, including ease of navigation.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Instructional materials are quality materials and accessible to all students, easy to use, and accessible on any Internet-ready device.	○	○	○	○	○	○
Online classes are designed based on research-design principles and accessibility guidelines with consideration for usability, including ease of navigation.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Learning Objectives - Admin/Staff/Teachers

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Measurable learning objectives are provided for each online class and clearly state what the learner will be able to demonstrate as a result of successfully completing the class.	○	○	○	○	○	○
A development process is followed that ensures online classes are designed so that students develop the necessary knowledge and skills to meet measurable learning objectives.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Measurable learning objectives are provided for each class and clearly state what the learner will be able to demonstrate as a result of successfully completing the class.	○	○	○	○	○	○
A development process is followed that ensures classes are designed so that students develop the necessary knowledge and skills to meet measurable learning objectives.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Alignment with Standards - Admin/Staff/Teachers

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Guidelines regarding standards for class development, and instructional design and delivery of online classes (e.g., learning materials, assessment strategies) are used.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Guidelines regarding standards for class development, and instructional design and delivery of online classes (e.g., learning materials, assessment strategies) are used.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Alignment with Standards - Teachers

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Content and learning activities align with the assessments and learning objectives.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Content and learning activities align with the assessments and learning objectives.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Class Materials & Content - Teachers

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online classes include a syllabus or a document on the class site outlining learning objectives, assessment methods, and descriptions of learning activities, including content.	○	○	○	○	○	○
Content, including reading assignments and lectures, aligns with the assessments and learning objectives.	○	○	○	○	○	○
Content used includes materials that are accessible and interactive, such as Open Education Resource (OER).	○	○	○	○	○	○
Online classes include content that is current, rich, and sufficient in breadth and depth.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online classes include a syllabus or a document on the class site outlining learning objectives, assessment methods, and descriptions of learning activities, including content.	○	○	○	○	○	○
Content, including reading assignments and lectures, aligns with the assessments and learning objectives.	○	○	○	○	○	○
Content used includes materials that are accessible and interactive, such as Open Education Resource (OER).	○	○	○	○	○	○
Online classes include content that is current, rich, and sufficient in breadth and depth.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Innovation - Admin/Staff/Teachers

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers and staff are supported and encouraged to incorporate pedagogical and technological methods to improve student outcomes through curricular redesign.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers and staff are supported and encouraged to incorporate pedagogical and technological methods to improve student outcomes through curricular redesign.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Communication - Admin/Staff/Teachers

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers are expected to hold virtual synchronous check-ins with students and frequently communicate with their students via email, class news and announcements, online discussions, and assignment feedback.	○	○	○	○	○	○
Clear standards are established for teacher communications concerning online teaching (e.g. response time, contact information, etc.).	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers are expected to hold virtual synchronous check-ins with students and frequently communicate with their students via email, class news and announcements, online discussions, and assignment feedback.	○	○	○	○	○	○
Clear standards are established for teacher communications concerning online teaching (e.g. response time, contact information, etc.).	○	○	○	○	○	○

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K-12 Survey

Online Teaching & Learning: Engagement/Expectation Setting - Admin/Staff/Teachers

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online class design promotes student engagement, including academic challenge and social involvement with each other and the instructor.	○	○	○	○	○	○
Online classes contain clear, concise, and useful assignment instructions.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online class design promotes student engagement, including academic challenge and social involvement with each other and the instructor.	○	○	○	○	○	○
Online classes contain clear, concise, and useful assignment instructions.	○	○	○	○	○	○

المركز الوطني للتعليم الإلكتروني National eLearning Center ONLINE LEARNING CONSORTIUM

K-12 Survey

Online Teaching & Learning: Expectation Setting - Teachers

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Expectations for student assignment completion, including class schedule with deadlines, grading scheme and associated policies, and teachers' feedback are provided in the class syllabus.	○	○	○	○	○	○
Barriers to learning are reduced in the online classes by including clear expectations of student activity (participation and performance).	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Expectations for student assignment completion, including class schedule with deadlines, grading scheme and associated policies, and teachers' feedback are provided in the class syllabus.	○	○	○	○	○	○
Barriers to learning are reduced in the online classes by including clear expectations of student activity (participation and performance).	○	○	○	○	○	○

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OLC ONLINE LEARNING CONSORTIUM

K-12 Survey

Online Teaching & Learning: Outcomes - Admin/Staff/Teachers

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online classes have comparable outcomes to onsite classes.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online classes have comparable outcomes to onsite classes.	○	○	○	○	○	○

المركز الوطني للتعليم الإلكتروني National eLearning Center ONLINE LEARNING CONSORTIUM

K-12 Survey

Online Teaching & Learning: Outcomes - Teachers

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online classes are designed with specific measurable learning objectives and aligned with assessments and learning activities.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online classes are designed with specific measurable learning objectives and aligned with assessments and learning activities.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Class Interaction - Admin/Staff/Teachers

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Student-to-student and teacher-to-student interactions are essential characteristics that are encouraged and facilitated.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Student-to-student and teacher-to-student interactions are essential characteristics that are encouraged and facilitated.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Class Interaction - Teachers

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Student interactions with other students and with the instructor are facilitated in a variety of ways.	○	○	○	○	○	○
Students participate in meaningful work groups promoting collaboration.	○	○	○	○	○	○
Peer interaction facilitates active learning through frequent and ongoing peer-involvement.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Student interactions with other students and with the instructor are facilitated in a variety of ways.	○	○	○	○	○	○
Students participate in meaningful work groups promoting collaboration.	○	○	○	○	○	○
Peer interaction facilitates active learning through frequent and ongoing peer-involvement.	○	○	○	○	○	○

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K-12 Survey

Online Teaching & Learning: Feedback - Admin/Staff/Teachers

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers provide timely and detailed feedback on assessments and student inquiries.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers provide timely and detailed feedback on assessments and student inquiries.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Feedback - Teachers

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Feedback on student assignments and questions is constructive and provided in a timely manner.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Feedback on student assignments and questions is constructive and provided in a timely manner.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Innovation - Admin/Staff/Teachers

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers and staff are encouraged to innovate in online teaching and in their support of students.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers and staff are encouraged to innovate in online teaching and in their support of students.	○	○	○	○	○	○

K-12 Survey

Assessment: Strategies - Admin/Staff/Teachers

Online teachers create and/or implement assessments in online learning environments in ways that ensure the validity and reliability of the instruments and procedures. Teachers measure learner progress through assessments, projects, and assignments that meet standards-based learning goals, and evaluate learner understanding of how these assessments measure achievement of the learning objectives.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online classes have multiple timely and appropriate activities to assess student learning of the aligned learning objectives throughout the class.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online classes have multiple timely and appropriate activities to assess student learning of the aligned learning objectives throughout the class.	○	○	○	○	○	○

K-12 Survey

Assessment: Strategies - Teachers

Online teachers create and/or implement assessments in online learning environments in ways that ensure the validity and reliability of the instruments and procedures. Teachers measure learner progress through assessments, projects, and assignments that meet standards-based learning goals, and evaluate learner understanding of how these assessments measure achievement of the learning objectives.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Ongoing assessment strategies (formative assessment) are used to measure content knowledge, skills, and abilities while providing students feedback on what they have learned and on what to improve.	○	○	○	○	○	○
Students' self-assessments, peer review, and feedback opportunities exist throughout the course.	○	○	○	○	○	○
Learning objectives and assessment activities are closely aligned.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Ongoing assessment strategies (formative assessment) are used to measure content knowledge, skills, and abilities while providing students feedback on what they have learned and on what to improve.	○	○	○	○	○	○
Students' self-assessments, peer review, and feedback opportunities exist throughout the course.	○	○	○	○	○	○
Learning objectives and assessment activities are closely aligned.	○	○	○	○	○	○

Assessment: Processes - Admin/Staff/Teachers

Online teachers create and/or implement assessments in online learning environments in ways that ensure the validity and reliability of the instruments and procedures. Teachers measure learner progress through assessments, projects, and assignments that meet standards-based learning goals, and evaluate learner understanding of how these assessments measure achievement of the learning objectives.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Frequent and substantial feedback from the instructor are provided to students through assessments in order for them to improve their learning or target remediation.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Frequent and substantial feedback from the instructor are provided to students through assessments in order for them to improve their learning or target remediation.	○	○	○	○	○	○

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OLC ONLINE LEARNING CONSORTIUM

K-12 Survey

Assessment: Processes - Teachers

Online teachers create and/or implement assessments in online learning environments in ways that ensure the validity and reliability of the instruments and procedures. Teachers measure learner progress through assessments, projects, and assignments that meet standards-based learning goals, and evaluate learner understanding of how these assessments measure achievement of the learning objectives.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Regular feedback about student performance on assessments is provided in a timely manner throughout the course.	○	○	○	○	○	○
Assessment criteria are clearly described when the assignment is issued with grading rubrics and samples of assignments illustrating teacher's expectations are provided.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Regular feedback about student performance on assessments is provided in a timely manner throughout the course.	○	○	○	○	○	○
Assessment criteria are clearly described when the assignment is issued with grading rubrics and samples of assignments illustrating teacher's expectations are provided.	○	○	○	○	○	○

K-12 Survey

Assessment: Methodology/Innovation - Admin/Staff/Teachers

Online teachers create and/or implement assessments in online learning environments in ways that ensure the validity and reliability of the instruments and procedures. Teachers measure learner progress through assessments, projects, and assignments that meet standards-based learning goals, and evaluate learner understanding of how these assessments measure achievement of the learning objectives.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers use an active learning assessment approach where students are not assessed solely on tests/quizzes but are provided ample opportunity to demonstrate proficiency in different ways.	○	○	○	○	○	○
Teachers pilot assessment strategies that incorporate digital literacies and other pertinent literacies (e.g., blogging, visual communication).	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers use an active learning assessment approach where students are not assessed solely on tests/quizzes but are provided ample opportunity to demonstrate proficiency in different ways.	○	○	○	○	○	○
Teachers pilot assessment strategies that incorporate digital literacies and other pertinent literacies (e.g., blogging, visual communication).	○	○	○	○	○	○

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OLC ONLINE LEARNING CONSORTIUM

K-12 Survey

Technology: Centralized Online Education Infrastructure - Admin

Educational technology is supported, reliable, accessible, and sufficient to meet the online education needs of teachers and students.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A documented technology plan is in place to ensure quality standards in online learning.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A documented technology plan is in place to ensure quality standards in online learning.	○	○	○	○	○	○

المركز الوطني للتعليم الإلكتروني National eLearning Center ONLINE LEARNING CONSORTIUM

K-12 Survey

Technology: Centralized Online Education Infrastructure - Admin/Staff

Educational technology is supported, reliable, accessible, and sufficient to meet the online education needs of teachers and students.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Support for building and maintaining the online learning technological infrastructure is addressed by a centralized system (e.g., Learning Management System) with a single sign-on (SSO) or single identification.	○	○	○	○	○	○
The Learning Management System has an interoperability protocol established for applications to be embedded within the system for a seamless experience.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Support for building and maintaining the online learning technological infrastructure is addressed by a centralized system (e.g., Learning Management System) with a single sign-on (SSO) or single identification.	○	○	○	○	○	○
The Learning Management System has an interoperability protocol established for applications to be embedded within the system for a seamless experience.	○	○	○	○	○	○

K-12 Survey

Technology: Centralized Online Education Infrastructure - Admin/Staff/Teachers

Educational technology is supported, reliable, accessible, and sufficient to meet the online education needs of teachers and students.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
There is a centralized system (e.g., Learning Management System) with a single login.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
There is a centralized system (e.g., Learning Management System) with a single login.	○	○	○	○	○	○

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ONLINE LEARNING CONSORTIUM

K-12 Survey

Technology: Centralized Online Education Infrastructure - Staff/Teachers

Educational technology is supported, reliable, accessible, and sufficient to meet the online education needs of teachers and students.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online class embedded technologies actively support the achievement of learning outcomes and delivery of class content, while superfluous use of technology is minimized.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online class embedded technologies actively support the achievement of learning outcomes and delivery of class content, while superfluous use of technology is minimized.	○	○	○	○	○	○

K-12 Survey

Technology: Operability/Modality - Admin/Staff/Teachers

Educational technology is supported, reliable, accessible, and sufficient to meet the online education needs of teachers and students.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The Learning Management System is highly reliable and operable.	○	○	○	○	○	○
Online classes are delivered asynchronously (over time) and synchronously (real-time) dependent on the learning objectives.	○	○	○	○	○	○
Blended classes are delivered integrating a combination of face-to-face, online, synchronous, and asynchronous components.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The Learning Management System is highly reliable and operable.	○	○	○	○	○	○
Online classes are delivered asynchronously (over time) and synchronously (real-time) dependent on the learning objectives.	○	○	○	○	○	○
Blended classes are delivered integrating a combination of face-to-face, online, synchronous, and asynchronous components.	○	○	○	○	○	○

K-12 Survey

Technology: Security/ITSM Compliance - Admin

Educational technology is supported, reliable, accessible, and sufficient to meet the online education needs of teachers and students.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Digital security measures are in place to ensure the integrity and validity of information, including identity access.	○	○	○	○	○	○
IT service management (ITSM) to design, plan, deliver, operate, and control information technology supports the development and delivery of online classes and programs.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Digital security measures are in place to ensure the integrity and validity of information, including identity access.	○	○	○	○	○	○
IT service management (ITSM) to design, plan, deliver, operate, and control information technology supports the development and delivery of online classes and programs.	○	○	○	○	○	○

K-12 Survey

Technology: Internet Access/Reliability/Coverage/Innovation - Admin/Staff/Teachers

Educational technology is supported, reliable, accessible, and sufficient to meet the online education needs of teachers and students.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers, staff, and students are provided with access to the internet from any location.	○	○	○	○	○	○
Teachers, staff, and students can reliably login to core learning technology systems from any location.	○	○	○	○	○	○
Internet access and access to core learning technologies are available from any location.	○	○	○	○	○	○
New and innovative technologies are piloted, supported, and encouraged in online classes.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers, staff, and students are provided with access to the internet from any location.	○	○	○	○	○	○
Teachers, staff, and students can reliably login to core learning technology systems from any location.	○	○	○	○	○	○
Internet access and access to core learning technologies are available from any location.	○	○	○	○	○	○
New and innovative technologies are piloted, supported, and encouraged in online classes.	○	○	○	○	○	○

K-12 Survey

Student Support: Student Orientation & Support - Admin/Staff/Teachers

Student support services are available to address the various needs of learners at different levels within the organization. The levels of support are appropriate and adequate for learner success.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Students are provided orientations to their online classes, the class design and activities, and the technologies used in the class.	○	○	○	○	○	○
Students are provided information on class technology and academic support resources.	○	○	○	○	○	○
Students have access to appropriate support personnel to address technical and academic questions, problem reporting, and complaints.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Students are provided orientations to their online classes, the class design and activities, and the technologies used in the class.	○	○	○	○	○	○
Students are provided information on class technology and academic support resources.	○	○	○	○	○	○
Students have access to appropriate support personnel to address technical and academic questions, problem reporting, and complaints.	○	○	○	○	○	○

K-12 Survey

Student Support: Equity/Accessibility/Compliance Standards - Admin/Staff/Teachers

Student support services are available to address the various needs of learners at different levels within the organization. The levels of support are appropriate and adequate for learner success.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Resources are in place to ensure all students, including underrepresented students, have an equitable experience (e.g., technology, class materials, support help, other forms of distance education).	○	○	○	○	○	○
Policy, processes, and resources are in place to support students with disabilities.	○	○	○	○	○	○
Online classes demonstrate compliance with accessibility standards.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Resources are in place to ensure all students, including underrepresented students, have an equitable experience (e.g., technology, class materials, support help, other forms of distance education).	○	○	○	○	○	○
Policy, processes, and resources are in place to support students with disabilities.	○	○	○	○	○	○
Online classes demonstrate compliance with accessibility standards.	○	○	○	○	○	○

K-12 Survey

Student Support: Social-Emotional/Innovation - Admin/Staff/Teachers

Student support services are available to address the various needs of learners at different levels within the organization. The levels of support are appropriate and adequate for learner success.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Students are provided with opportunities for social emotional learning and support, such as building relationships, culture, and community in a remote setting.	○	○	○	○	○	○
Students are being supported in innovative ways, such as relevant communication modes (e.g., text messaging or synchronous chat) or through advanced communication tools (e.g., artificially intelligent agents).	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Students are provided with opportunities for social emotional learning and support, such as building relationships, culture, and community in a remote setting.	○	○	○	○	○	○
Students are being supported in innovative ways, such as relevant communication modes (e.g., text messaging or synchronous chat) or through advanced communication tools (e.g., artificially intelligent agents).	○	○	○	○	○	○

K-12 Survey

Training & Support: Professional Development - Admin/Staff/Teachers

Training and support is available though mentoring, technical assistance, and timely professional development.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers receive training, assistance, and support to prepare for classes and teaching online.	○	○	○	○	○	○
Teachers are provided ongoing professional development related to online teaching and learning.	○	○	○	○	○	○
Teachers are provided with adequate time to engage in professional development.	○	○	○	○	○	○
Ongoing professional development, training, and support in pedagogy and technology are provided for teachers and staff to develop the knowledge, skills, and abilities to design and teach online classes.	○	○	○	○	○	○
Teachers are provided orientation/training on technology and instructional design used in the development of online classes.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers receive training, assistance, and support to prepare for classes and teaching online.	○	○	○	○	○	○
Teachers are provided ongoing professional development related to online teaching and learning.	○	○	○	○	○	○
Teachers are provided with adequate time to engage in professional development.	○	○	○	○	○	○
Ongoing professional development, training, and support in pedagogy and technology are provided for teachers and staff to develop the knowledge, skills, and abilities to design and teach online classes.	○	○	○	○	○	○
Teachers are provided orientation/training on technology and instructional design used in the development of online classes.	○	○	○	○	○	○

K-12 Survey

Training & Support: Technical Assistance/Mentoring/Innovation - Admin/Staff/Teachers

Training and support is available though mentoring, technical assistance, and timely professional development.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Technical assistance is provided for teachers during online class development and online teaching.	○	○	○	○	○	○
Peer mentoring resources available to online class teachers.	○	○	○	○	○	○
Teachers are provided opportunities to select new tools and pilot emerging technologies.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Technical assistance is provided for teachers during online class development and online teaching.	○	○	○	○	○	○
Peer mentoring resources available to online class teachers.	○	○	○	○	○	○
Teachers are provided opportunities to select new tools and pilot emerging technologies.	○	○	○	○	○	○

K-12 Survey

Evaluation & Continuous Improvement: Student/Parent Satisfaction - Admin/Teachers

Evaluation is both internal and external and informs all processes that affect teaching and learning. Internal evaluations often are more informal in nature and may provide immediate feedback on a targeted area of inquiry. External program evaluations typically look at the entire program from an objective perspective that will bring additional credibility to the results.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A process is in place and followed for the assessment of student satisfaction with online classes and programs.	○	○	○	○	○	○
A process is in place and followed for the assessment of parent satisfaction with online classes and programs.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A process is in place and followed for the assessment of student satisfaction with online classes and programs.	○	○	○	○	○	○
A process is in place and followed for the assessment of parent satisfaction with online classes and programs.	○	○	○	○	○	○

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Evaluation & Continuous Improvement: Teacher Satisfaction - Admin/Teachers

Evaluation is both internal and external and informs all processes that affect teaching and learning. Internal evaluations often are more informal in nature and may provide immediate feedback on a targeted area of inquiry. External program evaluations typically look at the entire program from an objective perspective that will bring additional credibility to the results.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A process is in place and followed for the assessment of teacher satisfaction with online classes and programs.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A process is in place and followed for the assessment of teacher satisfaction with online classes and programs.	○	○	○	○	○	○

K-12 Survey

Evaluation & Continuous Improvement: Staff Satisfaction - Admin/Staff

Evaluation is both internal and external and informs all processes that affect teaching and learning. Internal evaluations often are more informal in nature and may provide immediate feedback on a targeted area of inquiry. External program evaluations typically look at the entire program from an objective perspective that will bring additional credibility to the results.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A process is in place and followed for the assessment of staff satisfaction with online classes and programs.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A process is in place and followed for the assessment of staff satisfaction with online classes and programs.	○	○	○	○	○	○

K-12 Survey

Evaluation & Continuous Improvement: Class Outcomes & Program Quality - Admin/Staff/Teachers

Evaluation is both internal and external and informs all processes that affect teaching and learning. Internal evaluations often are more informal in nature and may provide immediate feedback on a targeted area of inquiry. External program evaluations typically look at the entire program from an objective perspective that will bring additional credibility to the results.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The institution has developed a procedure and/or policy for evaluating and improving online classes and programs on a timely basis.	○	○	○	○	○	○
Intended learning outcomes at the class and program level are reviewed regularly to ensure alignment, clarity, utility, appropriateness, and effectiveness.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The institution has developed a procedure and/or policy for evaluating and improving online classes and programs on a timely basis.	○	○	○	○	○	○
Intended learning outcomes at the class and program level are reviewed regularly to ensure alignment, clarity, utility, appropriateness, and effectiveness.	○	○	○	○	○	○

K-12 Survey

Evaluation & Continuous Improvement: Class Outcomes & Program Quality - Admin

Evaluation is both internal and external and informs all processes that affect teaching and learning. Internal evaluations often are more informal in nature and may provide immediate feedback on a targeted area of inquiry. External program evaluations typically look at the entire program from an objective perspective that will bring additional credibility to the results.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online programs are assessed through an evaluation process that applies specific established standards.	○	○	○	○	○	○
A process is in place and followed for the assessment of student academic achievement and retention in online classes and programs.	○	○	○	○	○	○
A variety of data (academic and administrative) are used to regularly and frequently evaluate program effectiveness and to guide continuous improvement.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Online programs are assessed through an evaluation process that applies specific established standards.	○	○	○	○	○	○
A process is in place and followed for the assessment of student academic achievement and retention in online classes and programs.	○	○	○	○	○	○
A variety of data (academic and administrative) are used to regularly and frequently evaluate program effectiveness and to guide continuous improvement.	○	○	○	○	○	○

K-12 Survey

Evaluation & Continuous Improvement: Class Outcomes & Program Quality - Admin/Teachers

Evaluation is both internal and external and informs all processes that affect teaching and learning. Internal evaluations often are more informal in nature and may provide immediate feedback on a targeted area of inquiry. External program evaluations typically look at the entire program from an objective perspective that will bring additional credibility to the results.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A process is in place and followed for the assessment of teaching performance in online classes.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A process is in place and followed for the assessment of teaching performance in online classes.	○	○	○	○	○	○

K-12 Survey

Evaluation & Continuous Improvement: Class Outcomes & Program Quality - Admin/Staff

Evaluation is both internal and external and informs all processes that affect teaching and learning. Internal evaluations often are more informal in nature and may provide immediate feedback on a targeted area of inquiry. External program evaluations typically look at the entire program from an objective perspective that will bring additional credibility to the results.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A process is in place and followed for the assessment of support services for teachers and students.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
A process is in place and followed for the assessment of support services for teachers and students.	○	○	○	○	○	○

K-12 Survey

Evaluation & Continuous Improvement: Innovation - Admin

Evaluation is both internal and external and informs all processes that affect teaching and learning. Internal evaluations often are more informal in nature and may provide immediate feedback on a targeted area of inquiry. External program evaluations typically look at the entire program from an objective perspective that will bring additional credibility to the results.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Innovative developments in analytics guides instructional and programmatic decisions about online teaching and learning.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Innovative developments in analytics guides instructional and programmatic decisions about online teaching and learning.	○	○	○	○	○	○

K-12 Survey

Directions

In this section, questions are designed to understand the perceptions and experiences of students and parents with regard to online education. Please respond to these items as they relate to your role or experience, and select 'N/A' for any items that do not apply to your role or experience. The first block of questions is for prior to COVID-19 and the second block is for after COVID-19 influenced the state of learning.

K-12 Survey

Leadership: Governance/Strategies/Policies/Processes/Resource Allocation/Staffing - Parents

The leadership is accountable to a governance body and is responsible for setting and meeting the operational and strategic goals in support of the online education mission and vision statements.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Parents and students were asked for their opinion about potential online learning plans to help school leaders make decisions.	○	○	○	○	○	○
School leaders clearly communicated their goals and plans for online learning to parents and students.	○	○	○	○	○	○
Parents and students received school policies for online learning (e.g., academic integrity, online citizenship, and appropriate use of the internet).	○	○	○	○	○	○
Class materials appeared to comply with intellectual property guidelines, fair use standards, acceptable use policies, and copyright and licensing requirements for third-party content.	○	○	○	○	○	○
Parents and students received introductions to the online classes and technologies to be used.	○	○	○	○	○	○
Parents and students received information on where and how they could receive support.	○	○	○	○	○	○
Online learning is adequately funded.	○	○	○	○	○	○
Online learning has adequate staff for teaching and supporting parents and students.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Parents and students were asked for their opinion about potential online learning plans to help school leaders make decisions.	○	○	○	○	○	○
School leaders clearly communicated their goals and plans for online learning to parents and students.	○	○	○	○	○	○
Parents and students received school policies for online learning (e.g., academic integrity, online citizenship, and appropriate use of the internet).	○	○	○	○	○	○
Class materials appeared to comply with intellectual property guidelines, fair use standards, acceptable use policies, and copyright and licensing requirements for third-party content.	○	○	○	○	○	○
Parents and students received introductions to the online classes and technologies to be used.	○	○	○	○	○	○
Parents and students received information on where and how they could receive support.	○	○	○	○	○	○
Online learning is adequately funded.	○	○	○	○	○	○
Online learning has adequate staff for teaching and supporting parents and students.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Instructional Design Methods - Parents

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The online classes had lots of activities where students were interacting with each other and the teacher.	○	○	○	○	○	○
The online classes were organized, and it was easy to get around the class sites and find things.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The online classes had lots of activities where students were interacting with each other and the teacher.	○	○	○	○	○	○
The online classes were organized, and it was easy to get around the class sites and find things.	○	○	○	○	○	○

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Curriculum Design & Planning: Instructional Design Methods - Students

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other

sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I often worked on activities with my teacher and classmates.	○	○	○	○	○	○
I was able to find things on the class websites.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I often worked on activities with my teacher and classmates.	○	○	○	○	○	○
I was able to find things on the class websites.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Universal Design for Learning - Parents

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Class materials overall were easy to locate, view, download, and use on any device.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Class materials overall were easy to locate, view, download, and use on any device.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Universal Design for Learning - Students

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
My class materials were easy to find.	○	○	○	○	○	○
My class materials were easy to use.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
My class materials were easy to find.	○	○	○	○	○	○
My class materials were easy to use.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Learning Objectives/Alignment with Standards - Parents

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The learning objectives of the classes were clearly stated.	○	○	○	○	○	○
The activities in the classes covered the knowledge and skills needed to meet learning outcomes of the classes.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The learning objectives of the classes were clearly stated.	○	○	○	○	○	○
The activities in the classes covered the knowledge and skills needed to meet learning outcomes of the classes.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Learning Objectives/Alignment with Standards - Students

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I understood what we needed to learn in my classes.	○	○	○	○	○	○
The teachers helped me understand what topics we were going to cover in class and throughout the year.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I understood what we needed to learn in my classes.	○	○	○	○	○	○
The teachers helped me understand what topics we were going to cover in class and throughout the year.	○	○	○	○	○	○

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Curriculum Design & Planning: Class Materials and Content - Parents

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Class materials adequately covered the subject areas and included current online materials (online articles, webpages, links, and/or videos).	○	○	○	○	○	○
The links to the online materials were secure links and avoided third party advertising.	○	○	○	○	○	○
Online materials were free to students to use.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Class materials adequately covered the subject areas and included current online materials (online articles, webpages, links, and/or videos).	○	○	○	○	○	○
The links to the online materials were secure links and avoided third party advertising.	○	○	○	○	○	○
Online materials were free to students to use.	○	○	○	○	○	○

K-12 Survey

Curriculum Design & Planning: Class Materials and Content - Students

A quality online course adopts and implements instructional design methods that enable effective online instruction for both institutionally developed courses as well as licensed content from other sources.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Links to the class materials were on the class website.	○	○	○	○	○	○
Links in the class website all worked, so I could get the information I needed to complete my activities.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Links to the class materials were on the class website.	○	○	○	○	○	○
Links in the class website all worked, so I could get the information I needed to complete my activities.	○	○	○	○	○	○

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K-12 Survey

Online Teaching & Learning: Communication - Parents

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers hold virtual meeting hours and frequently communicate with students via email, course news and announcements, online discussions, and assignment feedback.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Teachers hold virtual meeting hours and frequently communicate with students via email, course news and announcements, online discussions, and assignment feedback.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Communication - Students

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
My teacher communicated often (overall) and I was able to contact my teacher when I needed to talk to them.	○	○	○	○	○	○
My teacher sent out information to help me understand what we were supposed to be doing.	○	○	○	○	○	○
I talked to my classmates a lot online.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
My teacher communicated often (overall) and I was able to contact my teacher when I needed to talk to them.	○	○	○	○	○	○
My teacher sent out information to help me understand what we were supposed to be doing.	○	○	○	○	○	○
I talked to my classmates a lot online.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Engagement - Parents

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Students were academically challenged.	○	○	○	○	○	○
Students were engaged with each other.	○	○	○	○	○	○
Students were engaged with the teacher.	○	○	○	○	○	○
Students were engaged with the course content.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Students were academically challenged.	○	○	○	○	○	○
Students were engaged with each other.	○	○	○	○	○	○
Students were engaged with the teacher.	○	○	○	○	○	○
Students were engaged with the course content.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Engagement - Students

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
My schoolwork was hard sometimes.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
My schoolwork was hard sometimes.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Expectation Setting - Parents

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Expectations of students' participation were clearly stated online.	○	○	○	○	○	○
Students received information on netiquette rules and online citizenship.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Expectations of students' participation were clearly stated online.	○	○	○	○	○	○
Students received information on netiquette rules and online citizenship.	○	○	○	○	○	○

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Online Teaching & Learning: Expectation Setting - Students

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I understood what behavior is expected of me online.	○	○	○	○	○	○
I understood when my assignments were due.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I understood what behavior is expected of me online.	○	○	○	○	○	○
I understood when my assignments were due.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Outcomes - Parents

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Class learning outcomes were clearly stated and linked with activities.	○	○	○	○	○	○
Online courses had comparable outcomes to onsite courses.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Class learning outcomes were clearly stated and linked with activities.	○	○	○	○	○	○
Online courses had comparable outcomes to onsite courses.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Outcomes - Students

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I understood what I needed to do in my classes.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I understood what I needed to do in my classes.	○	○	○	○	○	○

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Online Teaching & Learning: Class Interaction - Parents

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Student-to-student and teacher-to-student interactions were encouraged and facilitated in online courses.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Student-to-student and teacher-to-student interactions were encouraged and facilitated in online courses.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Class Interaction - Students

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I worked a lot with my classmates.	○	○	○	○	○	○
I worked in groups with my classmates.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I worked a lot with my classmates.	○	○	○	○	○	○
I worked in groups with my classmates.	○	○	○	○	○	○

K-12 Survey

Online Teaching & Learning: Feedback - Parents

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Frequent and substantial feedback from the teacher was provided to students.	○	○	○	○	○	○
Frequent and substantial feedback from the teacher was provided to parents.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Frequent and substantial feedback from the teacher was provided to students.	○	○	○	○	○	○
Frequent and substantial feedback from the teacher was provided to parents.	○	○	○	○	○	○

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K-12 Survey

Online Teaching & Learning: Feedback - Students

Online teachers support learning and facilitates presence (teacher, social, and learner) with digital pedagogy, communication, and engagement.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The teachers told me where I was doing well and needed to improve.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The teachers told me where I was doing well and needed to improve.	○	○	○	○	○	○

K-12 Survey

Assessment: Strategies - Parents

Online teachers create and/or implement assessments in online learning environments in ways that ensure the validity and reliability of the instruments and procedures. Teachers measure learner progress through assessments, projects, and assignments that meet standards-based learning goals, and evaluate learner understanding of how these assessments measure achievement of the learning objectives.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Students took quizzes and exams online that adequately captured what they learned.	○	○	○	○	○	○
Students were provided ample opportunity to show what they learned in different ways beyond quizzes and exams.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Students took quizzes and exams online that adequately captured what they learned.	○	○	○	○	○	○
Students were provided ample opportunity to show what they learned in different ways beyond quizzes and exams.	○	○	○	○	○	○

K-12 Survey

Assessment: Strategies - Students

Online teachers create and/or implement assessments in online learning environments in ways that ensure the validity and reliability of the instruments and procedures. Teachers measure learner progress through assessments, projects, and assignments that meet standards-based learning goals, and evaluate learner understanding of how these assessments measure achievement of the learning objectives.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I learned from my classmates.	○	○	○	○	○	○
I was able to show my teachers what I had learned.	○	○	○	○	○	○
I was able to help my classmates learn.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I learned from my classmates.	○	○	○	○	○	○
I was able to show my teachers what I had learned.	○	○	○	○	○	○
I was able to help my classmates learn.	○	○	○	○	○	○

K-12 Survey

Technology: Centralized Online Infrastructure/Operability/Security - Parents

Educational technology is supported, reliable, accessible, and sufficient to meet the online education needs of teachers and students.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
My child was able to access all the things they needed for their online learning in one place.	○	○	○	○	○	○
My child was able to access the Learning Management System (LMS) with a single login.	○	○	○	○	○	○
The online classes were available when my child needed it.	○	○	○	○	○	○
I felt my child's identity and information in the class sites were secure.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
My child was able to access all the things they needed for their online learning in one place.	○	○	○	○	○	○
My child was able to access the Learning Management System (LMS) with a single login.	○	○	○	○	○	○
The online classes were available when my child needed it.	○	○	○	○	○	○
I felt my child's identity and information in the class sites were secure.	○	○	○	○	○	○

K-12 Survey

Technology: Centralized Online Infrastructure/Operability - Students

Educational technology is supported, reliable, accessible, and sufficient to meet the online education needs of teachers and students.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I was able to access all the things I needed for my online learning in one place.	○	○	○	○	○	○
I was able to access the Learning Management System (LMS) with a single login.	○	○	○	○	○	○
The online classes were available when I needed it.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I was able to access all the things I needed for my online learning in one place.	○	○	○	○	○	○
I was able to access the Learning Management System (LMS) with a single login.	○	○	○	○	○	○
The online classes were available when I needed it.	○	○	○	○	○	○

K-12 Survey

Technology: Security/Internet Access/Reliability - Parents/Students

Educational technology is supported, reliable, accessible, and sufficient to meet the online education needs of teachers and students.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Secure links were used in the class sites.	○	○	○	○	○	○
We have internet access in our home that is available when it is needed.	○	○	○	○	○	○
The internet is sufficiently available in the school environment.	○	○	○	○	○	○
I was consistently able to log in to online courses.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Secure links were used in the class sites.	○	○	○	○	○	○
We have internet access in our home that is available when it is needed.	○	○	○	○	○	○
The internet is sufficiently available in the school environment.	○	○	○	○	○	○
I was consistently able to log in to online courses.	○	○	○	○	○	○

K-12 Survey

Student Support: Student Orientation/Social-Emotional Support - Parents/Students

Student support services are available to address the various needs of learners at different levels within the organization. The levels of support are appropriate and adequate for learner success.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Orientation to the technology used in online classes was provided.	○	○	○	○	○	○
Technological support was available to me.	○	○	○	○	○	○
Support is available to address interpersonal issues in online courses.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Orientation to the technology used in online classes was provided.	○	○	○	○	○	○
Technological support was available to me.	○	○	○	○	○	○
Support is available to address interpersonal issues in online courses.	○	○	○	○	○	○

K-12 Survey

Student Support: Student Orientation/Social-Emotional Support - Students

Student support services are available to address the various needs of learners at different levels within the organization. The levels of support are appropriate and adequate for learner success.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Academic support (such as library, tutoring, etc.) was available to me.	○	○	○	○	○	○
Support for my well-being (including counseling, etc.) was available to me.	○	○	○	○	○	○
I was able to make friends with my classmates and others online.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Academic support (such as library, tutoring, etc.) was available to me.	○	○	○	○	○	○
Support for my well-being (including counseling, etc.) was available to me.	○	○	○	○	○	○
I was able to make friends with my classmates and others online.	○	○	○	○	○	○

K-12 Survey

Student Support: Student Orientation/Social-Emotional Support - Parents

Student support services are available to address the various needs of learners at different levels within the organization. The levels of support are appropriate and adequate for learner success.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Legal, ethical, and safe behavior related to technology use by students is supported by the teacher and the school.	○	○	○	○	○	○
My student was provided with opportunities to build relationships and community online.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Legal, ethical, and safe behavior related to technology use by students is supported by the teacher and the school.	○	○	○	○	○	○
My student was provided with opportunities to build relationships and community online.	○	○	○	○	○	○

K-12 Survey

Training & Support: Orientation - Parents

Training and support is available for students and parents

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I was provided orientation and training for online courses (learning management system access/orientation, guides, videos, etc.)	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I was provided orientation and training for online courses (learning management system access/orientation, guides, videos, etc.)	○	○	○	○	○	○

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K-12 Survey

Evaluation & Continuous Improvement: Student Satisfaction/Class Outcomes - Parents

Evaluation is both internal and external and informs all processes that affect teaching and learning. Internal evaluations often are more informal in nature and may provide immediate feedback on a targeted area of inquiry. External program evaluations typically look at the entire program from an objective perspective that will bring additional credibility to the results.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Parents and students were provided an opportunity to give feedback on their experience with the online classes.	○	○	○	○	○	○
I was informed about how my feedback (and my students' feedback) was used to develop or modify the online learning experience.	○	○	○	○	○	○
Class evaluations were conducted to collect feedback on the effectiveness of instruction and quality of online class materials.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Parents and students were provided an opportunity to give feedback on their experience with the online classes.	○	○	○	○	○	○
I was informed about how my feedback (and my students' feedback) was used to develop or modify the online learning experience.	○	○	○	○	○	○
Class evaluations were conducted to collect feedback on the effectiveness of instruction and quality of online class materials.	○	○	○	○	○	○

K-12 Survey

Evaluation & Continuous Improvement: Student Satisfaction - Students

Evaluation is both internal and external and informs all processes that affect teaching and learning. Internal evaluations often are more informal in nature and may provide immediate feedback on a targeted area of inquiry. External program evaluations typically look at the entire program from an objective perspective that will bring additional credibility to the results.

Please rate your agreement with each of the following items **prior to COVID-19**.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I was given an opportunity to tell my teachers what I liked and didn't like about my online classes.	○	○	○	○	○	○

Please rate your agreement with each of the following items **after COVID-19 influenced the state of learning.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I was given an opportunity to tell my teachers what I liked and didn't like about my online classes.	○	○	○	○	○	○

K-12 Survey

Additional Questions - Admin/Staff/Teachers

In this section, please respond to the following questions as described.

How often do you do let students use ICT (information and communication technology) for projects or classwork.

Never or Almost Never	Occasionally	Frequently	Always	N/A
○	○	○	○	○

Please indicate the extent to which you currently need professional development for ICT (information and communication technology) skills for teaching.

No Need at Present	Low Level of Need	Moderate Level of Need	High Level of Need	N/A
○	○	○	○	○

Was ICT (information and communication technology) skills for teaching included in your professional development activities during the last 12 months?

Yes	No	N/A
○	○	○

In your teaching, to what extent can you support student learning through the use of digital technology (e.g. computers, tablets, smart boards)?

Not at All	To Some Extent	Quite a Bit	A Lot	N/A
○	○	○	○	○

Were the following subject categories included in your formal and do you teach them during the current school year to any [/ 15-year-old] students in this school? **CHECK ALL THAT APPLY**

	Included in My Formal Education or Training	I Taught It to [/ 15- year-old] Students This Year
Information Technology	☐	☐
Computer Studies	☐	☐
Construction/Surveying	☐	☐
Electronics	☐	☐
Graphics and Design	☐	☐
Keyboard Skills	☐	☐
Word Processing	☐	☐
Workshop/Design Technology	☐	☐

The shortage or inadequacy of digital technology for instruction hindered my school's capacity to provide quality instruction prior to COVID.

Not at All	To Some Extent	Quite a Bit	A Lot	N/A
○	○	○	○	○

Insufficient Internet access hindered my school's capacity to provide quality instruction prior to COVID.

Not at All	To Some Extent	Quite a Bit	A Lot	N/A
○	○	○	○	○

School leaders took actions to support cooperation among teachers to develop new teaching practices in the 12 months prior to the survey.

Never	Sometimes	Often	Very Often	N/A
○	○	○	○	○

Did teachers participate in a professional development network of their peers in the 12 months prior to the survey.

Yes	No	N/A
○	○	○

Thinking about the teachers in your school, how strongly do you agree or disagree that most teachers in this school are open to change?

Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
○	○	○	○	○

On average, how often do you take part in collaborative professional learning in your school?

Never	Once a Year or Less	2-4 Times a Year	5 Times a Year or Greater	N/A
○	○	○	○	○

During the last 12 months, did you participate in any of the following professional development activities?

	Yes	No	N/A
Online Courses/Seminars	○	○	○
Participation In a Network of Teachers Formed Specifically for the Professional Development of Teachers	○	○	○

To what extent do you agree with the following statements about your school's capacity to enhance learning and teaching using digital devices?

	Strongly Disagree	Disagree	Agree	Strongly Agree
An effective online learning support platform is available	○	○	○	○
Effective professional resources for teachers to learn how to use digital devices are available	○	○	○	○
Teachers have sufficient time to prepare lessons integrating digital devices	○	○	○	○

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K-12 Survey

Additional Questions - Students

As a student, please respond to the following questions.

	Yes	No	N/A
Do you have a computer at home to use for school work?	○	○	○
Do you have a quiet place to study at home?	○	○	○

K-12 Survey

Demographic Questions - Admin/Staff/Teachers

Sex

- ○ Male
- ○ Female

Age

20 years or younger — 70 years or older

Nationality

- ○ Saudi
- ○ Non-Saudi

What is the name of your school?

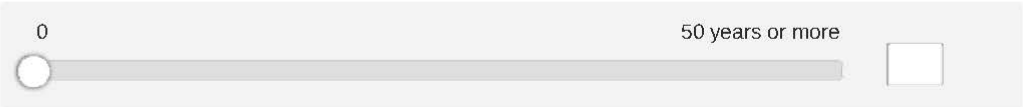
What type is your school?

- ○ Governmental
- ○ National
- ○ International

Total years of experience as an educator (Please round up to whole years no matter whether you worked part-time or full-time and move the slider to the appropriate number of years. If any option does not apply to you select "0" (zero).)

Total years at your current school (Please round up to whole years no matter whether you worked part-time or full-time and move the slider to the appropriate number of years. If any option does not apply to you select "0" (zero).)

Number of years experience with e-learning (Please round up to whole years no matter whether you worked part-time or full-time and move the slider to the appropriate number of years. If any option does not apply to you select "0" (zero).)



Region

- ◯ Riyadh
- ◯ Makkah
- ◯ Madinah
- ◯ Asir
- ◯ Bahah
- ◯ Eastern Province
- ◯ Hail
- ◯ Jawf
- ◯ Jazan
- ◯ Northern Border
- ◯ Najran
- ◯ Qassim
- ◯ Tabuk

K-12 Survey

Teacher Specialization

Please select your specialization(s).

- [ ] Kindergarten
- [ ] Islamic Education
- [ ] Arabic Language
- [ ] English Language
- [ ] Chinese Language
- [ ] Family Education
- [ ] Art Education
- [ ] Physical Education
- [ ] Special Education
- [ ] Social and National Education
- [ ] Computers
- [ ] Psychosocial Skills
- [ ] Mathematics
- [ ] Earth Science
- [ ] Science
- [ ] Chemistry
- [ ] Biology
- [ ] Physics
- [ ] Administration Science
- [ ] Student Counseling
- [ ] Library
- [ ] Other (please specify)

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K-12 Survey

Demographic Questions - Parents

Sex

- Male
- Female

Age

20 years or younger — 70 years or older

Nationality

- Saudi
- Non-Saudi

Region

- Riyadh
- Makkah
- Madinah
- Asir
- Bahah
- Eastern Province
- Hail
- Jawf
- Jazan
- Northern Border
- Najran
- Qassim
- Tabuk

What is the name of your child/children's school?

What type is your child/children's school?

- Governmental
- National
- International

What is your highest level of schooling?

- Secondary and below
- High school
- Diploma
- Bachelors
- Masters
- Doctorate

K-12 Survey

Demographic Questions - Students

Sex

- Male
- Female

Age

6 years or younger — 18 years or older

Nationality

- Saudi
- Non-Saudi

Region

- ◯ Riyadh
- ◯ Makkah
- ◯ Madinah
- ◯ Asir
- ◯ Bahah
- ◯ Eastern Province
- ◯ Hail
- ◯ Jawf
- ◯ Jazan
- ◯ Northern Border
- ◯ Najran
- ◯ Qassim
- ◯ Tabuk

What is the name of your school?

What type is your school?

- ◯ Governmental
- ◯ National
- ◯ International

What is your grade level?

- ◯ KG1
- ◯ KG2
- ◯ KG3
- ◯ Elementary 1
- ◯ Elementary 2
- ◯ Elementary 3
- ◯ Elementary 4
- ◯ Elementary 5
- ◯ Elementary 6
- ◯ Middle School 1
- ◯ Middle School 2
- ◯ Middle School 3
- ◯ High School 1
- ◯ High School 2
- ◯ High School 3

Appendix IX: Interview Protocols

Administrator Interview Protocol

Interviewer:

Post Interview Comments:

INSTRUCTIONS
We are conducting research for the National eLearning Center (NELC), that is intended to better understand the state of K-12 online learning within the Kingdom of Saudi Arabia pre-COVID-19 and during COVID-19. A survey has also been sent out to K-12 administrators, staff, teachers and students to obtain their perspectives on several dimensions of online learning. These interviews are being used to allow us to seek greater depth of information in specific areas.

Interviewee Background Information

Interviewee (Title and Name):

School district/province:

Does your role currently have oversight for any online learning at your school district/province? Yes / No
If yes, please describe the extent of that oversight (e.g., school district/province-wide, department level, course-level, course design, etc.)

How long have you been in your present position?
...at this school district/province?

What is your highest degree earned?

What was your field of study?

Did your school district/province offer online courses or full programs online prior to COVID?

Dimension I: Leadership

Is online learning currently included in your school district/province strategic plan?

If yes...
1a. Please describe your strategy for online learning.
1b. Do you feel that your school district/province's response to the pandemic was aligned to your online learning strategy?

If no...
1c. Do you anticipate adding a strategy for online learning post-COVID? Why or why not?
1d. What are the challenges in getting the e-learning agenda going pre-COVID-19? During Covid-19? What is your anticipation for the future?

Do you believe that your school district/province has sufficient resources (financial, technology, personnel, etc.) to support online learning? Why or why not?

2a. How did this change due to COVID?
2b. What resources do you believe will be needed to support online learning in the short-term?
2c. What resources do you believe will be needed to support online learning in the long-term?

Dimension II: Curriculum Design and Planning

What methods did your school district/province use pre-COVID to determine course quality?

3a. If your school district/province offered online courses, what methods were used pre-COVID to determine the quality of your online courses?
3b. What changes did you make during the transition to remote learning during the Spring 2020 term to assess the quality of your courses?
3c. Following the COVID-19 pandemic, what methods do you think your school district/province will need to use to determine the quality of online courses?

Pre-COVID, did your school district/province provide opportunities for pedagogical and technological innovation methods to improve student success?

If yes...
4a. Please share examples of how pedagogical or technological innovation methods were used to support student success.

If no...
4b. What changes do you believe are needed at your school district/province to encourage the implementation of innovative pedagogical and technological methods?

Dimension V: Technology

Pre-COVID, did your school district/province have a technology plan?

If yes...
5a. Was the technology plan sufficient to support the needs of your school district/province during the transition to remote learning? Why or why not?
5b. Following the COVID-19 pandemic, what changes do you believe will need to be made to it to better support your school district/province?

If no…
5c. In terms of technology, how was the shift from a physical environment to remote instruction?
5d. Following the COVID-19 pandemic, does your school district/province want to develop a technology plan?

5e. What do you think needs to be included in your technology plan?

Dimension VI: Student Support

Pre-COVID, what options were provided to students to access support services at your school district/province with regard to:

a. Well-being
b. Digital equity
c. Learning aids

During the transition to remote learning, what changes were made by your school district/province to provide students with adequate access to support services with regard to:

a. Well-being
b. Digital equity
c. Learning aids

Following the COVID-19 pandemic, what changes does your school district/province anticipate making to ensure all students are able to access support services regardless of the modality (in-person, online, blended) of their program with regard to:

a. Well-being
b. Digital equity
c. Learning aids

Dimension VII: Training and Support

Please describe the professional development options provided to teachers pre-COVID.

9a. Did your school district/province provide training on how to develop quality online courses?
9b. Did your school district/province provide training on how to teach quality online courses?

If no to one/both...
9c. How could the training have been improved?

What professional development did your school district/province provide to teachers during the transition to remote learning?

What changes does your school district/province anticipate making post-COVID to prepare teachers to teaching quality online courses?

Dimension VIII: Evaluation of Course Outcomes and Program Quality

Pre-COVID, what data did your school district/province evaluate to determine the overall quality of a program?

What additional data did you review to determine quality during the transition to remote learning?

Following the COVID-19 pandemic, what changes does your school district/province anticipate making in determining the process needed to assess program quality?

Teacher Interview Protocol

Interviewer:

Post Interview Comments:

INSTRUCTIONS
We are conducting research for the National eLearning Center (NELC), that is intended to better understand the state of K-12 online learning within the Kingdom of Saudi Arabia pre-COVID-19 and during COVID-19. A survey has also been sent out to K-12 administrators, staff, teachers, parents and students to obtain their perspectives on several dimensions of online learning. These interviews are being used to allow us to seek greater depth of information in specific areas.

Interviewee Background Information

Interviewee (Title and Name):

School district/province:

Does your role currently have oversight for any online learning at your school district/province? Yes / No
If yes, please describe the extent of that oversight (e.g., school district/province-wide, department level, course-level, course design, etc.)

How long have you been in your present position?
...at this school district/province?

What is your highest degree earned?

What was your field of study?

Did your school district/province offer online courses or full programs online prior to COVID?

If online courses were offered, what grade levels could participate in online learning?

Dimension I: Leadership

Is online learning currently included in your school district/province strategic plan?

If yes...
1a. Please describe your strategy for online learning.
1b. Do you feel that having a strategy for online learning improved your school district/province's responsiveness during the recent pandemic?

If no...
1c. Do you anticipate adding a strategy for online learning post-COVID? Why or why not?

Do you believe that your school district/province has sufficient resources (financial, technology, personnel, etc.) to support online learning? Why or why not?

2a. How did this change due to COVID?
2b. Following the COVID-19 pandemic, what resources do you believe will be needed to support online learning?

Dimension II: Curriculum Design and Planning

What methods did your school district/province use pre-COVID to determine course quality?

3a. If your school district/province offered online courses, what methods were used pre-COVID to determine the quality of your online courses?
3b. What changes did you make during the transition to remote learning to assess the quality of your courses?
3c. Following the COVID-19 pandemic, what methods do you think your school district/province will need to use to determine the quality of online courses?

What are your perceptions about online learning?

Probing questions...
4a. Do you enjoy teaching online?
4b. Do you feel that students are able to learn in this environment?
4c. Do you feel that this requires more or less effort by teachers teaching in this environment? Why?

Pre-COVID, did your school district/province provide opportunities for pedagogical and technological innovation methods to improve student success?

If yes...
4a. Please share examples of how pedagogical or technological innovation methods were used to support student success?

If no...
4b. What changes do you believe are needed at your school district/province to encourage the implementation of innovative pedagogical and technological methods?

Dimension III: Online Teaching and Learning

If your school district/province offered online courses pre-COVID, what methods did you use to encourage student engagement in the online course?

What methods did you use during the transition to remote learning to encourage student engagement in their courses?

Following the COVID-19 pandemic, what methods do you believe need to be implemented to encourage student engagement in their courses?

Dimension IV: Assessment

Pre-COVID, what methods for assessing student learning did you use in your classes?

During the transition to remote learning, how did you assess student learning?

Following the COVID-19 pandemic, what changes do you anticipate you will make to the methods you use to assess student learning?

Dimension VII: Training and Support

Please describe the professional development options available to teachers pre-COVID?

> 11a. Did your school district/province provide training on how to develop quality online courses?
>
> 11b. Did your school district/province provide training on how to teach quality online courses?
>
> 11c. Did your school district/province provide adequate support (subject matter experts, instructional designers, content developers, etc.) to help teachers design a quality online course?
>
> If no to one or more...
> 11c. How could the training or support have been improved?

What professional development was provided to you during the transition to remote learning?

What additional training do you believe is needed post-COVID to prepare teachers to teach quality online courses?

Parent Interview Protocol

Interviewer:

Post Interview Comments:

INSTRUCTIONS
We are conducting research for the National eLearning Center (NELC), that is intended to better understand the state of K-12 online learning within the Kingdom of Saudi Arabia pre-COVID-19 and during COVID-19. A survey has also been sent out to K-12 administrators, staff, teachers, parents, and students to obtain their perspectives on several dimensions of online learning. These interviews are being used to allow us to seek greater depth of information in specific areas.

Interviewee Background Information

Interviewee (Title and Name):

School district/province:

How long has your child/have your children been enrolled in this district/province?

What grade level is your child in/levels are your children in?

What is your highest degree earned?

Did your school district/province offer online courses or full programs online prior to COVID?

Dimension I: Leadership

Is online learning currently included in your school district/province's strategic plan?

If yes...
1a. Do you feel that your school district/province's response to the pandemic was aligned to the online learning strategy?

If no…
1b. Following the COVID-19 pandemic, has your child/children's school communicated about adding a strategy for online learning? In what ways?

Were you aware of any challenges with online learning in your child/children's school pre-COVID-19? During COVID-19? What challenges do you anticipate for the future?

Do you believe that your school district/province has sufficient resources (financial, technology, personnel, etc.) to support online learning? Why or why not?

3a. How did this change due to COVID?
3b. What resources do you believe will be needed to support online learning in the short-term?
3c. What resources do you believe will be needed to support online learning in the long-term?

Dimension II: Curriculum Design & Planning

Did your child/children participate in online learning prior to COVID-19?

If yes…
4a. What were your perceptions about online education prior to COVID-19?
4b. How did this change during COVID-19?

If no...
4c. What were your perceptions about online education prior to COVID-19?
4d. How did this change during COVID-19?

Dimension V: Technology

Was the technology plan of your child/children's school(s) sufficient during the transition to remote learning? Why or why not?

Following the COVID-19 pandemic, what changes do you believe will need to be made to it to better support your child/children's online learning experience?

Dimension VI: Student Support

Pre-COVID, what options were provided to students to access support services at your school district/province with regard to:

a. Well-being
b. Digital equity
c. Learning aids

During the transition to remote learning, what changes were made by your school district/province to provide students with adequate access to support services with regard to:

a. Well-being
b. Digital equity
c. Learning aids

Following the COVID-19 pandemic, what changes should your school district/province consider to ensure all students are able to access support services regardless of the modality (in-person, online, blended) of their program with regard to:

a. Well-being
b. Digital equity
c. Learning aids

Dimension VII: Training & Support

Pre-COVID-19, did your child/children's school provide adequate technological training/support to you? To your child/children?

During the COVID-19 pandemic, did your child/children's school provide adequate technological training/support to you? To your child/children's?

What needs do you anticipate with regard to technological training and support for the future?

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Methodology

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Study Coordinators

National eLearning Center

https://nelc.gov.sa/

About NELC

The National e-Learning Center was established as an independent entity by the Council of Ministers of Saudi Arabia, aims to enhancing trust in the eLearning programs, Leading innovation in Learning digital transformation and enabling the integration among educational institutions and labor market needs.

Online Learning Consortium

https://onlinelearningconsortium.org/

About OLC

Established in 1999 by the Sloan Foundation, the Online Learning Consortium is a collaborative community of higher education leaders and innovators, dedicated to advancing quality digital teaching and learning experiences designed to reach and engage the modern learner - anyone, anytime, anyplace.

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Suggested citation:
O'Keefe, L., Dellinger, J.T., Scragg, B., Amelina, N., & Mathes, J. (2020). *The state of online learning in the Kingdom of Saudi Arabia: A COVID-19 impact study for K-12.* Online Learning Consortium.

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