ONLINE LEARNING CONSORTIUM

The State of Online Learning in the Kingdom of Saudi Arabia

Higher Education

A COVID-19 IMPACT STUDY

An evaluation of higher education 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 higher education 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. 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, fall higher education 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 learning pre-, peri- and post-COVID. The study culminated in a number of recommendations to allow the Kingdom of Saudi Arabia to effectively build infrastructure and capacity and to deliver high quality online learning

The study focused on eight dimensions, each with several subdimensions, and included survey and interview data, contextualized within the KSA higher education 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 emerged throughout the study. It is notable that there is a high degree of consistency in the responses of administrators/staff and faculty regarding their perceptions and experiences with online learning. Students also displayed consistency in their responses as a group, though there were discrepancies between students and administrators/staff and faculty. Although there were many themes throughout the study and certainly within dimensions, two themes recurred consistently, spanning all dimensions and multiple aspects of online learning.

Communication emerged as a strong trend throughout each of the dimensions, and spanned all stakeholder groups. Key findings related to communication include:

- Regular and clear communication between administrators/staff and faculty is necessary to ensure understanding of governance, strategy, and policies, as well as practices regarding online teaching and learning pedagogy and technology. Additionally, communication regarding needs spanning technology, training and support, and resources is critical to ensure effective implementation on online learning.
- In addition to communicating about these items, faculty continuously expressed a clear desire for more involvement in decision-making for online teaching and learning at all levels, including administration (strategy, policies) and development and delivery of online learning (curriculum, evaluation, etc.).
- Frequent and effective communication between faculty and students emerged as a need. This is particularly evident in online teaching and learning, assessment, and student support dimensions. Communication of expectations (performance, interaction, etc.), the navigation of online courses, assessment practices and purposes, and expectations regarding communication itself (feedback, interaction, etc.) is necessary to provide equitable opportunities for student success.

Resource allocation and the availability of resources was a common trend throughout the study. Key findings related to resources include:

- Technology resources, including both infrastructure and the availability of devices, was a trend throughout the study. Adequate technology resources, including the ability of the infrastructure to support high-volume use as well as to provide centralized access to online learning was a need that was repeatedly identified. Additionally, ensuring that both students and faculty have access to devices that support the online learning environment and are available when needed was a frequent theme in survey and interview responses.
- Internet access was a critical issue that recurred throughout the study. Access to the internet overall, as well as the ability of the available network to adequately handle the demands of online teaching and learning emerged as a recurrent theme, including access at both school and home locations.
- Related to technology, consistent needs were identified related to online teaching and support, including faculty training and support for both online technologies and pedagogies and support for online course design and delivery as well as student training and support on technology. Increased support in these areas will not only help to ensure smooth technological experiences, but result in higher quality online courses to support successful student learning outcomes.

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, direct attention to technology and communication, particularly between administrators/staff and faculty, and between faculty and students, is essential to the development and delivery of effective online teaching and learning opportunities.

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, development of processes for evaluation and continuous improvement, and implementation of policies regarding faculty input for curriculum and decision-making). 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 higher education goals. This study illuminated overall needs to enhance country-wide needs 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

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 higher education 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. 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, fall higher education programs 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 the International Council for Open and Distance Education, UNESCO IITE, Quality Matters, the University of Wisconsin-Milwaukee Center for Distance Education and Technological Advancement (DETA), and the Association of Public and Land-Grant Universities (APLU). 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 and includes 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 as well as 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 details on evaluation, research, and action frameworks, a glossary of common terminologies recommended resources, the literature review, survey and interview protocols, and a full listing of tables, charts, and graphs.

Methodology

The higher education study began with the development of an eight-dimension framework, designed by 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 for evaluation, as well as to develop Appendix II: Research Methodology Framework Mapping. 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 higher education administrators/staff, faculty, and students by DETA and OLC. The purpose of the surveys was to understand the national position to provide quality online learning across institutions before and 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 analyses 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 a single instrument with branching logic to ease data collection and dataset management. Items were individually coded by stakeholder group and dimension for analysis and storage. Survey distribution was requested through university presidents, who provided the survey link to other administrators, staff, faculty and students.

Survey analysis included descriptive statistical analysis completed in SPSS, disaggregated by stakeholder group (higher education administrators/staff, faculty, and students) as well as by dimension.

There were 24,409 completed surveys, including 832 administrators (3.4%), 2,401 staff members (9.8%), 6,171 faculty members (25.3%), and 15,005 students (61.5%). 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 participants**: There were a total of 848 administrator/staff participants, with 616 (72.6%) from public universities and 232 (27.4%) from private universities. There were more male respondents (517, 59.4%) than female (353, 40.6%), and the majority of the sample (455, 54.4%) was made up of staff members, with 30 (7.2%) presidents/vice presidents, 115 (13.7%) deans/vice deans, and 237 (28.3%) with 'other' roles.

- **Faculty participants**: A total of 2,522 faculty participated, including 2,093 (83.5%) from public universities and 413 (16.5%) from private universities. The majority of faculty participants identified as non-Saudi (1,685, 67.0%) with 829 (33.0%) indicating Saudi nationality. There were 1,509 (59.8%) male and 1,013 (40.2%) female participants. The sample included a variety of faculty roles: 245 (9.8%) professors, 415 (16.6%) associate professors, 1,187 (47.4%) assistant professors, 507 (20.2%) lecturers, 101 (4.0%) teaching assistants, and 51 (0.8%) with other roles. Participants also represented a range of experience levels, with 411 (16.4%) with five years or less, 726 (28.9%) with more than five to ten years, 463 (18.4%) with ten to fifteen years, and 912 (36.3%) with more than fifteen years of experience. Participants were from diverse fields of study, with 904 (14.6%) in Human Sciences, 488 (36.3%) in Natural Sciences and Engineering, 169 (6.8%) in Information and Computer Sciences, 563 (22.6%) in Medical and Health Sciences, and 363 (14.6%) in other fields.

- **Student participants**: A total of 4,902 students participated in the survey. Public university students made up 76.0% (3,564) of the sample, with 24.0% (1,127) from private universities. Unlike administrators/staff and faculty, more female students (2,736, 55.8%) than male (2,166, 44.2%) participated. Student participants were primarily traditional college-aged, with 57.2% (2,806) between the ages of 18-22, followed by 28.6% (1,403) aged 23-27, 6.9% (339) aged 28-32, 3.3% (164) aged 32-36, and 4.0% (197) over age 36. The student sample included 204 (4.4%) seeking a diploma, 4,102 (87.7%) seeking a bachelor's degree, 22 (0.5%) seeking a higher diploma, 6.5% (305) seeking a master's degree, and 1.0% (46) seeking a doctoral degree. Diverse fields were represented in the student sample, with 711 (15.4%) in Human Sciences, 661 (14.3%) in Natural Sciences and Engineering, 497 (10.8%) in Information and Computer Sciences, 894 (19.4%) in Medical and Health Sciences, and 1,845 (40.0%) in other fields of study. Student experience with online courses prior to COVID-19 was approximately even, with 48.0% (2,311) having previously taken an online course and 52.0% (2,507) with no prior online course experience.

Following survey development, several dimensions for each stakeholder group were identified as valuable for gathering more in-depth and nuanced information, and interview protocols were developed for each group. 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.

Following the close of the spring term (after the initial COVID response) NELC staff selected participants and conducted interviews via Zoom, with a few respondents completing their interviews in writing. Interviews (Zoom links and/or documents) were uploaded to a shared drive, and videos were auto-transcribed using NVIVO transcription. 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 13 public university administrators, 10 private university administrators, 20 faculty members, and 20 students.

Quantitative and qualitative results were analyzed to develop recommendations aligned to the Future Action Framework and organized by dimension and subdimension, and to identify target audience(s), readiness, needs, initiatives, goals, actions, critical success factors, and key performance indicators as appropriate.

Recommendations

The Higher Education study resulted in description of both survey and interview findings, including a number of recommendations.

Recommendations are organized by dimension, subdimension, 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. 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).

Dimension I: Leadership

The Leadership dimension measures seven subdimensions including Governance, Strategies, Policies, Processes, Resource Allocation, Periodic Review and Updating, and Innovation.

Within the surveys, this dimension was examined from the perspective of administrators/staff and faculty. Students were not asked to rate items from these subdimensions since it would be unlikely that they would have insight into these areas. However, there were questions in the student interviews that did touch on the online learning strategy and resources.

Prior to COVID, satisfaction measures in the leadership dimension indicate overall congruence among administrators, staff, and faculty, and this largely remained following COVID. The study revealed three primary areas that would have benefitted from additional readiness prior to the pandemic: online learning strategy, policies, and resource allocation. These items are detailed below, and results indicate that priority was placed on these readiness items quickly, as each showed increases in satisfaction post-COVID.

Through the interviews that were conducted, more depth of information was acquired regarding the institution'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, faculty and students. 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.

Subdimension: Governance

Measures of satisfaction with governance both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 1).

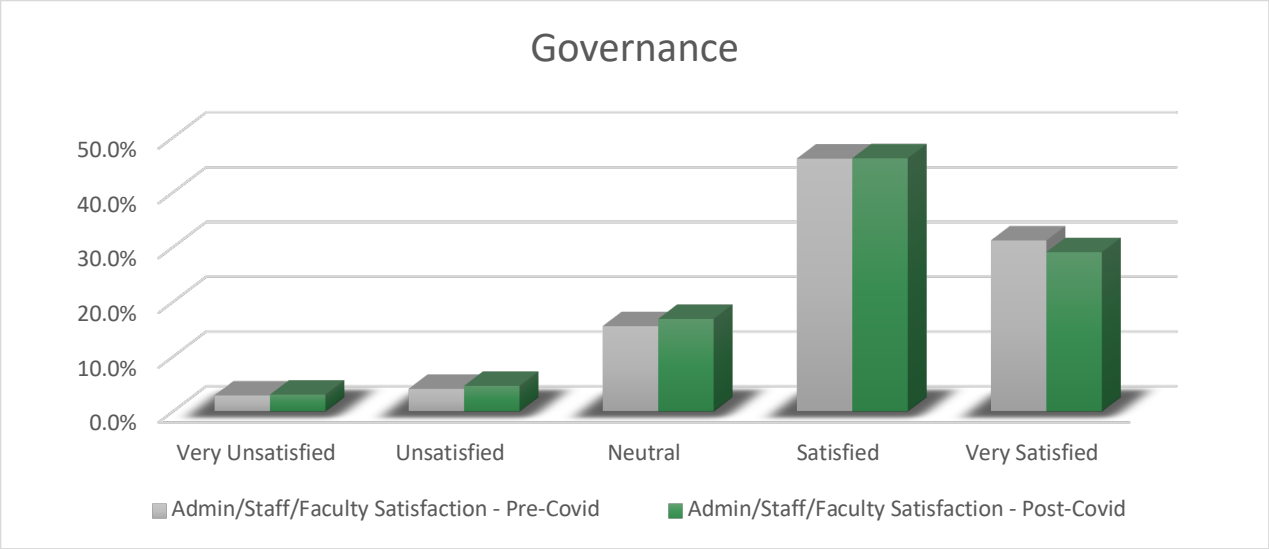


Figure 1

A review of the findings for the Leadership dimension reflect that the majority of survey participants agree or strongly agree that their institution has the appropriate governance structure in place to support online education. Specifically, two questions reflected strong agreement. This included 79.9% of administrators/staff and 80.8% of faculty members indicating that they agreed or strongly agreed with the institution having a "governance structure to enable systematic and continuous improvement related to the administration of online education" (Figure 2).

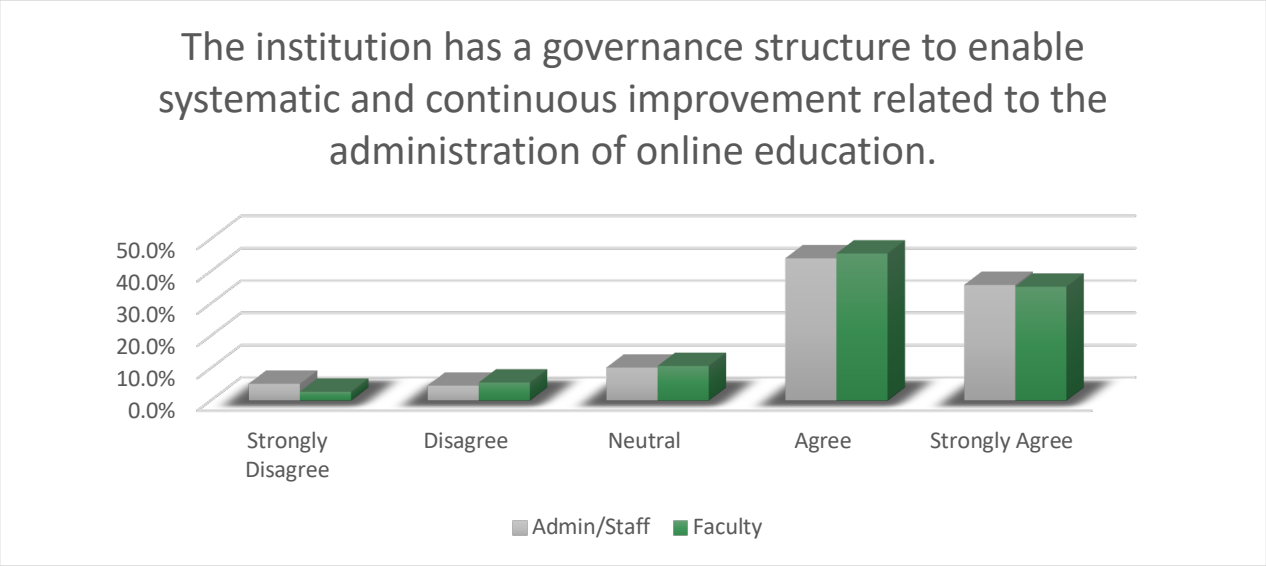


Figure 2

In addition, there were 79.5% of administrators/staff and 80% of faculty members that indicated that the governance structure enables "clear, effective, and comprehensive decision making related to online education" (Figure 3).

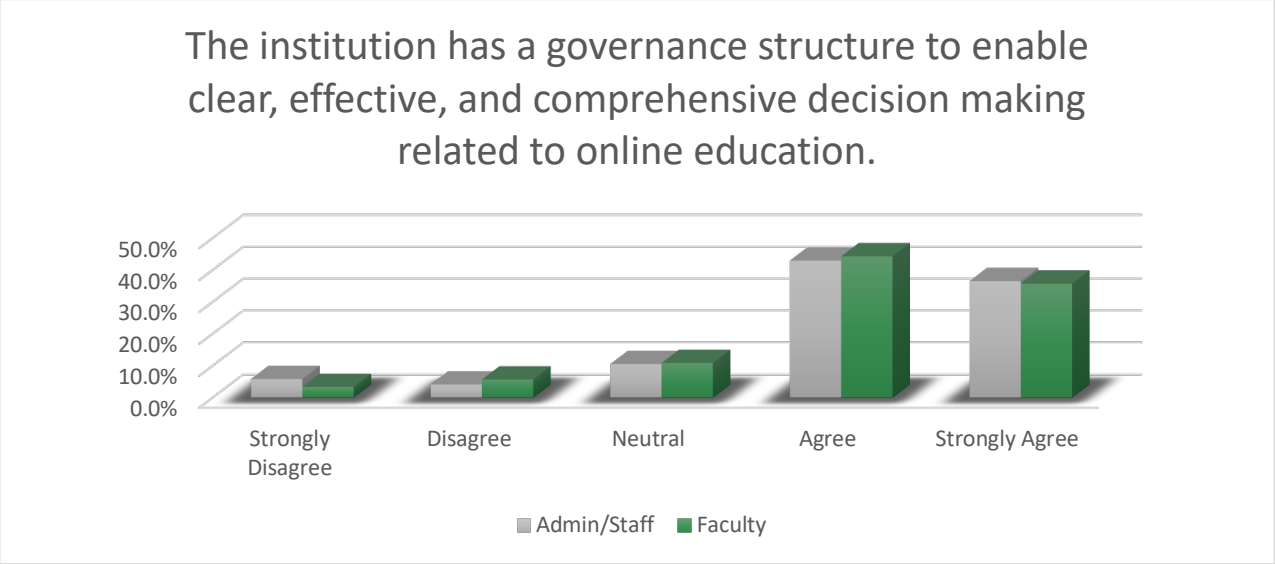


Figure 3

However, some variance was noted in terms of faculty involvement in the review process. Administrators/staff indicated a stronger agreement (72.7% agreed or strongly agreed) when asked if "the institution has a governance

structure in which decisions related to online learning can be reviewed by faculty" (Figure 4). While the faculty responses reflected lower agreement (61.2% agreed or strongly agreed) to this question, the overall responses are still seen as mostly favorable since only 17.5% indicated that they disagreed or strongly disagreed with the statement.

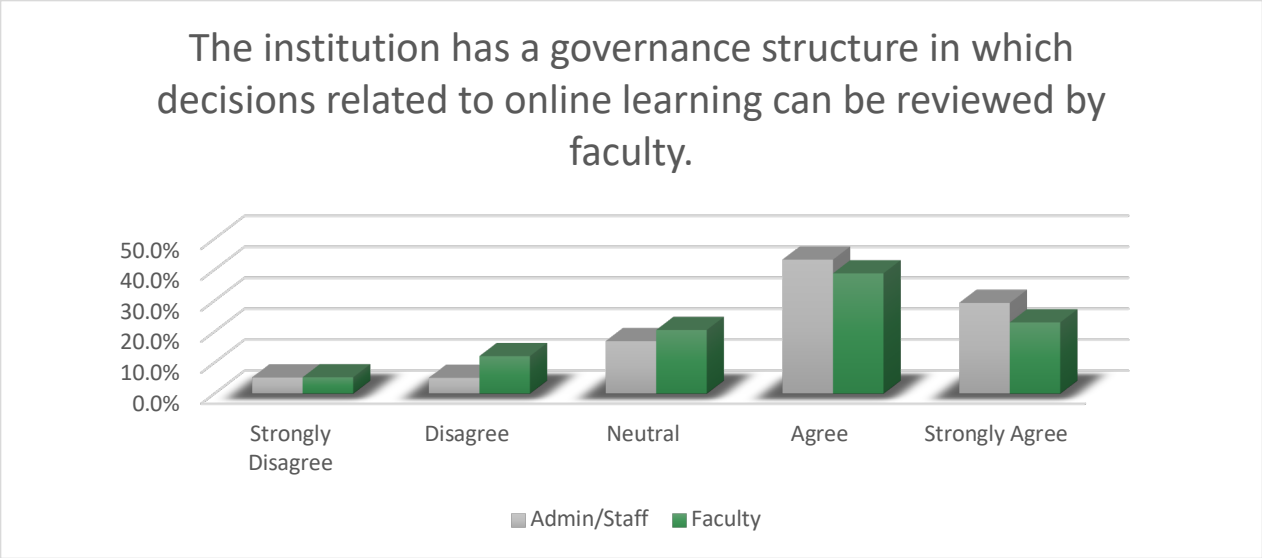


Figure 4

Recommendation: Provide sufficient opportunities for faculty to be involved in decisions related to online learning.

Target Audience	Administrators at each higher education institution (specifically should be at the level that has oversight for faculty)
Needs	Online Learning Governance
Initiatives	Provide opportunities for faculty to be involved in decision making related to online learning
Goals	Establish a committee or advisory group for online learning made up of faculty or include faculty in an existing committee
Actions	• Form committee structure including mission and objectives • Identify appropriate faculty to serve on committee (through election, invitation, etc.) • Include administrators on committee as appropriate • Identify opportunities for faculty to make decisions on curriculum and other needs for online learning • Define how decisions will be made by the committee
CSFs	Faculty are actively engaged in decision making for online learning
KPIs	• Faculty involvement in decision making • Time to make decisions • Success of decisions made over longer term

Subdimension: Strategies

Measures of satisfaction with strategy both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 5).

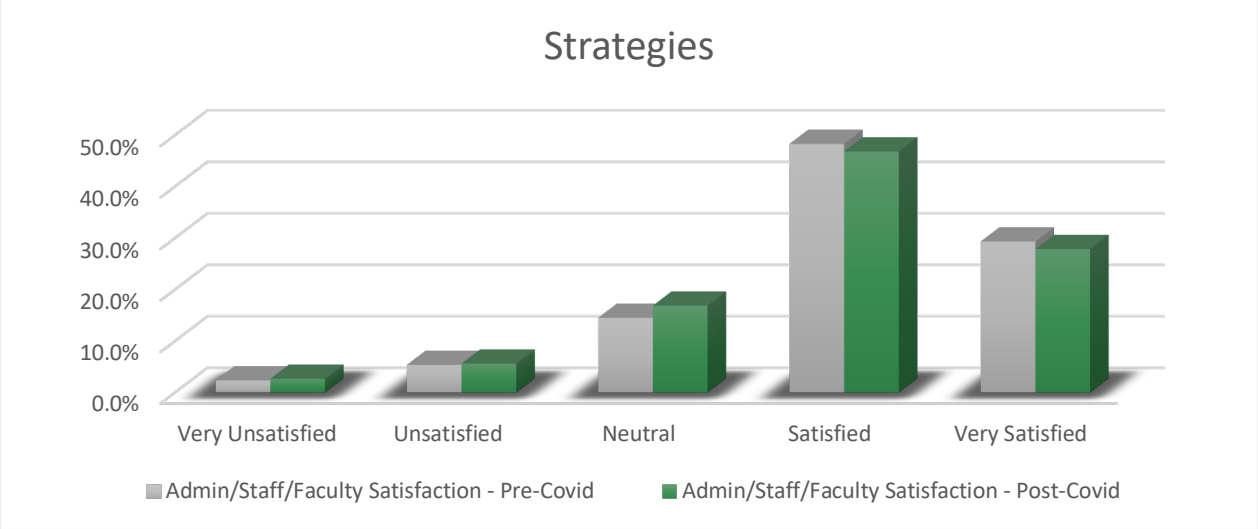


Figure 5

Including online learning in the institutional strategy is important in order to ensure that adequate resources are allocated. When considering the question on whether "the institution has developed and articulated an institutional strategy for online learning while aligning with existing university- and program-level plans (e.g., university strategic plans, university and program technology plans, and academic program plans)", the majority of responses (Figure 6) reflected agreement. While more administrators/staff indicated that they agreed or strongly agreed (72.9%), the faculty responses were also favorable (67.9% agreed or strongly agreed).

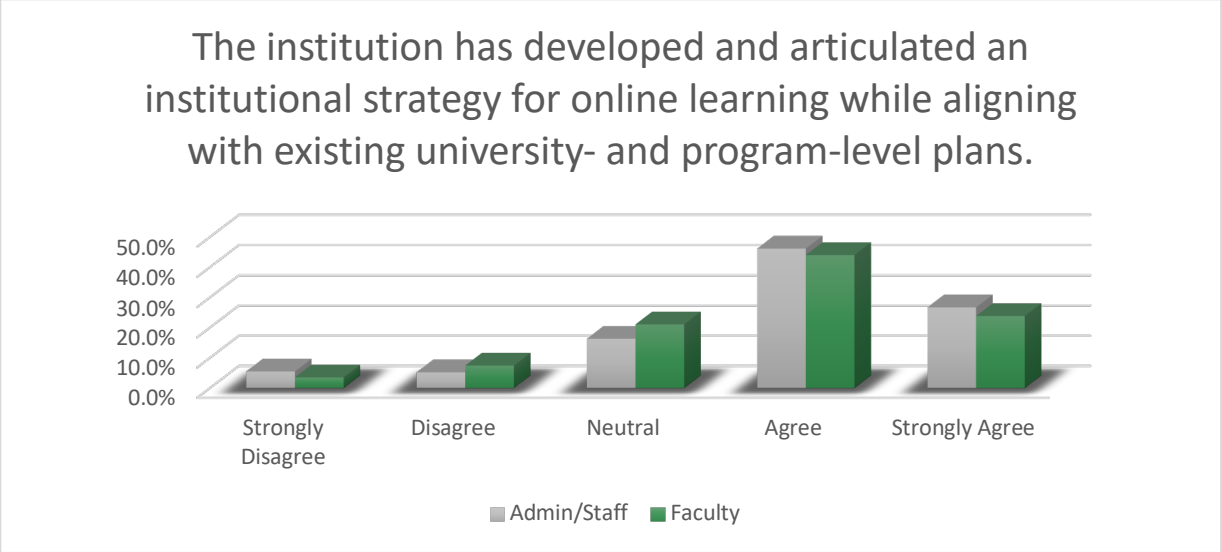


Figure 6

Recommendation: Include online learning in strategic plans at the institutional level in order to appropriately align resources.

Target Audience	Institutional leadership
Needs	One or more items related to online learning within the institutional strategic plan
Initiatives	Prioritize online learning
Goals	Prioritize online learning by including it in the strategic plan
Actions	Review existing strategic plan and revise to include online learning where appropriate
CSFs	Commitment to online learning
KPIs	Inclusion of online learning in institutional strategic plan

Expert Recommendation: Develop a strategic plan for online learning.

Target Audience	Institutional Leadership
Needs	Online learning strategic plan
Initiatives	Provide specific and actionable items related to online learning
Goals	Develop a strategic plan for online learning
Actions	• Identify committee made up of representatives from throughout the institution to serve on committee to develop • Write strategic plan • Align resources to strategic plan • Evaluate effectiveness of strategic plan
CSFs	Sustain online learning
KPIs	• Development of strategic plan • Alignment of resources to strategic plan

Subdimension: Policies

Measures of satisfaction with policies both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 7).

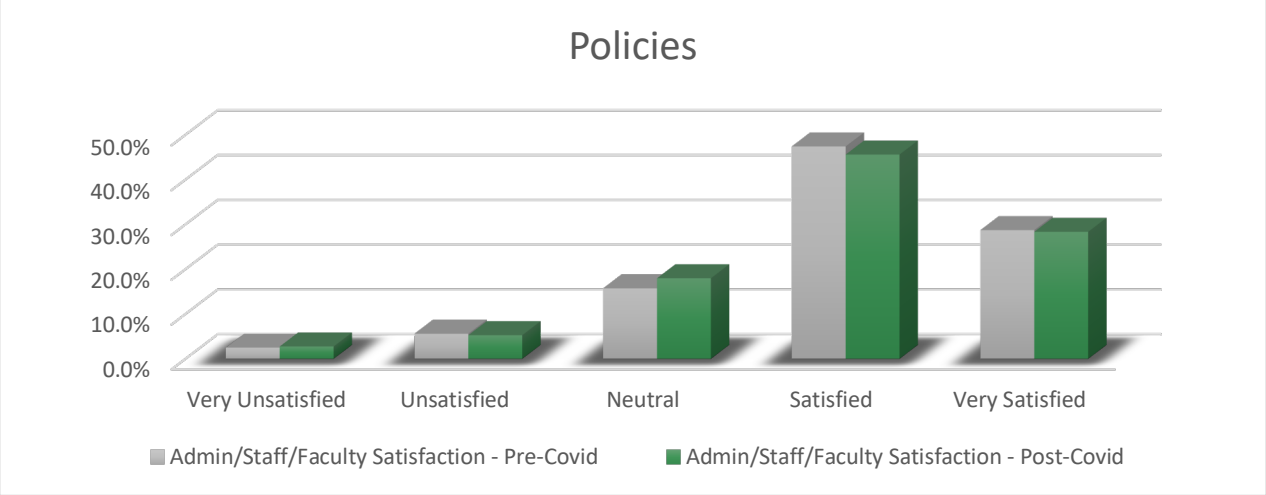


Figure 7

The majority of participants (69.3% administrators/staff and 59.7% faculty) agreed or strongly Agreed that "the institution has policies that encourage the development of online courses and programs (e.g., a policy for intellectual property of course materials)." However, it should be noted that administrator/staff responses reflected stronger congruence with this question than faculty (Figure 8). The question for this subdimension reflected that a minimal percentage of participants (12.5% administrators/staff and 16.0% faculty) disagreed or strongly disagreed.

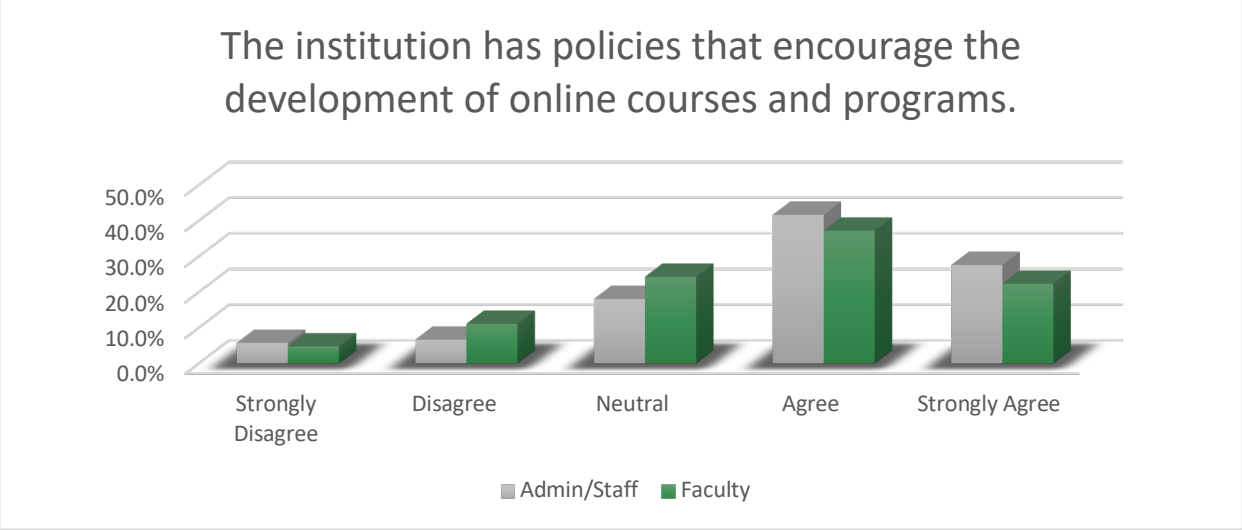


Figure 8

Through the administrator and staff interviews that were conducted, it was noted that it will be critical for the Kingdom of Saudi Arabia to provide clear policies on expectations around online learning. This will help administrators and staff develop effective strategic plans and align resources appropriately to support online learning. As stated by an administrator/staff member that was interviewed "We need to achieve policies. National policies and the Ministry of Education policies regarding online learning...now there is no policy that allows us to provide online degree or distance education programs." Another indicated "We were hesitant maybe to do online teaching. Also, the Ministry of Education doesn't really approve of online or distance learning and graduate studies. But now, since we were forced to do it, we have."

Recommendation: At the country level, the National eLearning Center is encouraged to develop national policies on the use of online education in higher education that can provide universities with guidelines and expectations for a quality learning experience.

Target Audience	National eLearning Center (NELC)
Needs	Policies specific to online learning
Initiatives	Establish standards of quality
Goals	• Develop appropriate policies related to online learning to encourage effective implementation • Develop standards of quality for online learning curriculum and programs
Actions	• Write policies for online learning at the course and program level (e.g., requirements to be able to offer online courses/programs, training requirements for faculty/staff, student services that need to be available, technical requirements, etc.) • Share policies with institutions of higher education • Review implementation of online learning against policies
CSFs	Effective implementation of online learning
KPIs	• Policies written and shared • Compliance with policies

Subdimension: Process

Measures of satisfaction with process both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 9).

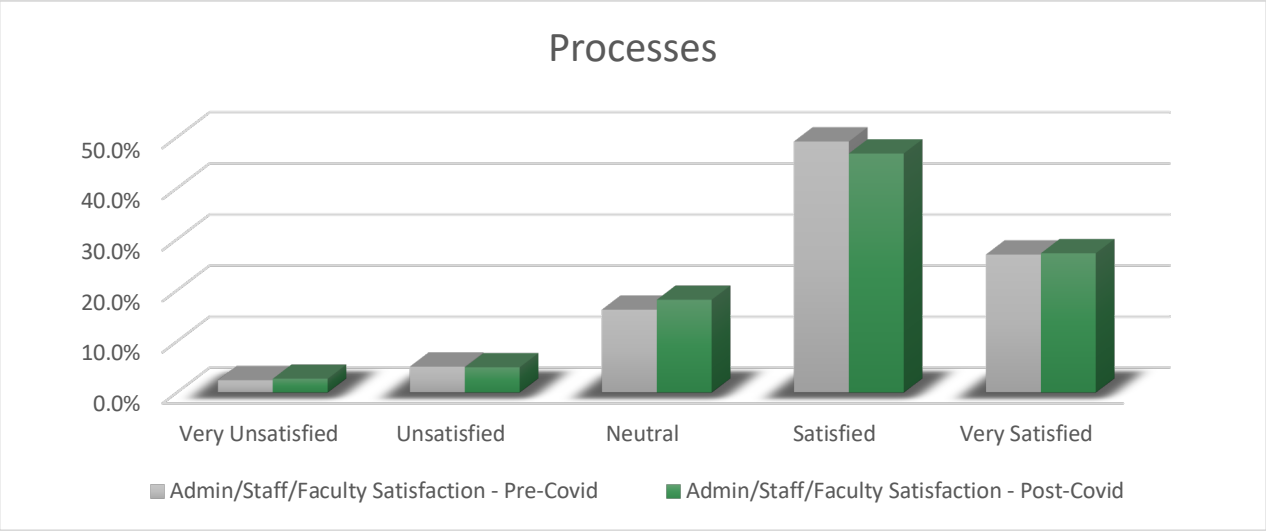


Figure 9

Processes are an important component to ensuring the success of an online program since they allow for standardization. Having a process that includes centralized support is one way to provide for the needs of faculty and students while creating a more equitable learning experience. There was a strong congruence among administrators/staff (75.9% agreed or strongly agreed) and faculty (76.4% agreed or strongly agreed) in the belief that "the institutional structure provides centralized support for online program development, faculty within online programs, and students enrolled in online programs" (Figure 10).

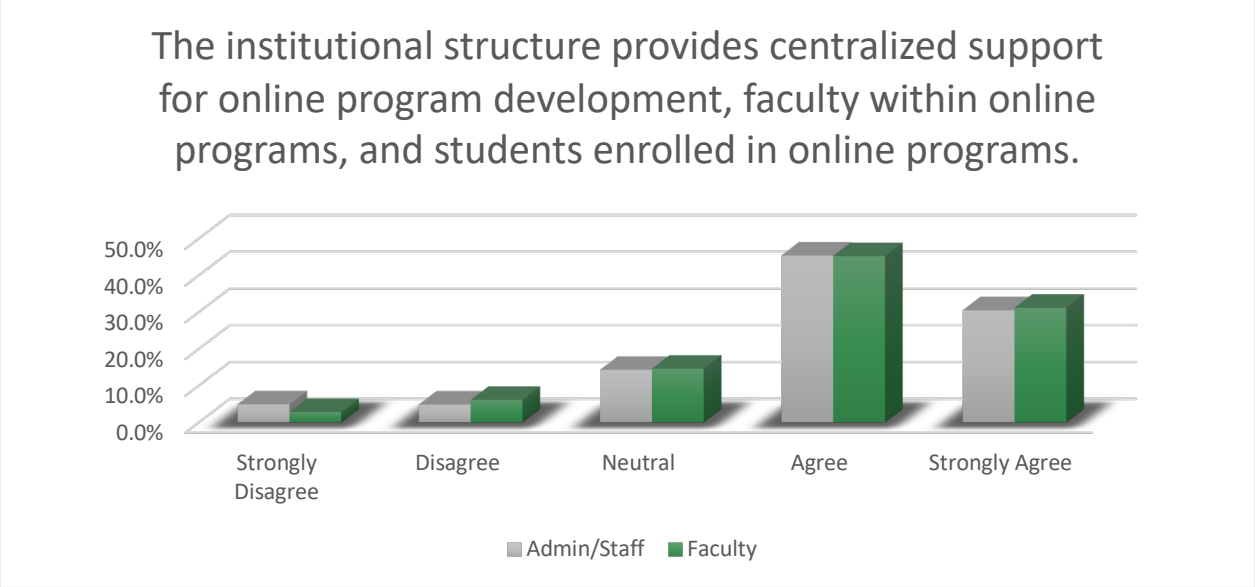


Figure 10

Expert Recommendation: Ensure that processes (e.g., admissions, registrar requests, testing, etc.) work with students at a distance.

Target Audience	Administration, faculty
Needs	Processes to support virtual learners
Initiatives	Processes that meet the needs of online learning
Goals	Implement appropriate processes to support online learners
Actions	• Review existing processes and modify for online learners • Identify and develop additional processes needed to support online learners
CSFs	Effective support for online learners
KPIs	Processes are written and implemented

Subdimension: Resource Allocation

Measures of satisfaction with resource allocation both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied. It should be noted that a higher percentage of respondents indicated a neutral opinion in this subdimension, and neutral responses increased slightly post-COVID (Figure 11).

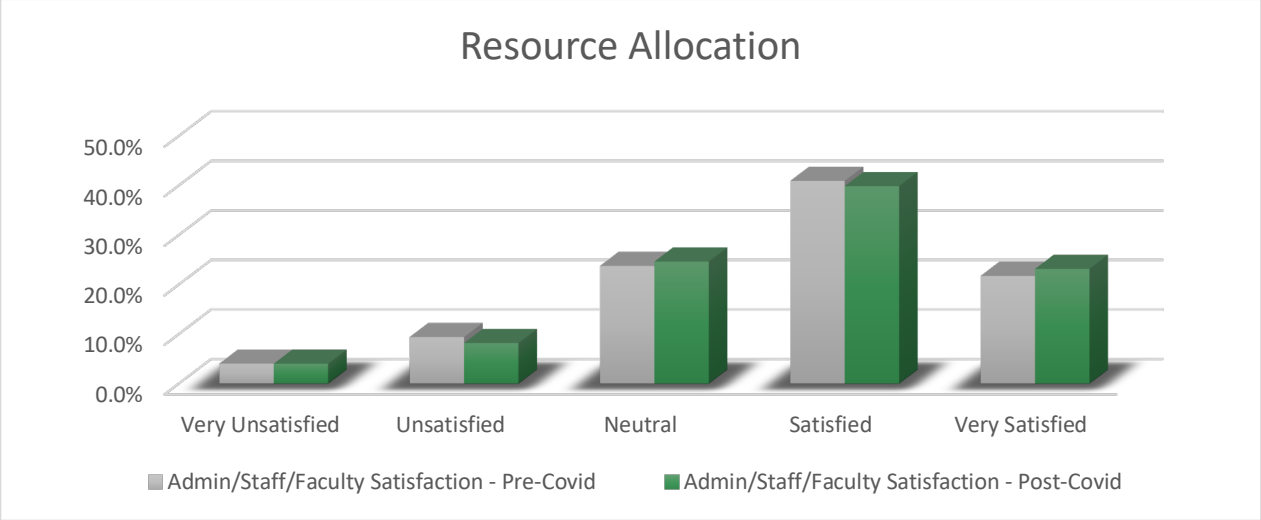


Figure 11

Within the Leadership dimension, the strongest agreement (77.5% of administrators/staff and 82.3% of faculty agreed or strongly agreed) could be found related to the subdimension of Resource Allocation with a question on "training and development or faculty development programming to provide faculty with the knowledge, skills, and abilities to design and teach online courses" (Figure 12).

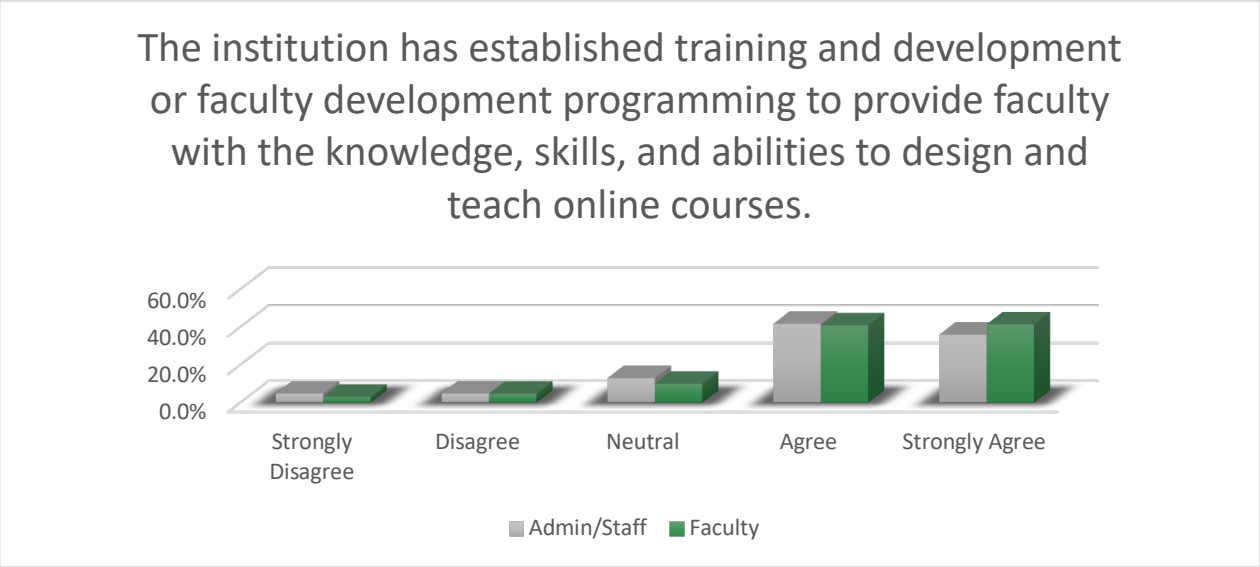


Figure 12

An area of concern was identified with the question "incentives and/or financial compensation are provided to faculty for professional development and course design activities" where 49.0% of administrators/staff and only 26.6% of faculty indicated agreed or strongly agreed, reflecting a potential need to establish a process that provided some form of incentives for these activities (Figure 13).

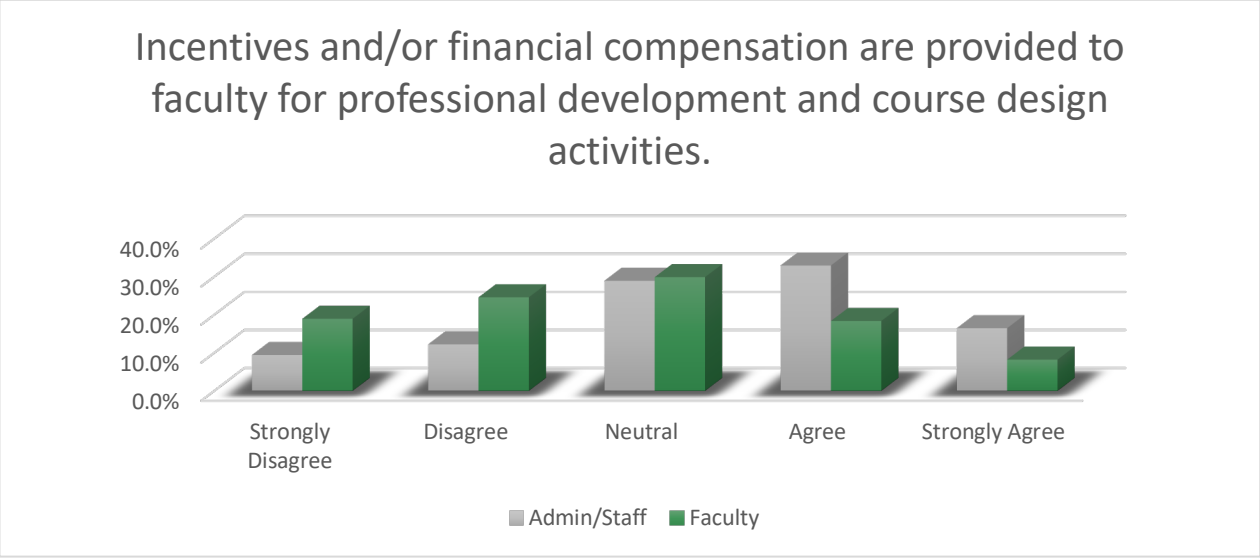


Figure 13

There also seemed to be some concern about the instructional designers having "positional parity to faculty through faculty status or degrees" with 65.2% of administrators/staff and 53.1% of faculty agreeing or strongly agreeing that this was adequate at their institution (Figure 14).

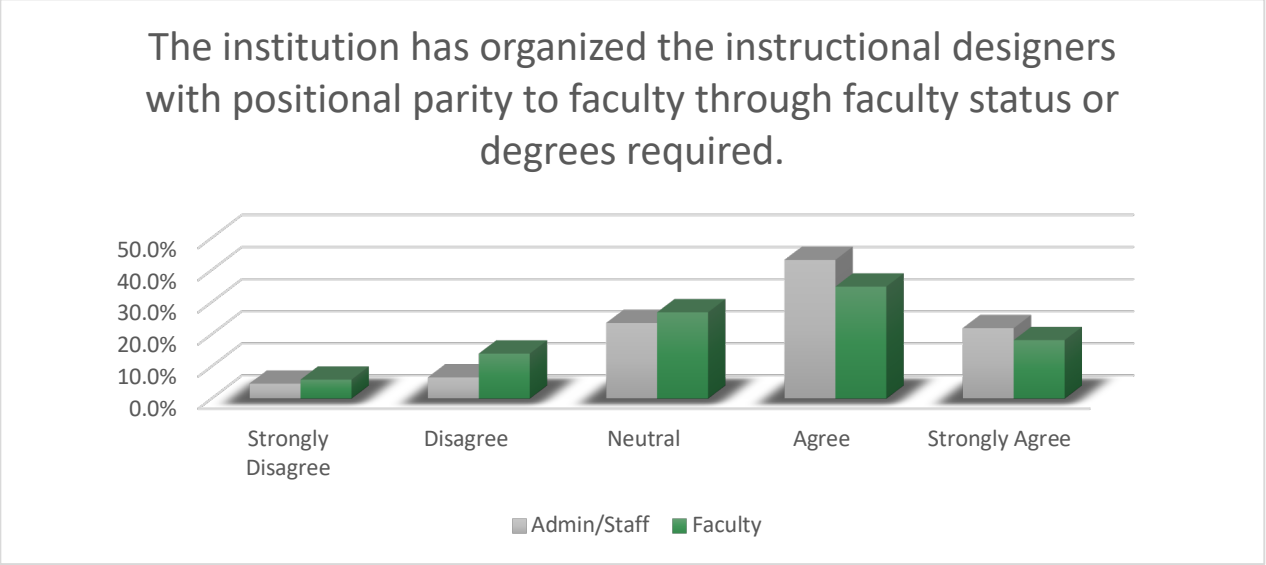


Figure 14

The survey results also indicated that there may be some work to do around the "process of planning and allocating resources for online learning, including financial resources, in accordance with strategic planning." There were 66.3% of administrators/staff and 53.1% of faculty that agreed or strongly agreed that their institution was prepared with resources (Figure 15).

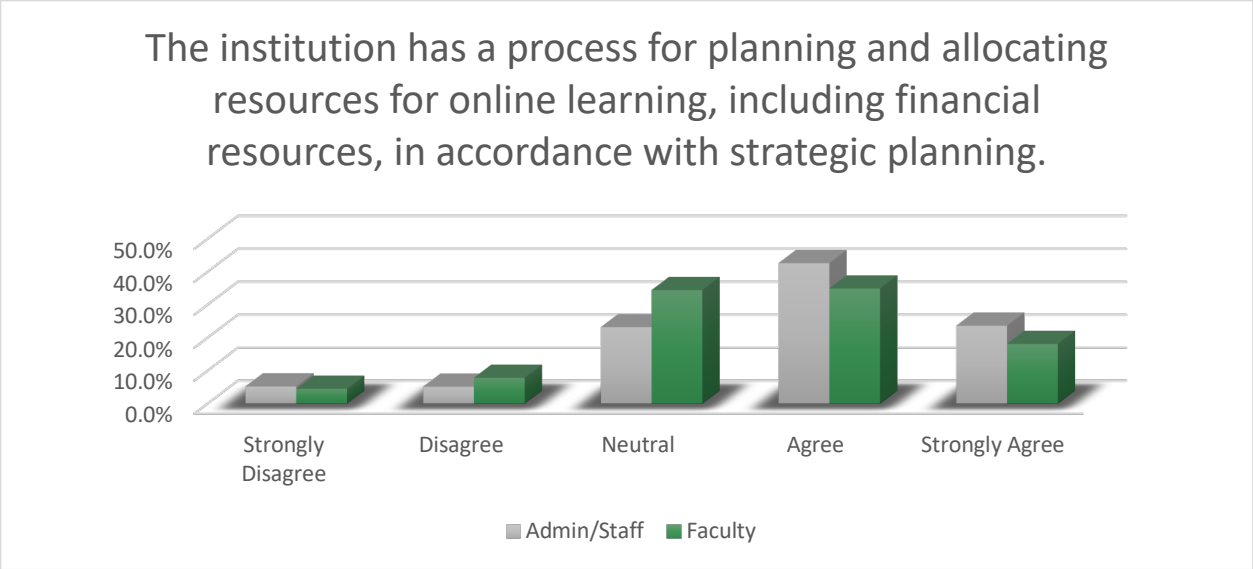


Figure 15

Some of those interviewed felt that they had adequate resources, including a faculty member who said "…during COVID-19, we didn't have any problems with the transition…we had good financial support from the administration and the IT committee was good enough to handle all of the problems that we face." Another faculty member indicated that in terms of financial, technology, and personnel resources to support online that

their institutions had "an elearning center and they've been providing almost everything. Support. Training. Everything." However, in many other interviews conducted with higher education administrators/staff, faculty, and students, a consistent theme was that there will be a need for personnel, technology and financial resources. Although one administrator/staff person interviewed indicated a need for resources and information related "to the methodology and pedagogy and also the technology" as well as" the strategy for implementing" online learning.

Administrators/staff, faculty, and students all seemed to agree that there are concerns around consistent and reliable access to technology for all students. This concern needs to be addressed on a broader scale. As one student said, "I'm not sure about the financial resources, but I think if Saudi Arabia decides to make this a goal that they will want to achieve, of course they are going to budget the whole thing for other universities to have the financials for it. But as for technical support, I don't think they're ready because even in classes, I don't remember having lots of tech support. For the tiniest things, for example, the projectors inside the classrooms, they didn't have much tech support." The issue with technology was echoed in an interview with a faculty member who indicated that "...our real problem is the students that most, or some of them, they have weak computers, weak connection. So that's the challenging part."

Recommendation: Provide incentives to faculty to participate in professional development and create online courses.

Target Audience	Administrators
Needs	Rewards, recognition or other incentives
Initiatives	Encourage faculty to develop online courses
Goals	Provide incentives to faculty to participate in professional development in order to develop online courses
Actions	• Determine what types of incentives will be used institutionally (e.g., financial, additional resources, recognition, etc.) • Create guidelines to receive incentive (e.g., attend certain number of workshops, develop first online course, teach online course, etc.)
CSFs	Faculty commitment and participation in professional development
KPIs	• Increase in number of faculty qualified to teach online • Increase in number of online courses offered

Recommendation: Evaluate internet availability throughout the Kingdom of Saudi Arabia to determine opportunities to improve access. Though this can be a bit more challenging and is a problem faced by countries around the world, it may be necessary.

Target Audience	Government (possibly regional)
Needs	Adequate internet access
Initiatives	Increase accessibility to online learning
Goals	Provide adequate internet access throughout the Kingdom of Saudi Arabia (rural, suburban, and urban)
Actions	• Determine weak points for internet access throughout the country • Identify locations to install or upgrade internet
CSFs	Learners are able to access online courses
KPIs	• Increase in number of students able to enroll in online learning

Recommendation: Prioritize access to technology, technology support, and technology training to better support students.

Target Audience	Administrators
Needs	Technology, Technology Support and Technology Training
Initiatives	Improve use of technology
Goals	Allocate appropriate resources to support the use of technology for online learning
Actions	• Review technology being used to support online learning for effectiveness • Provide technology support for students and faculty that encounter issues with being able to access their online course • Provide professional development or workshops to students and faculty to help more effectively use educational technology
CSFs	Learners and faculty are able to more effectively engage with online classroom
KPIs	• Increased use of technology to support online learning • Increased access to support for technology issues • Increased training for use of required technology • Increased student and faculty satisfaction with online learning

Subdimension: Periodic Review and Updating

Measures of satisfaction with periodic review and updating both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied. It is notable that the number of respondents indicating that they are very satisfied with this subdimension increased post-COVID (Figure 16).

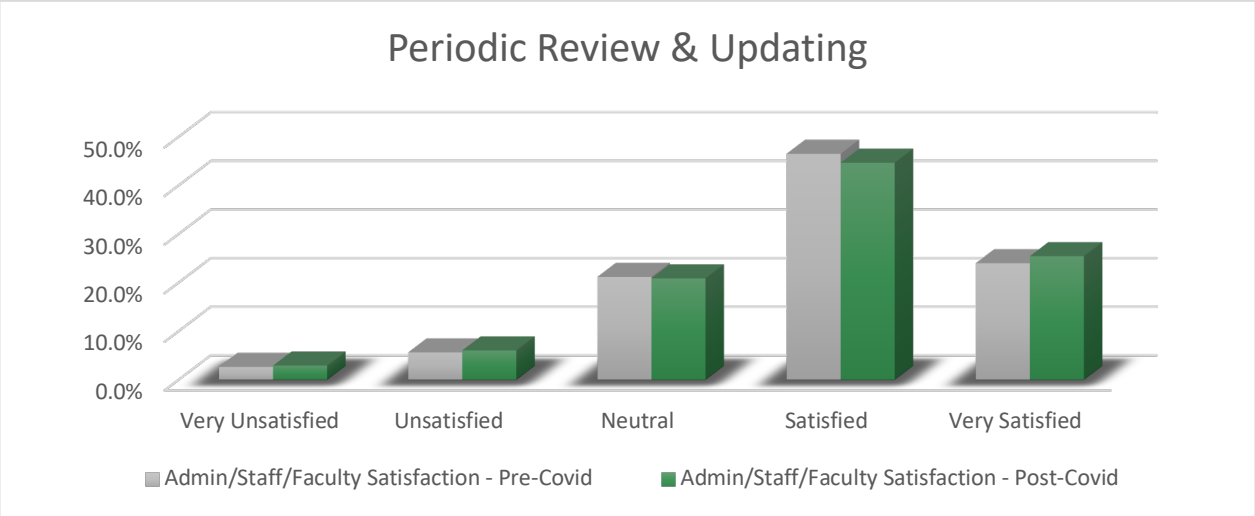


Figure 16

In regards to continuous improvement, faculty were asked if "the institution has a governance structure to enable systematic and continuous improvement related to the administration of online education." Having plans in place that allow for regular updates to curriculum is always important in higher education, but moreso in online learning where information provided to students needs to be current, relevant and keep students engaged. In response to this question, the majority of faculty (66.8%) indicated that they agreed or strongly agreed. There were no questions for administrators/staff included for this subdimension.

Expert Recommendation: Conduct regular institutional reviews of online learning courses and programs.

Target Audience	Administrators, Faculty
Needs	Policies, processes and procedures specific to the regular review of online learning courses and programs
Initiatives	Development of policies, processes and procedures to review and provide feedback on online learning courses and programs
Goals	Maintain and regularly update the quality of online courses and programs
Actions	• Develop and implement policies, processes and procedures specific to the regular review of online learning courses and programs • Use standardized rubrics and scorecards (Online Learning Consortium, Quality Matters) as part of the process to review against quality standards • Conduct regular reviews as part of continuous improvement process
CSFs	Online learning courses and programs continue to meet best practices
KPIs	• Online learning courses and programs reviewed per policy • Online learning courses and programs continuously updated

Expert Recommendation: Conduct regular and substantive reviews of online learning at the National level.

Target Audience	National eLearning Center (NELC)
Needs	Policies, processes and procedures specific to the regular review of institutional online learning programs
Initiatives	Development of policies, processes and procedures to review and provide feedback to institutions on online learning courses and programs
Goals	Ensure the quality of online learning programs offered at institutions
Actions	• Develop and implement policies, processes and procedures specific to the regular review of online learning programs • Provide feedback on quality of program compared to industry standards
CSFs	Quality online learning programs are offered within the Kingdom of Saudi Arabia
KPIs	• Policies, processes and procedures developed and shared with institutions • Regular reviews of online learning programs conducted

Subdimension: Innovation

Measures of satisfaction with innovation in the leadership dimension both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied. It is notable that the number of respondents indicating that they are very satisfied with this subdimension increased post-COVID (Figure 17).

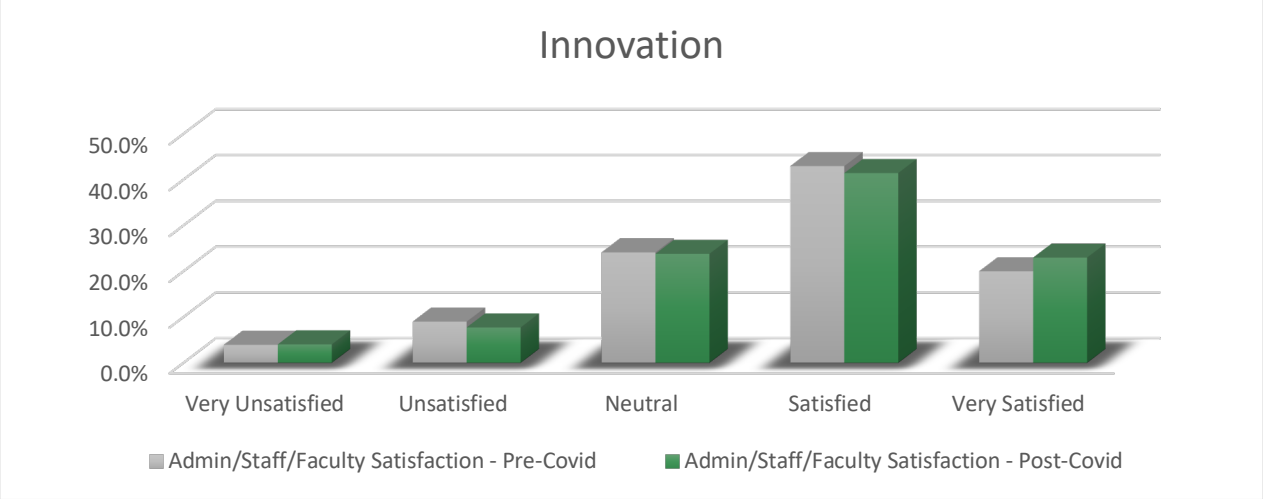


Figure 17

Under the Leadership dimension, the Innovation subdimension appears to have the most opportunity for improvement. There were two questions on the survey for administrators/staff and faculty that focused on this

area. The first sought agreement with whether “the institution provides financial incentives and support resources to support resources to advance pedagogical and technological innovation.” Administrators/staff indicated stronger agreement (51.0% agreed or strongly agreed) with this statement than faculty (33.6% agreed or strongly agreed). Figure 18 shows the results for this question and reflects 30.4% of faculty indicating that this is an area of concern.

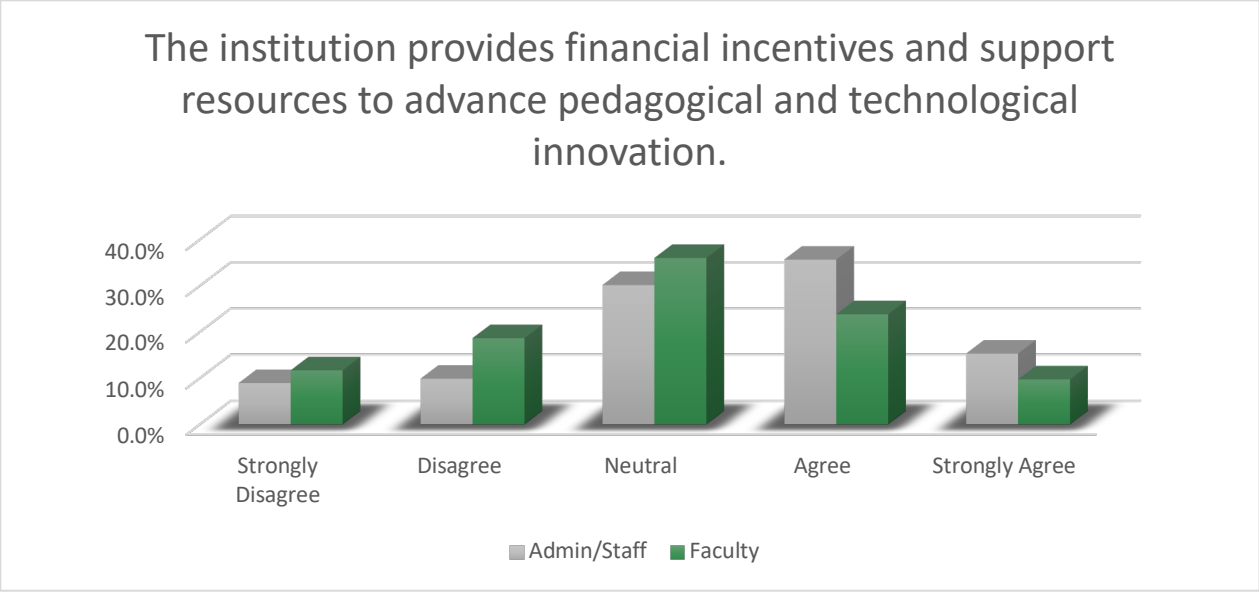


Figure 18

The second question on the survey related to the subdimension of Innovation did show slightly stronger agreement with 48.3% of administrators/staff and faculty indicating that they agreed or strongly agreed when asked if “institutions include the aspect of innovation in teaching and learning as part of an award system and/or as part of the evaluation and promotion policies (e.g., award for innovation in teaching and learning; promotion review includes measure of innovation in teaching).” Once again, administrators/staff showed higher congruence with a total of 57.1% that agreed or strongly agreed while faculty responses showed lower agreement with 45.0% agreed or strongly agreed (Figure 19).

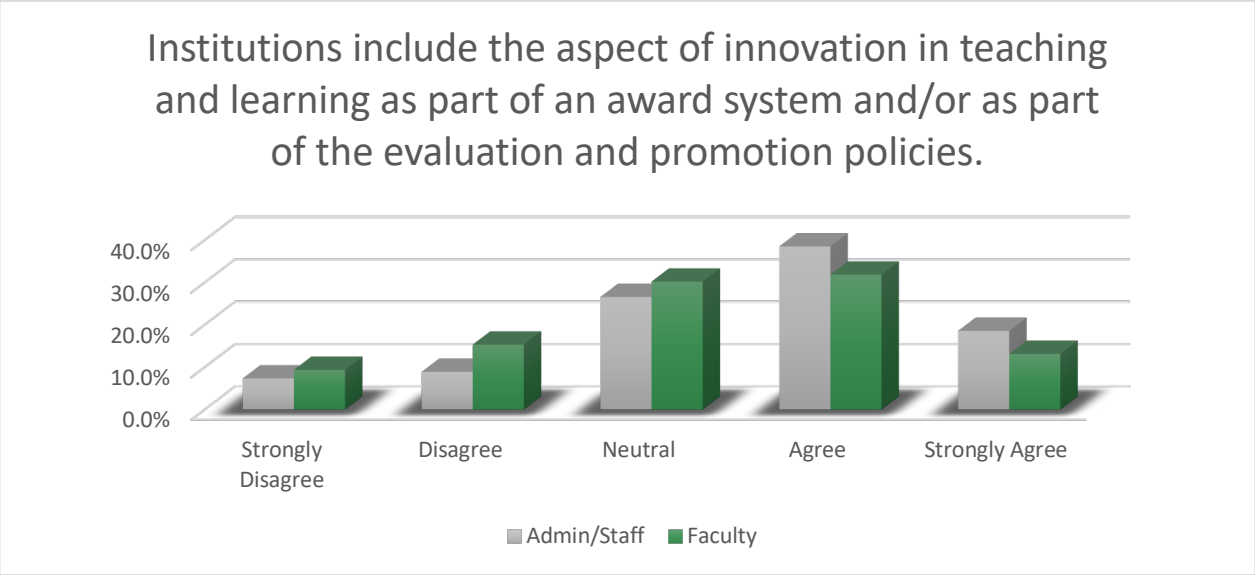


Figure 19

Recommendation: Rewards, recognition or other incentives should be provided to encourage innovation.

Target Audience	Administrators
Needs	Rewards, recognition or other incentives
Initiatives	Encourage faculty to be more pedagogically or technologically innovative
Goals	Provide incentives to faculty to participate in professional development in order to develop online courses
Actions	• Determine what types of incentives will be used institutionally (e.g., financial, additional resources, recognition, etc.) • Create guidelines to receive incentives (e.g., attend certain number of workshops, develop first online course, teach online course, etc.)
CSFs	Faculty commitment to innovation and participation in professional development
KPIs	• Increase in number of faculty engaging in pedagogical innovation • Increase in number of faculty engaging in technological innovation

Dimension II: Curriculum Design & Planning

The Curriculum Design and Planning dimension measures five subdimensions including Instructional Design Methods & Universal Design for Learning (UDL), Alignment with Standards, Course Syllabi, Course Materials and Content, and Innovation.

Prior to COVID, satisfaction measures in the curriculum design and planning dimension indicate overall congruence among administrators, staff, and faculty, and this largely remained, though there were decreases in satisfaction and increases in neutral responses following COVID. As supported by survey and interview data, readiness needs were primarily focused on preparedness for fully online course delivery, including design, syllabi, and materials and content. Results suggest that pre-COVID delivery of these items was satisfactory, but not sufficient to support fully online courses.

This dimension primarily queried faculty and students about their actions, experiences, and perceptions of course design and planning. Administrators/staff were asked about responsibility, resources, and curriculum design and planning components, and responses were favorable overall, consistently indicating above 70% that effective practices are followed. Qualitative data further indicate that while there are some areas in which administrators would like to see improvement (detailed in subdimensions), they are largely positive about this dimension.

As might be expected due to their deep engagement at a course level, there were some differences in faculty responses to mutual questions, with faculty regularly indicating at or above the administrator/staff agreement level that essential curriculum design and planning components are included in courses. One primary difference between administrators/staff and faculty emerged. When asked about their agreement with the statement that "faculty should be included in the development and decision-making process for online curriculum," administrators/staff indicated at 73.1% that they agreed or strongly agreed, and faculty agreed or strongly agreed at 78.3%. There was a slight difference in the rate of disagree/strongly disagree responses, 10.0% and 8.4% respectively. These differences are not large, but when coupled with interview data, bear some consideration as discussed below.

Students indicated a high level of agreement with administrators/staff and faculty overall regarding curriculum design and planning components, with two findings of particular interest. There was a discrepancy between these groups with regard to consistency in course structure, with students indicating at a rate 63.4% (ten percentage points below administrators/staff and faculty) that this has been their experience, and 20.0% disagreeing or strongly disagreeing. Other noticeable decreases in student perceptions or experiences as compared to administrators/staff and/or faculty are found in survey items assessing active learning and interaction as well as the facilitation of learning materials and activities. These items bear consideration and are discussed in recommendations below.

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

Measures of satisfaction with instructional design methods and Universal Design for Learning both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 20).

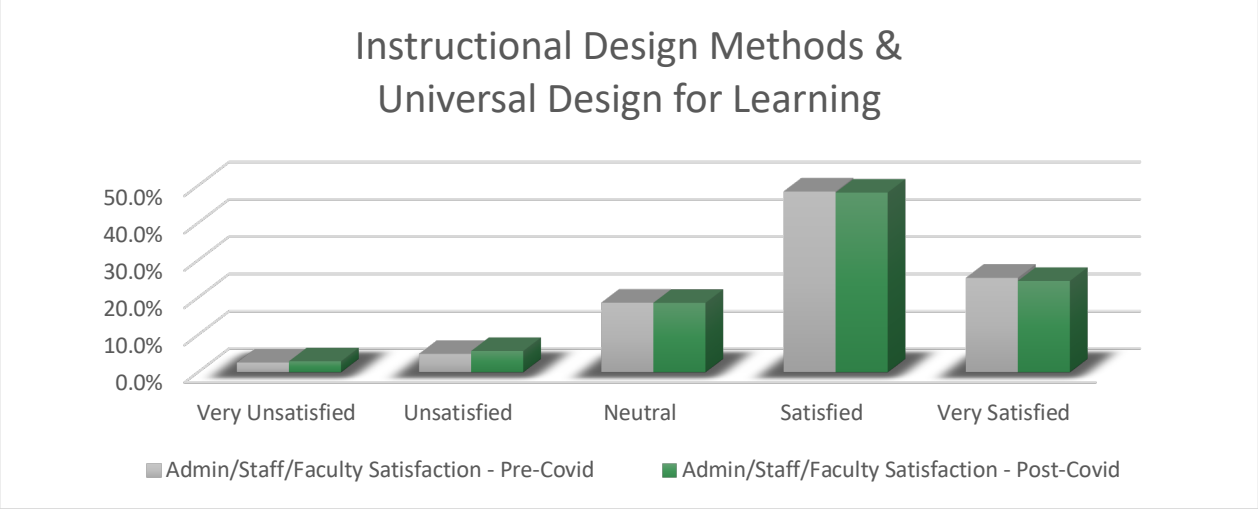


Figure 20

Findings indicate that administrators/staff and faculty agree that there are "processes in place to ensure effective development and implementation of curriculum and design." As illustrated by both a public and private university administrator, the focus of improvements to instructional design methods and UDL is on both curriculum development and quality. One stated, "We would have some effort, some time, some knowledge in order to help us move into or incorporate different types of degrees… Also, objectives might be also adjusted, but we would have to modify the current models into online teaching models." and the other noted "As I said that we had multiple strategic items. We only focused and we have achieved the first one. But the second one is actually related to this issue where we need the people to have more quality. I guess there is fluctuation on the results between the universities...but we are using the international standards that are known by experts as an indication of technology, quality models, all of them."

As noted above, though the percentage discrepancy is relatively small, a difference did emerge in the survey data indicating that faculty believe at a higher rate than administrators (78.4% versus 73.1%) that they should be included in curriculum design and development. It is recommended that opportunities for faculty input be provided regularly, and that clear communication regarding decision making for these areas be provided frequently to ensure buy-in across the institution(s) and effective implementation of decisions.

Notably, in the qualitative data, a clear theme emerged in which faculty from both public and private institutions expressed a need for training and assistance with instructional design. Though administrators expressed in interviews that these opportunities are present, it is recommended that additional opportunities be developed, offered at regular intervals, and that ongoing support for instructional design be present.

In the subdimension of instructional design and UDL, students indicated that their experiences have not been consistent (63.4% agreed or strongly agreed and 20% disagreed or strongly disagreed), while administrators/staff and faculty believe at or above 73.3% that design and organization is coherent across courses (Figure 21). Some inconsistency is likely due to remote teaching as a result of COVID-19, but it is recommended that instructional design be included in course reviews for quality and that whenever possible, consistent practices be employed to ensure a consistent and coherent experience for optimal student learning.

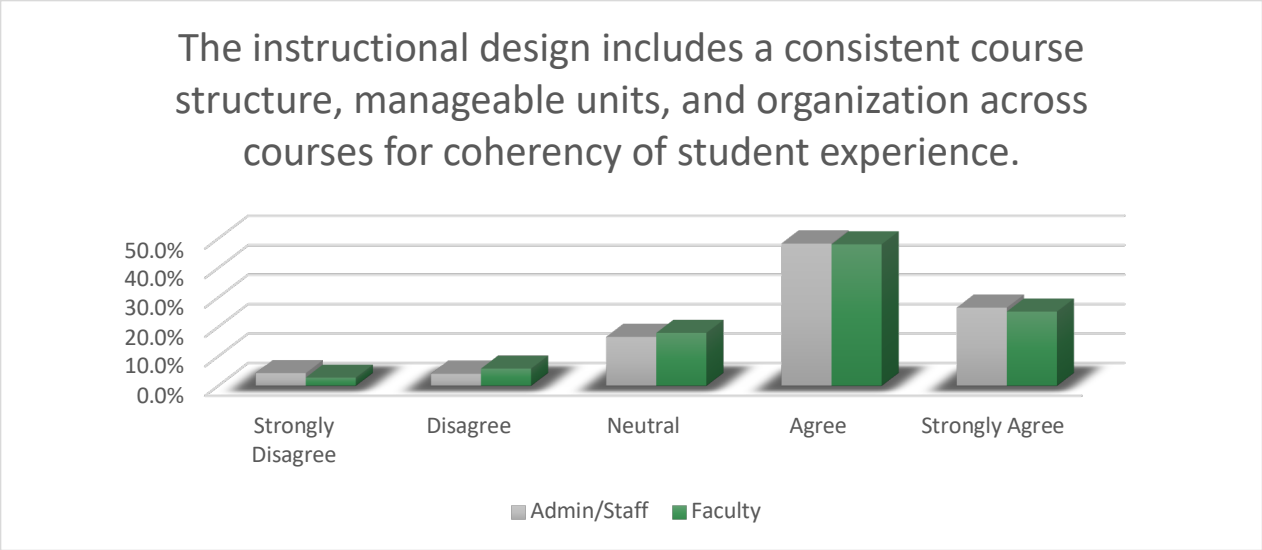


Figure 21

Recommendation: Provide regular opportunities for faculty input on curriculum design and planning decisions, and clearly communicate with faculty regarding such decisions to ensure buy-in across the institution(s) and effective implementation of decisions.

Target Audience	Faculty
Needs	• Opportunities for input on curriculum design and planning decisions • Communication regarding such decisions
Initiatives	• Create opportunities for faculty participation in decision-making, such as committee involvement and soliciting written input and/or feedback • Regularly communicate with faculty regarding curriculum design and planning decisions
Goals	To utilize faculty expertise by including them in curriculum design and planning decisions and to increase the awareness and understanding of such decisions
Actions	Create opportunities and communications plans for faculty involvement in curriculum design and planning decisions
CSFs	• Presence and awareness of opportunities for faculty participation • Regular communications to faculty regarding decisions
KPIs	• Faculty are aware of and participate in curriculum design and planning decision-making opportunities • Communications are created and sent regularly, and faculty indicate awareness and understanding of decisions

Recommendation: Develop and regularly offer professional development and training on instructional design and UDL, and provide ongoing instructional design support to faculty.

Target Audience	Faculty
Needs	• Professional development and training on instructional design and UDL • Ongoing instructional design support for faculty
Initiatives	• Develop and regularly offer professional development and training focused on instructional design and UDL • Develop ongoing instructional design support resources for faculty
Goals	Increase faculty knowledge, skill, and support resources on instructional design and UDL
Actions	Develop and regularly offer professional development and training on instructional design and UDL, and ensure that faculty are aware and able to access both training and support options
CSFs	• Presence of professional development and support opportunities • Awareness of professional development and support opportunities

KPIs	• Faculty participation in professional development opportunities • Faculty use of support resources • Evaluation of effectiveness based on course design outcomes and faculty feedback

Recommendation: Include instructional design in quality review processes and whenever possible, employ standardized practices.

Target Audience	Faculty, Students
Needs	Standardized course design practices
Initiatives	• Develop and implement standardized instructional design practices • Include instructional design in quality reviews
Goals	Increase course consistency and coherence through the use of standardized practices and quality review
Actions	• Develop standardized instructional design practices • Ensure that faculty understand and implement these practices • Include these practices in quality course reviews
CSFs	• Standardized instructional design practices are developed • Standardized instructional design practices are implemented • Quality course reviews include instructional design
KPIs	• Instructional design standards are evident in courses • Quality course reviews reflect adherence to standardized instructional design • Student feedback indicates an increase in consistent and coherent design across courses

Subdimension: Alignment with Standards

Measures of satisfaction with alignment with standards both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 22).

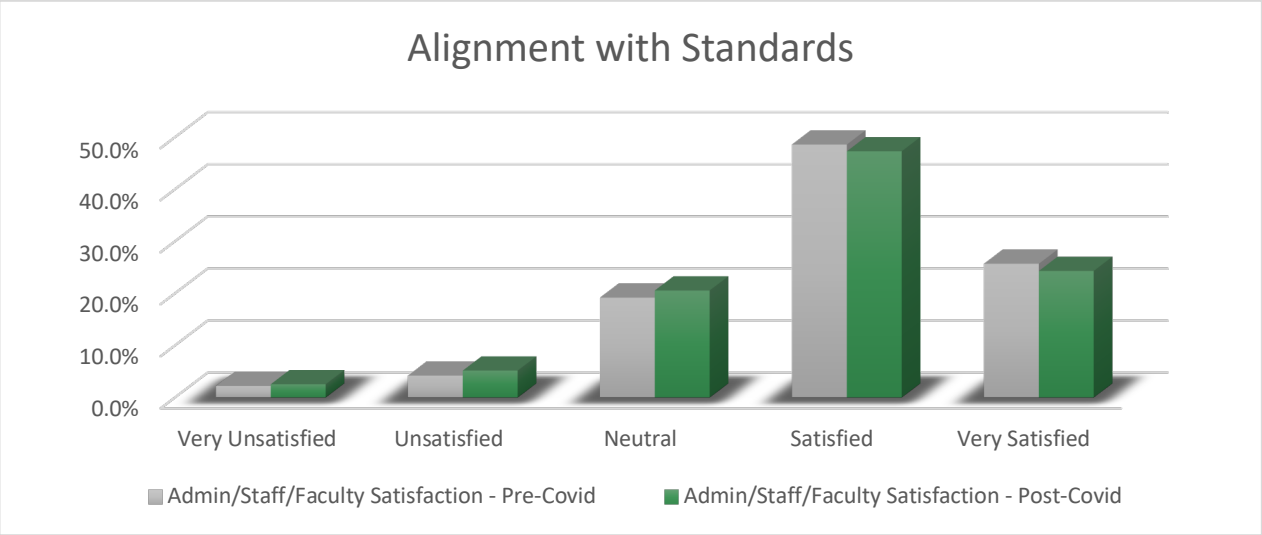


Figure 22

Both survey and interview data indicate that administrators and faculty/staff believe that courses are aligned with best practices and quality standards for curriculum design and planning. They indicate at high levels (74.3% and 76.7%, respectively) that standards for design, development, and delivery are employed. This subdimension measured student perceptions indirectly (as they may not be explicitly aware of alignment standards), and their response, 65.1% agreeing or strongly agreeing and 18.6% disagreeing or strongly disagreeing, that they were "able to develop the necessary knowledge and skills to achieve learning outcomes" (Figure 23) may improve with further review and alignment of courses according to standards.

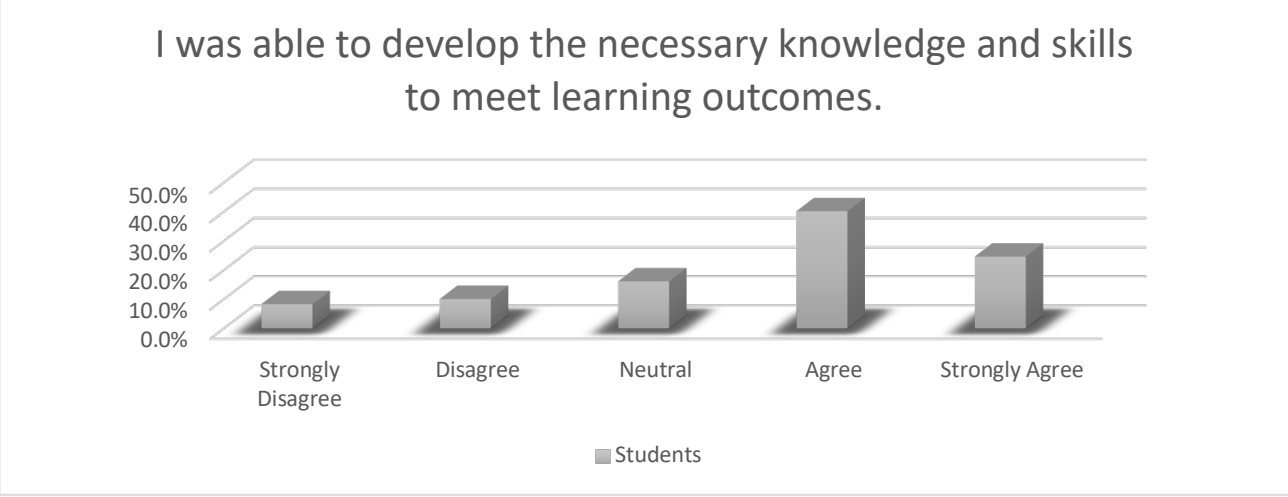


Figure 23

Recommendation: Ensure alignment with standards through quality review, and collect student feedback and measure their learning outcomes to improve and monitor effectiveness.

Target Audience	Faculty, Students
Needs	Ensure that courses are aligned with standards and that students are able to develop the knowledge and skills needed to achieve learning outcomes
Initiatives	• Quality course review for alignment with standards • Collect student feedback on their ability to achieve learning outcomes • Regularly monitor student outcomes in courses
Goals	Increase alignment to standards in courses to support successful student learning outcomes
Actions	• Include alignment with standards in quality course reviews • Provide opportunities for student feedback regarding their ability to achieve learning outcomes • Measure student outcomes in courses for continuous improvement
CSFs	• Alignment with standards is reflected in quality course reviews • Students are able to provide feedback regarding their ability to achieve learning outcomes • Student outcomes in courses are measured and reviewed regularly
KPIs	• Alignment with standards is evident in quality course reviews • Students participate in feedback opportunities and indicate areas of success or challenge with their ability to achieve learning outcomes • Measurement and review of student outcomes in courses reflects improvement and/or is used for continuous improvement

Subdimension: Course Syllabi

Measures of satisfaction with course syllabi both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 24).

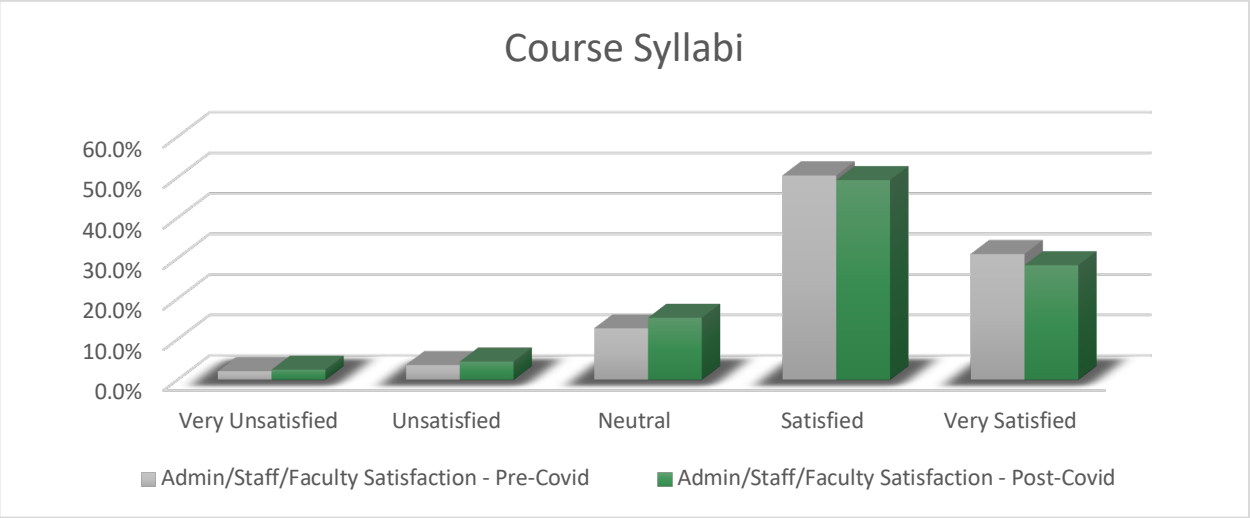


Figure 24

All three groups, administrators/staff, faculty, and students overall agreed that syllabi contain essential course and content information (Figure 25). Faculty displayed a particularly high rate of agreement (84.2%) and while students did agree, their responses indicate the potential for increased syllabi effectiveness that could be addressed through course design. Ensuring that syllabi are easily located and contain clearly labeled course objectives, learning outcomes, assessment methods, and descriptions of content and activities could improve the student learning experience. Of most note in this subdimension, students indicated that expectations for participation are not included in syllabi at as high a rate of other components, and the explicit inclusion of these expectations could benefit students and improve their learning experiences.

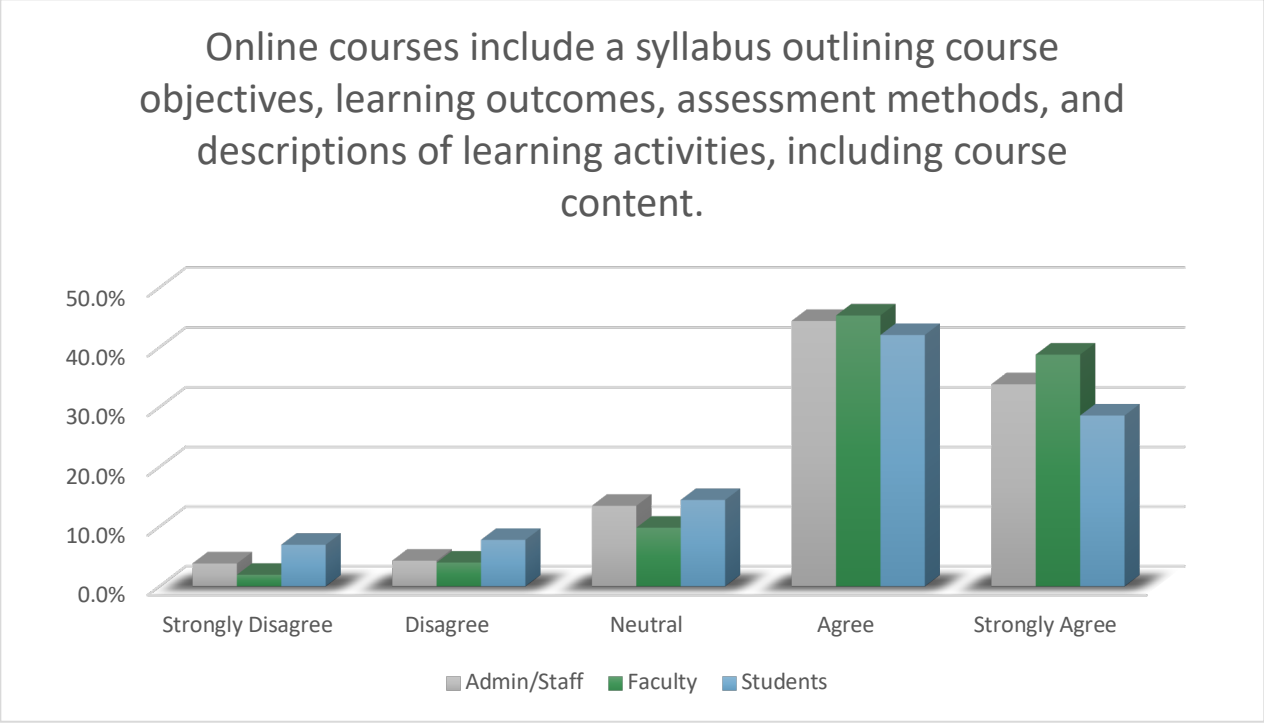


Figure 25

Recommendation: Develop and implement clear syllabi components, including clearly labeled course objectives, learning outcomes, assessment methods, descriptions of content and activities, and expectations. Ensure that syllabi are easy to locate and use in a consistent course design practice.

Target Audience	Faculty, Students
Needs	• Syllabi contain standard components that are clearly labeled and include course objectives, learning outcomes, assessment methods, descriptions of content and activities, and expectations. • Syllabi are easy to locate and use with consistency in course design
Initiatives	• Develop and implement standard syllabi components • Implement course design standards ensuring that syllabi are consistently easy to locate and use
Goals	Increase students' ability to consistently locate and use syllabi, and increase students' understanding of course components and expectations through standard syllabi development practices
Actions	• Develop and implement standard syllabi components • Develop and implement standard course design practices for the location of syllabi within the course
CSFs	• Standard syllabi components are developed and implemented • Standard course design practices for the location of syllabi within the course are developed and implemented

KPIs	• Quality course reviews indicate that standard syllabi components are used and that syllabi are placed appropriately within the course design • Student feedback indicates that syllabi components are present and identifiable, and that syllabi are consistently located within their courses

Subdimension: Course Materials and Content

Measures of satisfaction with course materials and content both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied. It is notable that post-COVID, there was a slight decrease in those reporting that they are very satisfied, and an increase in neutral responses for this subdimension (Figure 26).

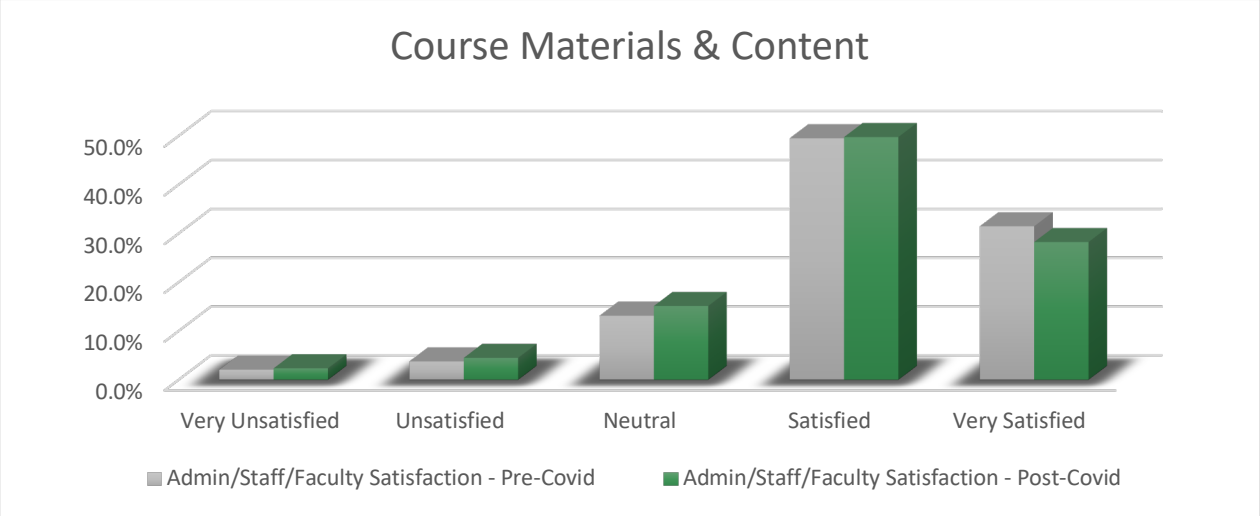


Figure 26

Responses in the Course Materials and Content subdimension indicate that administrators/staff, faculty, and students consistently agreed that materials are "accessible, easy to use, and may be accessed on a variety of devices." This is a key component of effective dissemination and use of materials. Other items rated favorably include the use of a variety of content/materials types that are appropriate for multiple learning objectives, including critical reflection, analysis, and real-world applications. Two areas in this subdimension are recommended for review and potential improvements as rated by students: ensuring sufficient breadth, depth, and currency of instructional materials, and including current content such as online resources and/or videos. For each of these items, approximately 65% of students agreed that these elements are present, with approximately 18.5% disagreeing. It is recommended that course materials and content be regularly reviewed for sufficient coverage and currency, and be updated as appropriate with current and media-rich content.

Recommendation: Regularly review course materials and content for sufficient coverage and currency, and update as appropriate with current and media-rich content.

Target Audience	Faculty
Needs	Ensure that course materials and content include sufficient coverage 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	Continually ensure that content is sufficient, updated, and includes current and media-rich resources
Actions	Develop regular review and updating processes and schedules for course content and materials
CSFs	Course content and materials are regularly reviewed for currency and resource content and updated as appropriate
KPIs	Reviews of course content and materials are completed and resources are updated with current and media-rich content

Expert Recommendation: Ensure academic rigor of content with activities at the appropriate level of Bloom's Taxonomy.

Target Audience	Faculty
Needs	Ensure that course content (activities, assignments) are at an appropriate level of academic rigor and include higher levels of thinking
Initiatives	Provide academic rigor in all courses
Goals	Offer academically rigorous programs that appropriate prepare learners
Actions	• Review activities and assignments in courses to ensure they provide for higher levels of thinking (Bloom's Taxonomy) • Add activities and assignments that provide for higher order thinking
CSFs	Course content meets appropriate level of academic rigor
KPIs	Activities and assignment included in courses offer higher order thinking

Subdimension: Innovation

Measures of satisfaction with innovation in curriculum design and planning both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied. Neutral responses for this subdimension appear to be more frequent than in other areas (Figure 27).

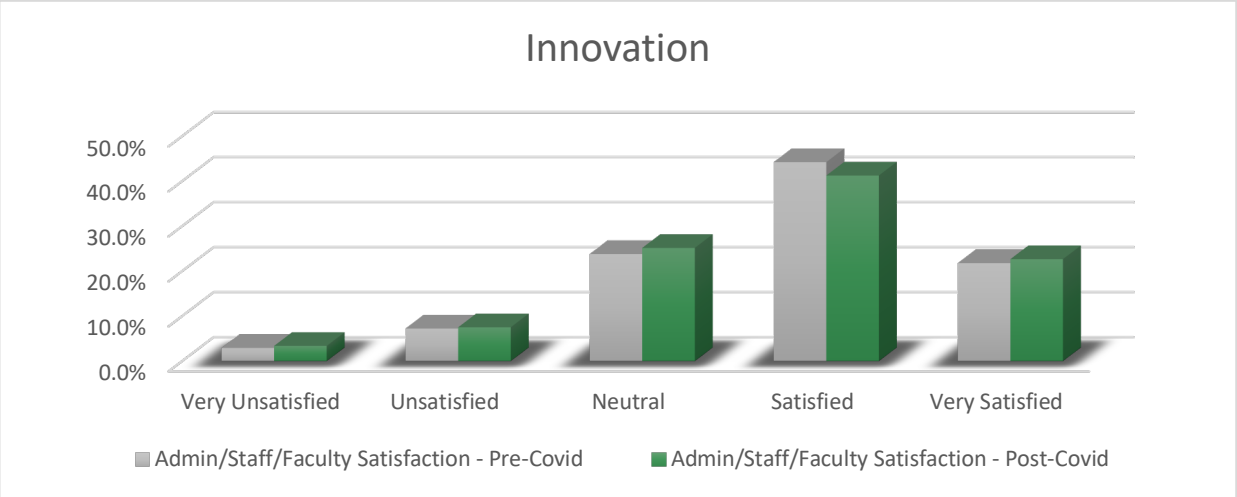


Figure 27

Survey and interview data indicate that administrators/staff and faculty agree that their institutions support innovation in curriculum design and planning. In one example of continued innovation, a faculty interview participant indicated that their institution goes beyond the course level: "We are doing our study plan and at the same time, we are having personal development, where we provide more extra activities, where we train them on leadership, on time management... and that's part since most are living here with us and they live in the dorm. We provide them with so many activities, actually."

Students indicated that their perceptions of innovation, particularly regarding teaching methods and technology, were lower, with 60.2% agreeing or strongly agreeing, and 23.7% disagreeing or strongly disagreeing. It is recommended that in addition to the existing innovative planning and practices, student feedback relevant to innovation be included in curriculum design and planning.

Recommendation: Provide opportunities for student feedback regarding innovative pedagogical and technological practices in curriculum design and planning.

Target Audience	Students
Needs	Include student feedback in innovative pedagogical and technological practices
Initiatives	Provide opportunities for students to give feedback on implemented practices, and for them to share their thoughts, needs, and ideas on innovation
Goals	Increase student awareness of innovative practices and incorporate their feedback as appropriate in continual improvement of curriculum design and planning innovation
Actions	Develop and implement opportunities for student feedback on the success and development of innovative practices in curriculum design and planning
CSFs	Student feedback opportunities are provided
KPIs	Student feedback is evaluated and incorporated into decision-making on innovative practices

Dimension III: Online Teaching & Learning

The Online Teaching & Learning dimension measures seven subdimensions including communication, engagement, expectation setting, outcomes, course interaction, feedback, teaching and learning resources, and innovation.

Prior to COVID, satisfaction measures in the online teaching and learning dimension indicated positive responses, through consistent decreases in satisfaction and increases in neutral responses post-COVID as well as survey and interview data indicate that readiness for fully online teaching and learning was not met across all subdimensions. However, it is clear that immediate efforts were made to address key areas.

Overall findings indicate that while the data was generally positive about perceptions and experiences with online teaching & learning related to the pandemic, administrators/staff, faculty, and students all had slightly different interpretations of their value and success.

The data in this dimension, both quantitative and qualitative, indicates a successful emerging online support experience. Students, faculty, and staff all reported largely positive experiences and perceptions, and the goals and outcomes of faculty and students seemed to be aligned in regard to expectations related to the learning experience. To that end, recommendations for the online teaching & learning dimension revolve around shared understanding and process infrastructure so that the successes already observed can be identified, articulated, and operationalized.

Subdimension: Communication

Measures of satisfaction with communication and planning both pre- and post-COVID, among both administrators/staff and faculty indicate that the majority of participants responded that they are overall satisfied or very satisfied. However, the number of those indicating very satisfied decreased markedly post-COVID, and neutral, unsatisfied, and very unsatisfied responses increased (Figure 28).

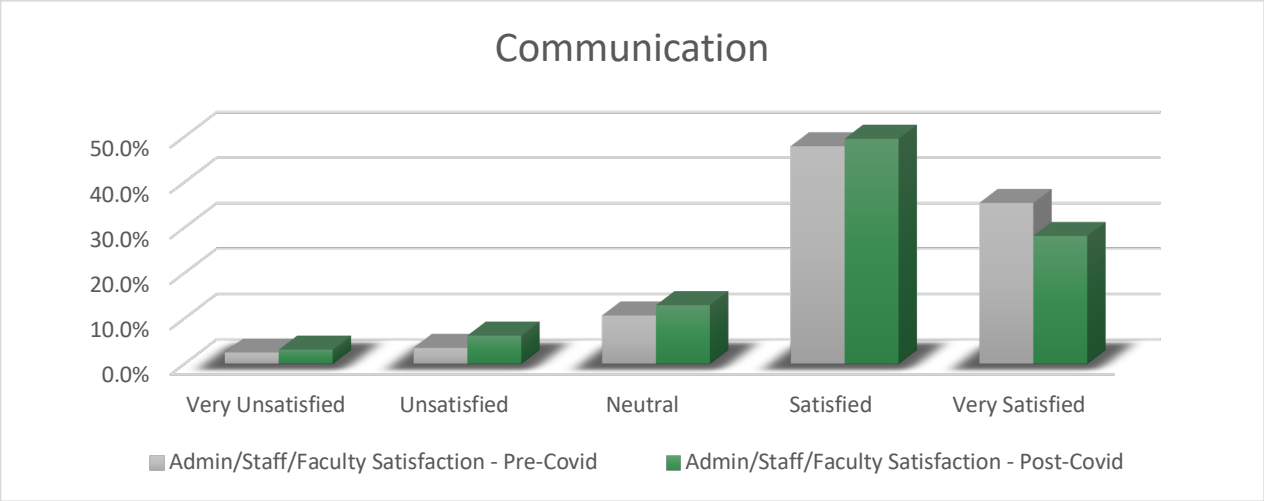


Figure 28

Students felt that faculty did a good job of communicating to them in the virtual setting, with 67.9% agreeing or strongly agreeing that faculty communicated with them in ongoing, timely, effective and appropriate ways. This seems directly tied to expectations as reported by administrators, staff, and faculty. Eighty-one percent of administrators and staff and 89.6% of faculty report that they are expected to hold virtual office hours and frequently communicate with their students via e-mail, course news and announcements, online discussions, and assignment feedback.

When it comes to clarity of communication, the data indicates there may be some confusion among faculty, staff, and students in regard to terminology as well, which could cause confusion in the expectations individuals have for what good communication means. “Distance learning, you hear that? Do you want learning? You hear different things. What’s the meaning of this term? Well, some of us will say, OK, putting a lecture online that’s kind of distance learning. Having the e-mail and communicating with my students...we need to define the terminology of distance.”

Recommendation: Incorporate shared definitions into faculty development and student support. As a part of a larger online learning strategy, consider identifying and defining a list of core definitions as they apply to the institution. Consider what measurements (if any) define these terms. For example, does "online learning" mean fully asynchronous, or merely delivered fully online? What percentage of seat time is replaced in order for a course to be defined as "hybrid?"

Target Audience	Administrators/Staff, Faculty
Needs	Identify and define a list of core definitions as they apply to the institution
Initiatives	Consider the components and measurements associated with terms used for various iterations of online learning, identify, and define terms that will be consistently used
Goals	Increase the clarity and effectiveness of communication regarding the various iterations and components associated with online learning
Actions	• Determine terminology needs for each iteration or component associated with online learning • Define metrics (as appropriate and/or needed) and definitions of use for each term • Communicate terms and definitions, and implement consistent use of selected terminology across all stakeholder groups
CSFs	• Terminology is selected and defined • Metrics associated with terminology (as appropriate) are selected and defined • Selected terms and definitions are communicated to stakeholders • Consistent use of selected terms is implemented
KPIs	Selected terminology is consistently used across stakeholder groups and accurately used for various online learning instances

Subdimension: Engagement

Measures of satisfaction with engagement both pre- and post-COVID indicate that the majority of participants responded that they are overall satisfied or very satisfied. It is of note that post-COVID, the number of respondents indicating satisfied or very satisfied decreased, while neutral, unsatisfied, and very unsatisfied responses increased (Figure 29).

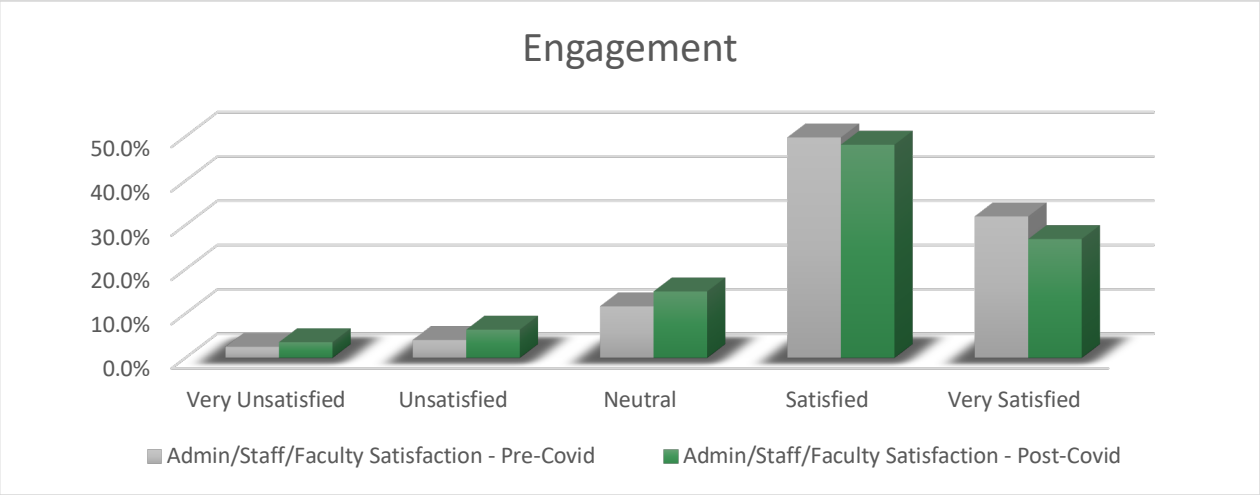


Figure 29

This subdimension tells a mixed story. Administrators/staff and faculty largely agreed that course design promoted student engagement "including academic challenge and social involvement with each other and the instructor." Meanwhile, it seems the student experience aligns with this perception, and that faculty and online teaching & learning support staff are paying attention. A high volume of students, 81.3% agreed or strongly agreed that student interactions with other students and with the instructor were facilitated in a variety of ways.

In this dimension, students are a little more neutral with only 59.7% agreeing or strongly agreeing with the statement "students were academically challenged and interacted with each other and the faculty."

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

Target Audience	Faculty, Students
Needs	Increase opportunities for students to interact with their peers and faculty, including academically challenging components
Initiatives	Implement both formal and informal opportunities for students to interact with each other and faculty, and to engage with academically challenging interactivity
Goals	Increase student engagement with course content, their peers, and faculty, including academically challenging components
Actions	Include intentional opportunities for academically challenging interactions with students and faculty in course design and delivery
CSFs	Online courses provide interactive opportunities for students and the peers as well as faculty, and these opportunities include academically challenging components
KPIs	• Quality course reviews indicate the presence of academically challenging interactive opportunities • Student evaluations and feedback indicate that interactive opportunities are present and academically challenging

Subdimension: Expectation Setting

Measures of satisfaction with expectation setting both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID while neutral, unsatisfied, and very unsatisfied responses increased (Figure 30).

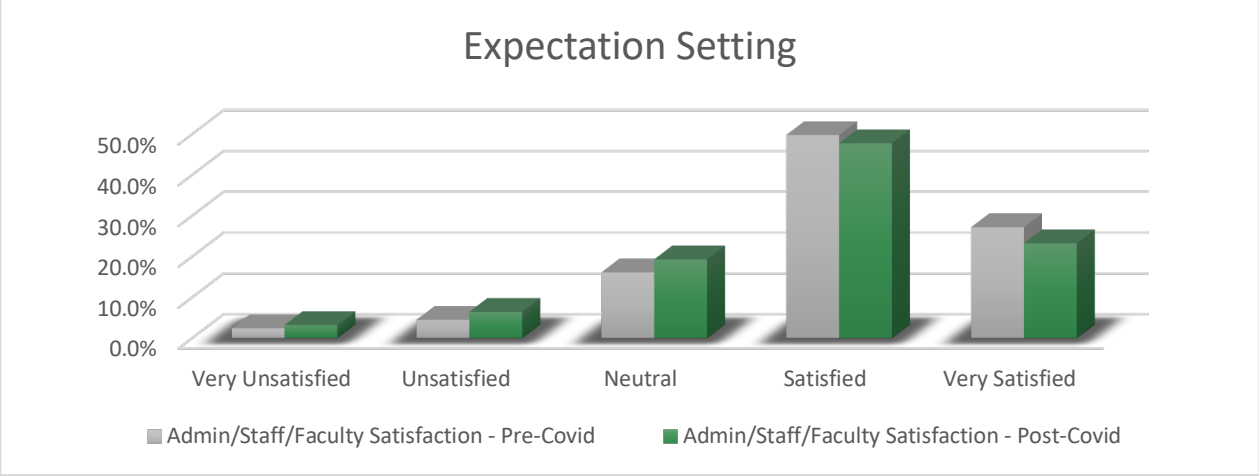


Figure 30

Expectations are important in online courses, and 67.2% students agreed or strongly agreed that their courses contained clearly defined student activity expectations. Faculty (80.3%) overwhelmingly believe that barriers can be reduced in courses by providing clear expectations. Interview data supported the survey data in this subdimension. “I think expectations need to be clear,” said one respondent. “I think expectations with your student. You need to be present for these courses.” Data further indicates that faculty are designing courses in ways that expectations are clear. Students agreed or strongly agreed at a rate of 72.2% that the expectations for student assignment completion were provided.

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

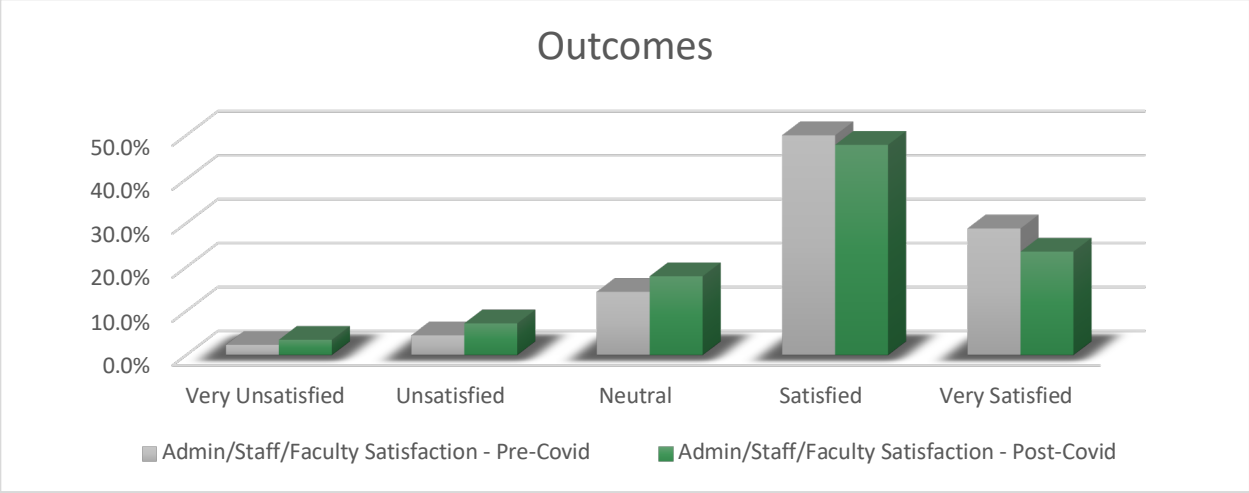
Target Audience	Faculty
Needs	Expectations for student activity are clearly defined and communicated to students
Initiatives	Develop, define, and communicate expectations for student activity
Goals	Increase presence, communication, and awareness of student activity expectations to support successful student learning
Actions	• Develop and define student activity expectations • Communicate expectations to students
CSFs	• Student activity expectations are present • Student activity expectations are communicated to students
KPIs	• Student activity expectations are evident in quality course review • Student evaluations and feedback indicate that expectations are present an effectively communicated

Expert Recommendation: Provide information on expectations for teacher responsiveness.

Target Audience	Faculty
Needs	Expectations for responses from the faculty are clearly defined and shared with students
Initiatives	Establish expectations for responsiveness
Goals	To set expectations regarding when students can expect responses from 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	Teachers responding to student communications within set parameters

Subdimension: Outcomes

Measures of satisfaction with outcomes both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID while neutral, unsatisfied, and very unsatisfied responses increased (Figure 31).



Faculty 31

While most survey and interview respondents do see the outcomes of online learning as comparable to face-to-face outcomes, others disagree. These results are distinctly mixed, and remain the focus of intense debate in digital education spheres. For example, while 59.3% of students responded in the survey that they agreed or strongly agreed that online courses had comparable outcomes to onsite courses, 27% disagreed or strongly disagreed with the same. Only 13.8% of students claimed they were neutral.

Administrators and staff had more positive perceptions than the students experiencing them, with 65.9% agreeing or strongly agreeing that online courses have comparable outcomes to onsite courses, with 17.3% disagreeing or strongly disagreeing (Figure 32). Faculty were the least likely to view online course experiences as comparable to onsite ones, with 57.5% saying they agreed or strongly agreed, and 25.2% saying they disagreed or strongly disagreed.

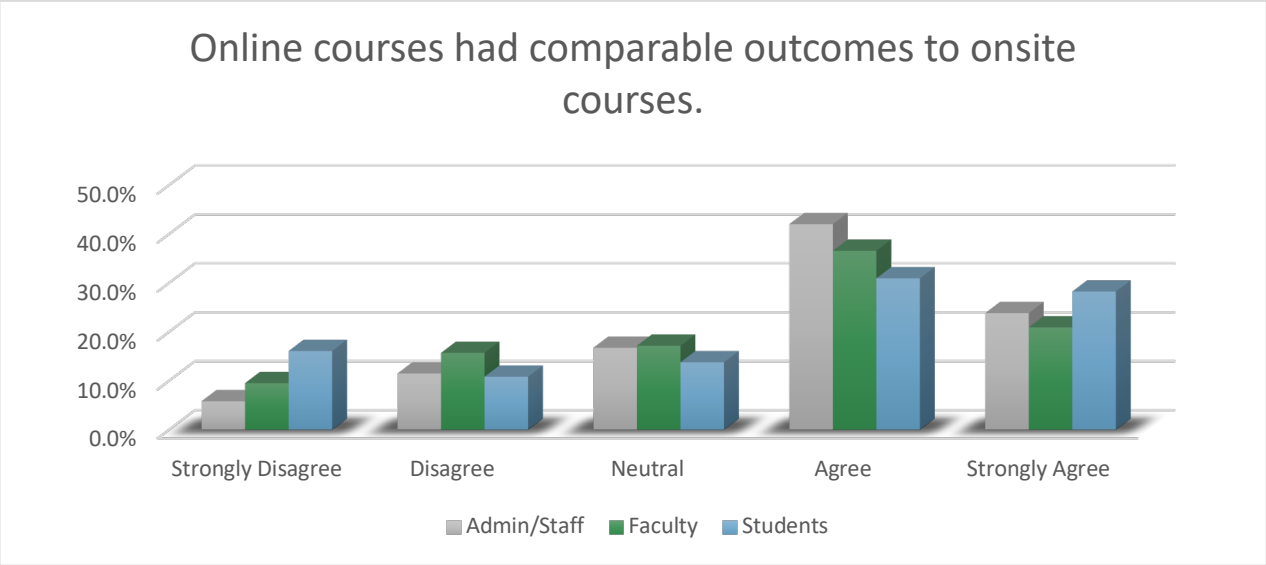


Figure 32

Among those that disagreed, perceived gaps in technology for teaching and assessing hands-on medical and nursing concepts seemed to be the primary driver of the opinion. “We are trying to like compensate and cover some learning outcomes through virtual teaching,” said one respondent. “But you’re not always able to achieve all the outcomes through the virtual teaching. So this is the main two areas, I think we would have some challenges, assessment and how we teach skills through virtual.”

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, Faculty
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	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 for online courses are measured • Results are communicated and include relevant comparisons to onsite courses • Findings result in continual improvement for online courses • Administrators/staff and faculty indicate that they understand student learning outcomes data for online courses and their perceptions regarding the efficacy of online courses are in alignment with findings

Expert Recommendation: Provide rubrics for all assignments.

Target Audience	Faculty
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	Rubrics developed and provided for all assignments and activities

Subdimension: Course Interaction

Measures of satisfaction with course interaction both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID (though satisfied responses decreased only slightly) while neutral, unsatisfied, and very unsatisfied responses increased (Figure 33).

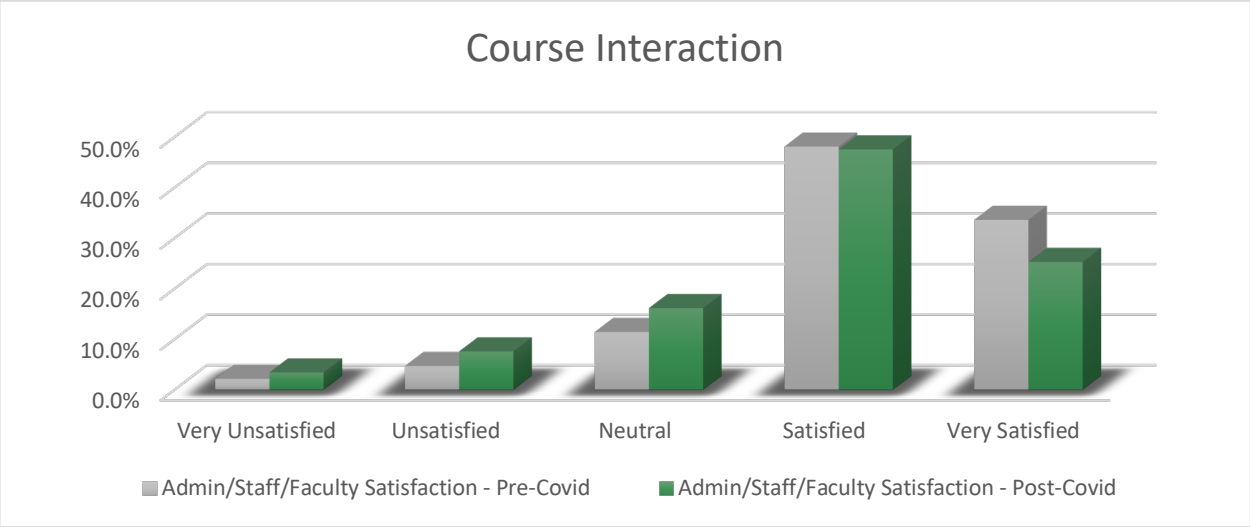


Figure 33

A majority (66.1%) of students agreed or strongly agreed that "student-to-student and faculty-to-student interactions were encouraged and facilitated" and 66% indicated that peer interaction facilitated active learning through frequent and ongoing peer involvement.

Administrators, staff, and faculty also overwhelmingly agree with the statement that "student-to-student and faculty-to-student interaction are essential characteristics and are encouraged and facilitated." For administrators and staff, 80.4% and 84% of faculty agreed or strongly agreed. The data also indicates that interaction drives design with 76.3% of faculty agreeing or strongly agreeing that students participate in meaningful workgroups that promote collaboration among students, and 77.4% agreed or strongly agreed with the statement "peer interaction facilitates active learning through frequent and ongoing peer-involvement."

The interview data brought more depth to the quantitative data, highlighting how poor technology choices, access, or design unintentionally impact student-to-student interactions: “Another problem is this interaction between students between each other...Any interaction is done with WhatsApp groups, emails, and things like that, and it’s much harder to find help between each other when all you have is a WhatsApp group that makes it much harder to gain knowledge from other.”

Expert Recommendation: Establish the presence of the online educator.

Target Audience	Faculty
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 bringing outside resources (especially those written/prepared by the educator) • Regularly participate in discussions or other collaborative activities
CSFs	Increased engagement between the instructor and students
KPIs	• Instructor biography and contact information shared • Instructor regular contributing in the virtual classroom

Subdimension: Feedback

Measures of satisfaction with feedback both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID (though satisfied responses decreased only slightly) while neutral, unsatisfied, and very unsatisfied responses increased (Figure 34).

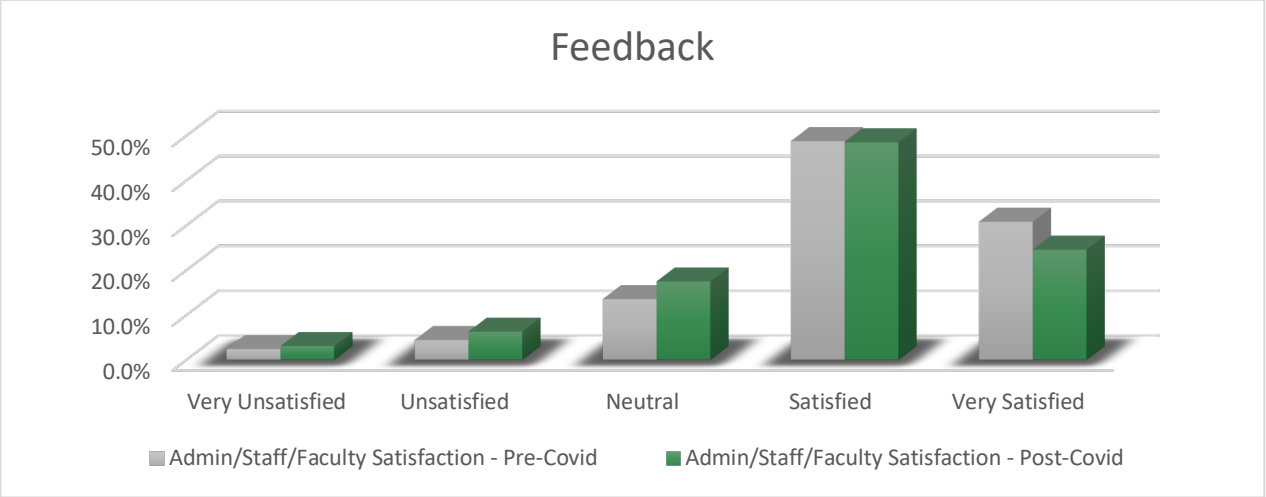


Figure 34

Both the interviews and survey highlighted the importance of detailed and timely feedback in online teaching and learning. Administrators and staff (82%) faculty and (86.7%) agreed or strongly agreed that faculty and instructors provide timely and detailed feedback on assessments and student inquiries. Students largely agree (37.5%) or strongly agree (28.4%) that they get ongoing meaningful feedback, but 17.9% disagreed or strongly disagreed. As with the section on engagement, the interview data provides additional insight but no solid answers. Interview themes seem to indicate that students appreciate clarity and timeliness, but the data is inconclusive on a consistent expectation for what that means.

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	Faculty
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	• Processes and methods of feedback are present and implemented • Communication to students regarding feedback is present and implemented • Student evaluations indicate that feedback processes, methods, and provision are implemented, understood, and support learning

Recommendation: Implement student experience measurements within online learning experiences as a part of the design process. By asking students what quality means to them, iterative improvements can be made as befits learning outcomes.

Target Audience	Faculty
Needs	Measure student experiences and quality perceptions as an integrated component of course design, and use the resulting data in continual improvement processes
Initiatives	Develop and implement measures of student experience and quality perceptions
Goals	To gain an understanding of student experiences and quality perceptions that are used in continual course improvement processes
Actions	Develop and implement measures of student experience and quality perceptions
CSFs	• Measures of student experience and quality perceptions are present and utilized • Resulting data is used in the continual improvement of courses
KPIs	• Measures of student experience and quality perceptions enhance understanding among administrators/staff and faculty regarding these items • Student experience and quality perception feedback results in course improvements addressing related course components

Subdimension: Teaching & Learning Resources

Measures of satisfaction with teaching and learning resources both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID (though satisfied responses decreased only slightly) while neutral, unsatisfied, and very unsatisfied responses increased (Figure 35).

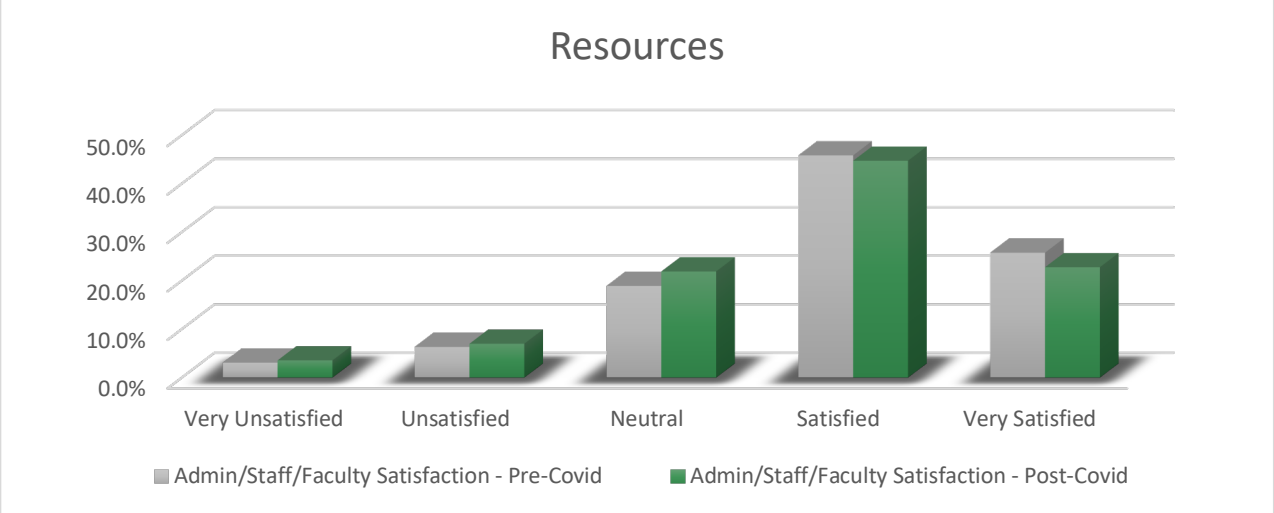


Figure 35

The survey found interesting differences amongst administrators and staff, faculty, and students when it comes to the perceived richness that course resources bring to an online course. In response to the statement "course resources provided richness in learning materials and activities, support and instruction, instructor interactions, and tools and media," 82.8% faculty and 78.6% of administrators and staff agreed or strongly agreed. Students, however, did not feel as strongly with only 64.3% agreeing or strongly agreeing and 19.4% disagreeing or strongly disagreeing (Figure 36).

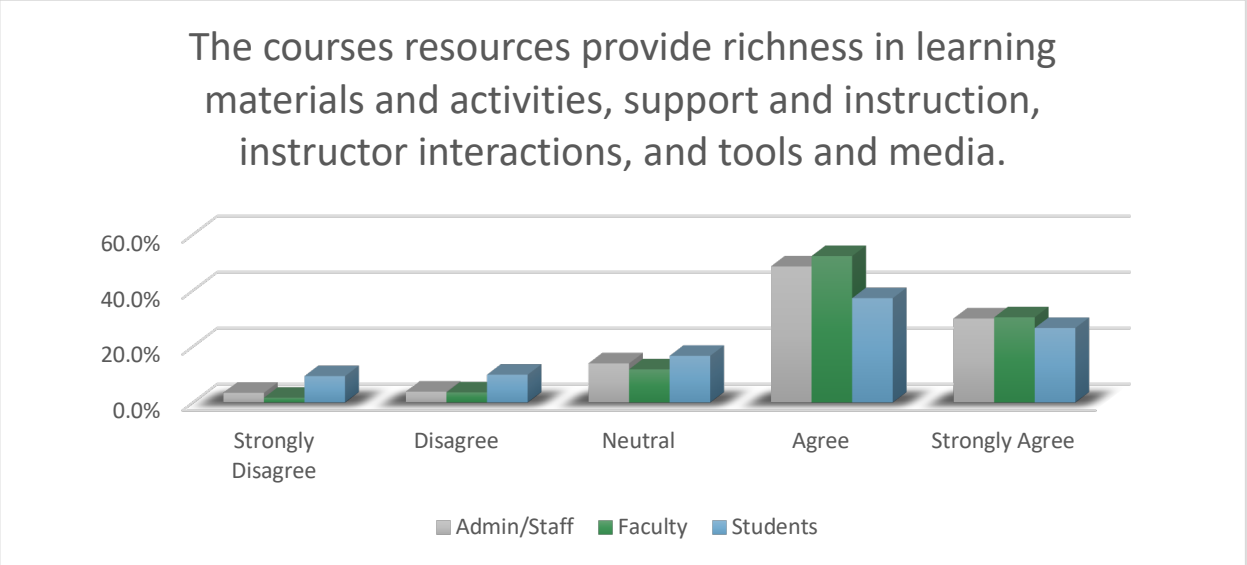


Figure 36

The survey and interview data together indicate this trend could be explained by the differences in how faculty think their students experience courses versus how they feel they are experiencing them. These findings offer an opportunity for further research and discussion.

Recommendation: Develop and implement evaluation procedures to gather information regarding student perceptions of course resources, and include this data in continual course improvement processes.

Target Audience	Administrators/Staff, Faculty
Needs	An increased understanding of student perceptions and feedback regarding course resources
Initiatives	• Develop and implement evaluation procedures to gather student perceptions of course resources • Include this data in continual course improvement processes
Goals	Understand student perceptions regarding course resources for the purpose of improving courses to better meet student learning needs
Actions	• Develop and implement evaluation procedures regarding student perceptions of course resources • Utilize resulting data to inform continual course improvements
CSFs	• Evaluation procedures are developed and implemented • Evaluation results are utilized for continual course improvements
KPIs	• Evaluation processes result in student feedback on perceptions of course resources • Results are integrated into course improvement processes, which reflect inclusion of appropriate modifications based on identified needs

Subdimension: Innovation

Measures of satisfaction with innovation in online teaching and learning both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID while neutral responses increased and unsatisfied and very unsatisfied responses slightly increased (Figure 37).

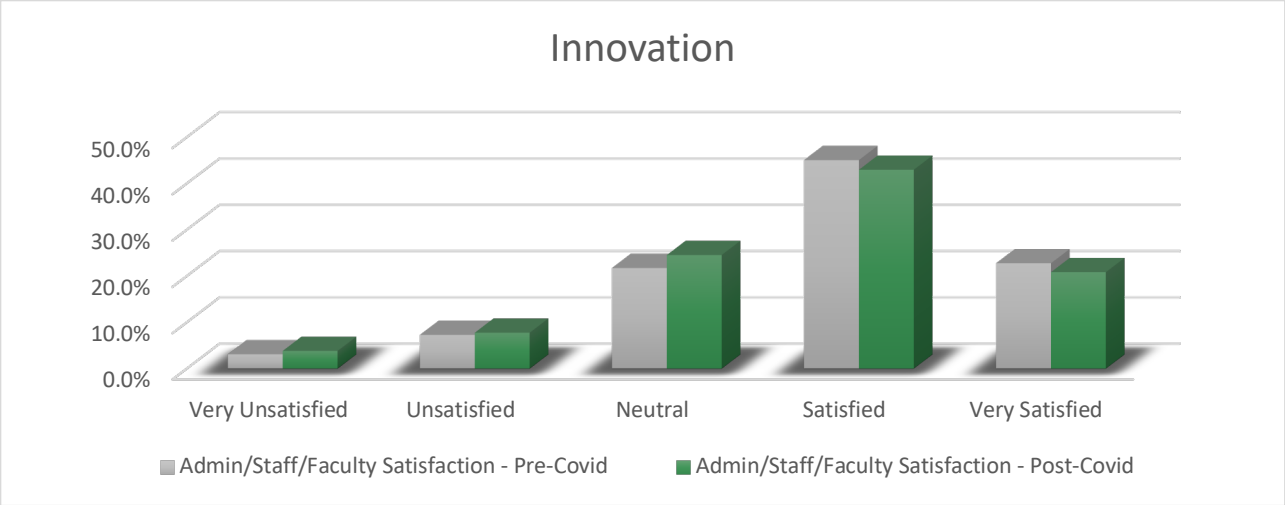


Figure 37

Overall, administrators, staff, and faculty report satisfaction with innovation in online teaching and learning. At their institutions, administrators/staff (74.1%) and faculty (72.7%) agreed or strongly agreed that innovation is encouraged for this dimension. However, students report much lower agreement at 58.4% that their faculty regularly innovate their online teaching (Figure 38). Students might not be aware of all of the innovations that take place or administrators, staff, and faculty may not be aware of all of the new technologies and online learning approaches.

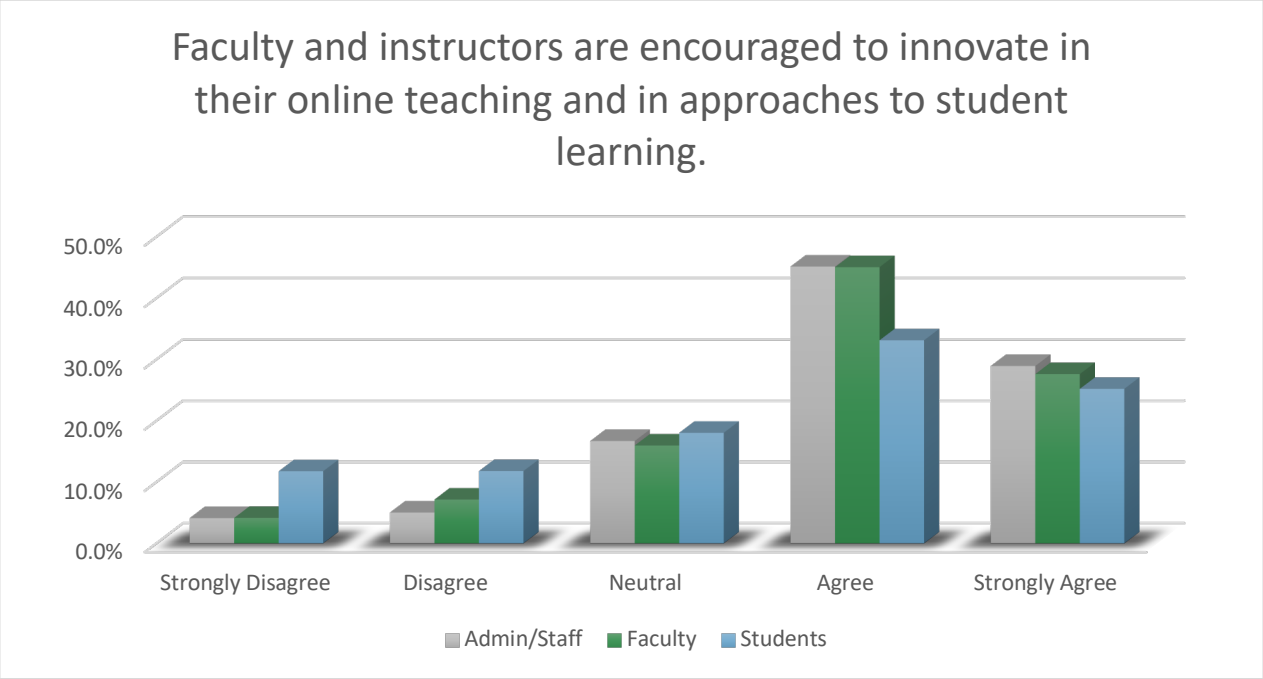


Figure 38

Recommendation: Provide communications to increase student awareness of innovations implemented in online teaching and learning, and provide opportunities for student feedback regarding innovative practices.

Target Audience	Students
Needs	Provide students with information about innovations in online teaching and learning, and gather student feedback regarding the innovative practices
Initiatives	Provide communications and feedback opportunities to students regarding innovative online teaching and learning practices
Goals	Increase student awareness of innovative practices and incorporate their feedback as appropriate in continual improvement and innovation
Actions	• Increase student awareness of innovation in online teaching and learning • Develop and implement opportunities for student feedback on the success and development of innovative practices
CSFs	• Communications regarding innovation are provided to students • Student feedback opportunities are provided
KPIs	• Student feedback reflects an increased awareness of innovation in online teaching and learning • Student feedback is evaluated and incorporated into decision-making on innovative practices

Dimension IV: Assessment

The Assessment dimension measures five subdimensions including Assessment Strategies, Assessment Processes, Assessment Methods, Assessment Types, and Innovation.

Prior to COVID, satisfaction measures in the assessment dimension indicated positive responses, through consistent decreases in satisfaction and increases in dissatisfied and neutral responses post-COVID as well as survey and interview data indicate that readiness for fully online teaching and learning was not met across all subdimensions.

Overall findings in the Assessment dimension indicate that administrators/staff and faculty are consistently in alignment with regard to their opinions and beliefs across all subdimensions, suggesting that their interactions regarding assessment and the communication of assessment practices are effective among each other. In general, administrators/staff and faculty agree or strongly agree at rates of 70-85% that the queried practices in each subdimension are present. The most impactful findings in the Assessment dimension are illuminated when considering administrator/staff and faculty responses as compared to student responses on the same items, dimensions, and/or subdimensions.

Like administrators/staff and faculty, student responses show consistent patterns of opinions and beliefs across all subdimensions. However, students' agreement rates are primarily around 60%, while disagreement stands out

at approximately 20%. The consistency in response among administrators/staff and faculty as a group, as well as among students as a group lends strength to the primary finding that there are significant gaps in communication, expectations, and/or implementation of assessment strategies, processes, methodologies, and types of assessment between the group of administrators, faculty, and staff, and their students. These findings are described below by subdimension.

Interview responses related to the assessment dimension overall supported the findings from the survey items on assessment. Selected interview responses are noted in the subdimension results below, though it is worth noting here that two themes emerged in the qualitative interviews that were not queried in the survey instrument. First, some faculty and administrators indicated concerns about academic integrity in online assessments - specifically, ensuring that the student enrolled was the individual completing assessments, and also that the assessments were accurately measuring the learning outcomes desired. Second, several faculty members and administrators noted during their interviews that they support online assessment overall, but noted that the rapid shift to remote instruction caused difficulties when assessments had been planned for other modalities and had to be moved online, and/or reported successful assessment experiences with theoretical knowledge, but difficulty designing and implementing assessments for practical fields. Regarding academic integrity, professional development on the use of technological options to ensure appropriate behavior is recommended, as well as professional development on designing and delivering assessments in ways that intrinsically encourage academic honesty. Professional development should also be considered for the development and delivery of assessments that are in alignment with measuring the desired objectives. Finally, regarding the challenge incurred with practical subject matter, an understanding of areas in which this is a concern is needed, followed by approaches of innovative online assessment techniques to address these challenges, the discovery and use of alternative solutions such as simulations, home labs, etc., and the consideration of hybrid or other modalities that may be employed to bridge any remaining gaps in assessment for practical subject matter.

Subdimension: Assessment Strategies

Measures of satisfaction with assessment strategies both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID (though satisfied responses decreased only slightly) while neutral, unsatisfied, and very unsatisfied responses increased (Figure 39).

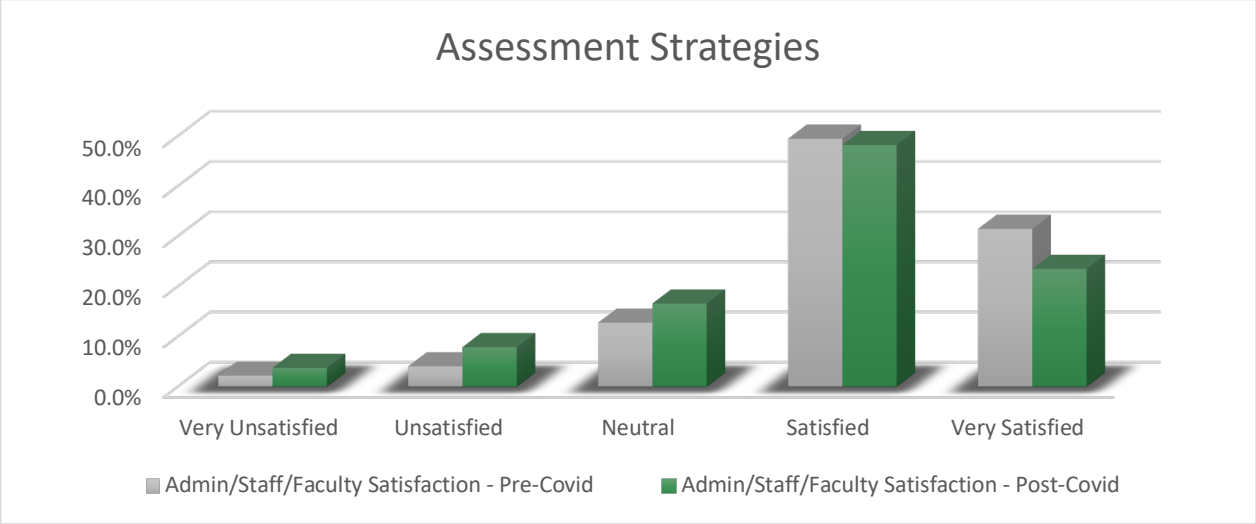


Figure 39

Assessment strategies in this study encompassed student readiness for online learning, piloting strategies that include digital and other pertinent literacies, and formative assessment. Administrators/staff, faculty, and students 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.

With regard to the assessment strategies subdimension, the primary recommendations are to address the gap in administrator/staff and faculty, and student perceptions include increased presence of clear communication to students identifying assessments, their purposes, and the learning outcomes that are being assessed.

Recommendation: Develop and implement course-level communications to students that identify assessments, their purposes, and the learning outcomes for each.

Target Audience	Faculty, Students
Needs	Clearly identify assessments and identify their purposes and learning outcomes to students
Initiatives	Develop and implement course-level communications to students regarding assessments, their purposes, and the learning outcomes addressed by each
Goals	Increase student understanding of assessment practices in order to support successful student learning outcomes
Actions	Faculty provide communications to students via various methods (syllabi, email, LMS communications, etc.) identifying assessments, their purposes, and the learning objectives for each
CSFs	Faculty provide communications to students regarding assessments
KPIs	• Communications are provided to students regarding assessments • Student evaluations and feedback indicate increased awareness and understanding of assessments, their purposes, and the associated learning outcomes

Subdimension: Assessment Processes

Measures of satisfaction with assessment processes both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID while neutral, unsatisfied, and very unsatisfied responses increased (Figure 40).

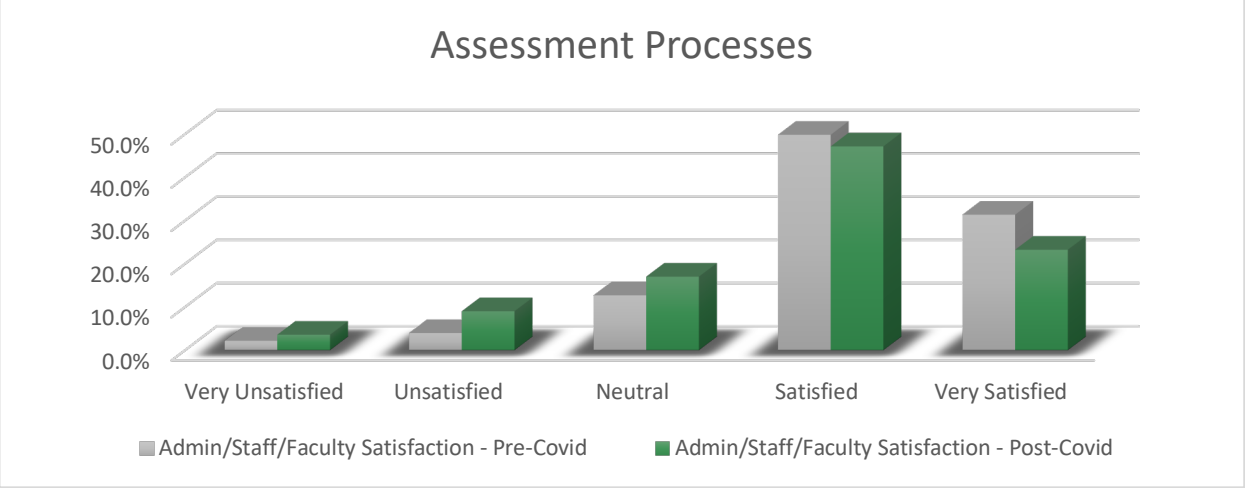


Figure 40

Assessment processes in this study included the alignment of learning objectives and assessments, the effective communication of assessment criteria, grading, and expectations, and feedback. Findings in this subdimension followed the clear pattern of responses noted above, with the majority of administrators/staff and faculty indicating the each of these items is present at high rates, with an approximate 20 percentage-point difference in student responses (~60% agreement) and 20% of students disagreeing that these elements were present and/or effective (Figures 41 and 42). Qualitative interviews did indicate faculty awareness of difficulties with implementation and potentially student understanding of assessment processes due to the pandemic.

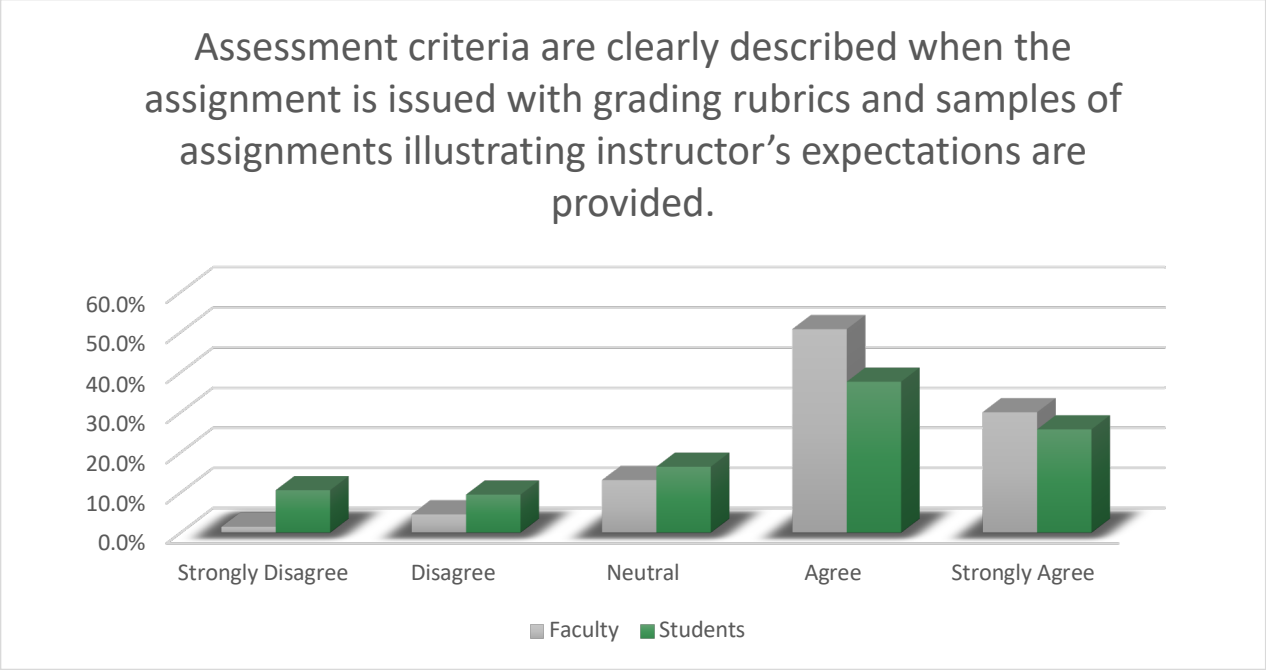


Figure 41

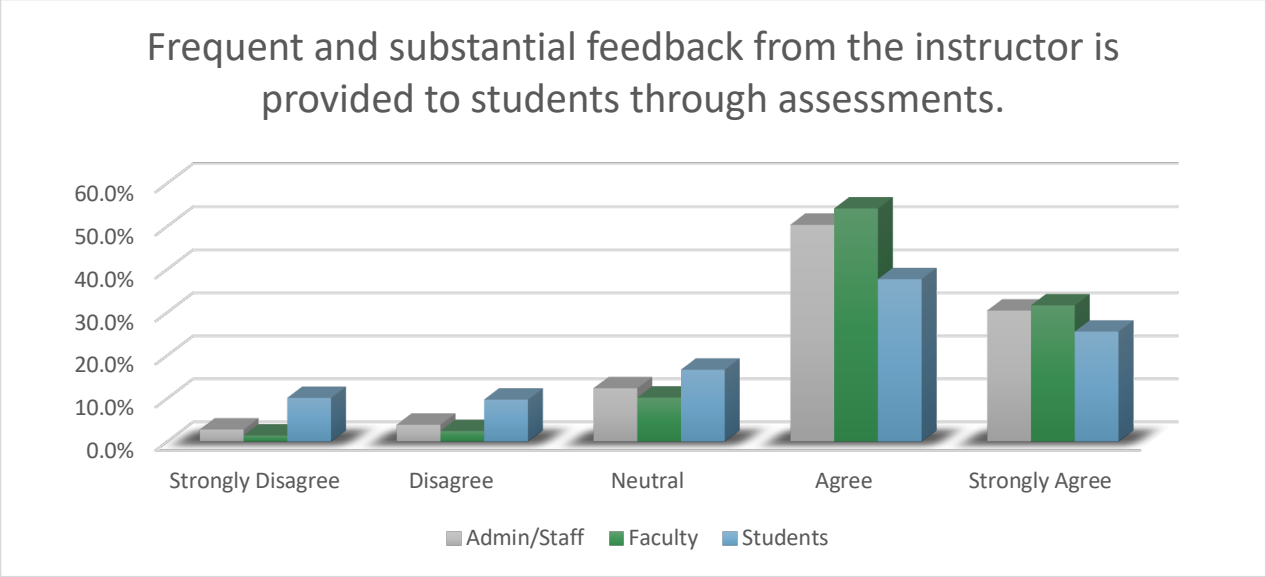


Figure 42

Recommendations for the assessment processes subdimension include further ensuring alignment of learning objectives and assessments through quality review processes, as well as to implement consistent course design that is aligned with best practices for the logical placement and effective use of communications and materials regarding criteria, assignments, expectations, and grading rubrics. Feedback provision and methods, as well as explicit expectation setting for when feedback will be provided and how feedback is connected to each assessment may also be useful in student understanding and benefit resulting from these practices.

Recommendation: Ensure alignment of learning objectives and assessments through quality review processes.

Target Audience	Faculty
Needs	Ensure alignment of learning objectives and assessments
Initiatives	Ensure alignment of learning objectives and assessments through quality course review processes
Goals	Support successful student learning through alignment of learning objectives and assessments
Actions	Include alignment of learning objectives and assessments in quality course reviews
CSFs	Learning objectives and assessments are aligned
KPIs	Successful student outcomes increase as a result of effectively aligned learning objectives and assessments

Recommendation: Align course design practices regarding assessment with best practices for the placement and use of communications and materials including criteria, assignments, expectations, and grading rubrics.

Target Audience	Faculty
Needs	• Implement course design best practices regarding assessment, including delivery and placement • Align communications and materials, including criteria, assignments, expectations, and grading rubrics with best practices
Initiatives	Ensure that assessments and related communications in online courses follow best practices
Goals	Support successful student learning outcomes through the use of effective course design and communication practices related to assessment
Actions	• Align course assessments with effective course design, including delivery and placement • Ensure that criteria, assignments, expectations, and grading rubrics are present and that these elements are clearly communicated to students
CSFs	• Course assessment delivery and placement follow course design standards • Criteria, assignments, expectations, and grading rubrics are present and communicated to students
KPIs	• Effective delivery and placement of assessments is evident in quality course reviews • Communications regarding criteria, assignments, expectations, and grading rubrics are provided to students • Student evaluations and feedback reflect presence and understanding of criteria, assignments, expectations, and grading rubrics

Recommendation: Set expectations for feedback provision and methods, as well as when feedback will be provided and how it is connected to each assessment.

Target Audience	Faculty
Needs	Feedback provision and methods, timing, and connection to assessments 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 connected to each assessment
Goals	Support successful student learning outcomes by establishing and communicating clear processes and expectation for feedback
Actions	• Develop processes and methods of feedback provision for each assessment • Communicate feedback processes and methods, and set expectations including timing and how feedback is connected to assessments, to students
CSFs	• Feedback processes and methods are developed and implemented • Communication to students regarding feedback processes, methods, connection to assessment, and expectations is provided
KPIs	• Processes and methods of feedback for assessments are present and implemented • Communication to students regarding feedback is present and implemented • Student evaluations indicate that feedback processes, methods, and provision are implemented, understood, and support learning

Subdimension: Assessment Methods

Measures of satisfaction with assessment methods both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID while neutral, unsatisfied, and very unsatisfied responses increased (Figure 43).

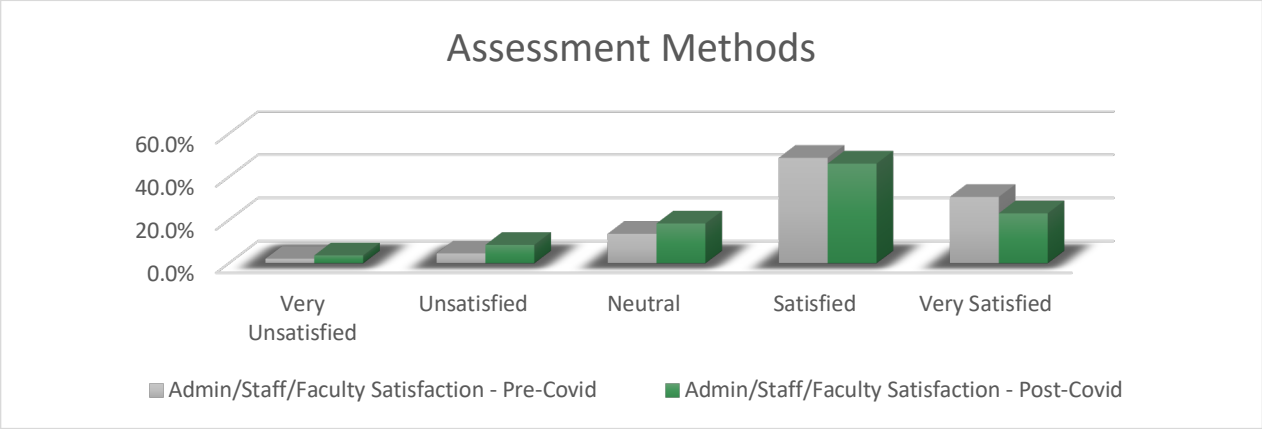


Figure 43

The majority of survey questions directly measuring the assessment methods subdimension were directed to students. In a continuation of the response pattern indicated throughout the assessment dimension student responses, each of the items in this subdimension were rated as agree or strongly agree by approximately 65% of students, and approximately 20% disagreed or strongly disagreed with each. Items measured included the use of new assessment methods, the variety of assessments provided, the use of multiple and timely assessment activities, and finally, whether students believed that their overall course grades were not based solely on exams and quizzes. Qualitative interview responses indicated that while many faculty do focus on assessment methods such as midterms and finals, many are tuned into a rich variety of assessments spanning assessment methodologies, modalities, and diverse ways of demonstrating learning.

Additionally in this subdimension, faculty and students were asked to respond to survey items regarding self-assessment, peer review, and feedback opportunities. Interestingly, faculty and students were more closely aligned regarding peer assessment than on any other survey questions on assessment. This is supported by qualitative interview data, with several respondents noting their efforts for collaboration, teamwork, and peer assessments. However, a gap emerged when students were about opportunities to self-assess their progress, opportunities for improvement, and set goals for personal and professional growth. Those who disagreed or strongly disagreed did so in alignment with other assessment items, at 21.8%. When considering agreement or strong agreement, only 41.4% of students responded accordingly, indicating not only a gap on this particular item, but a significant portion of students (36.7%) did not have a sense of either agreement or disagreement (Figures 43, 44, and 45).

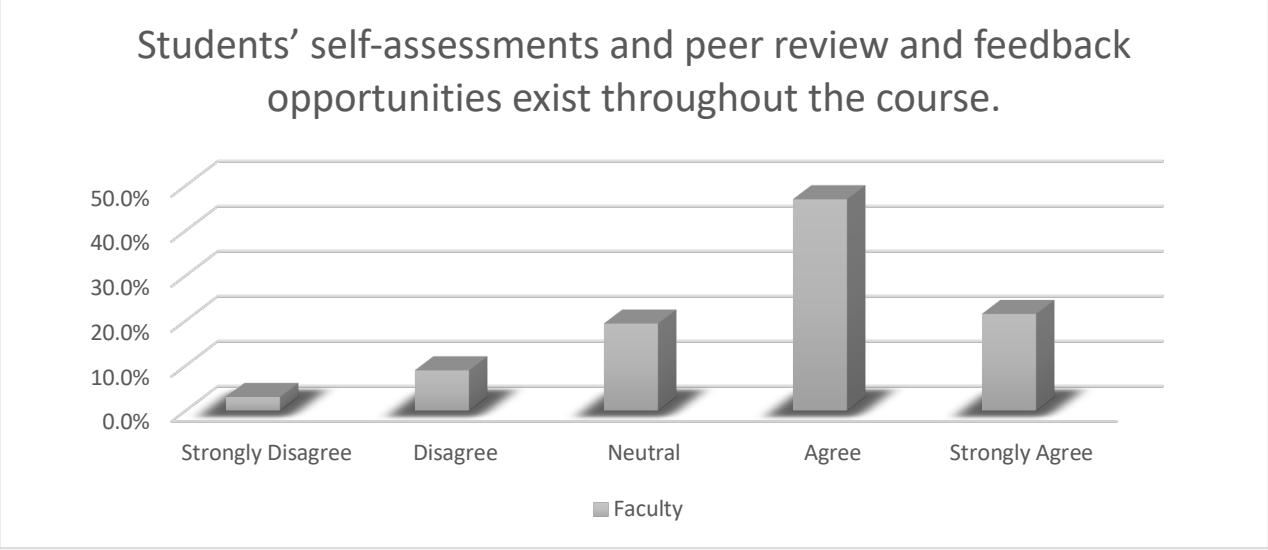


Figure 44

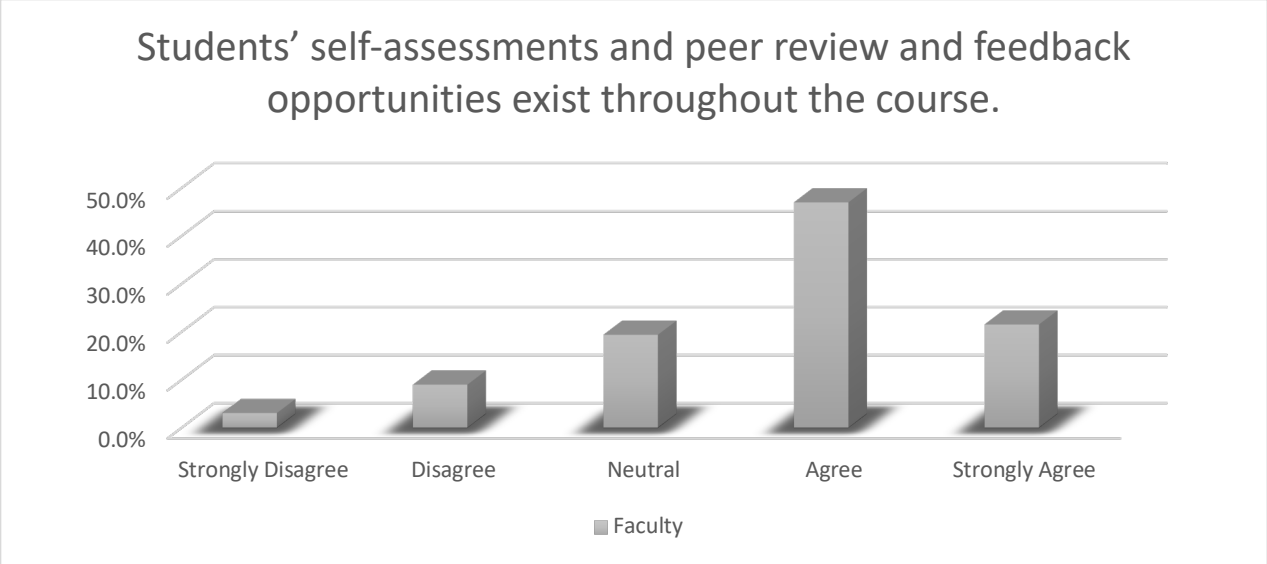


Figure 45

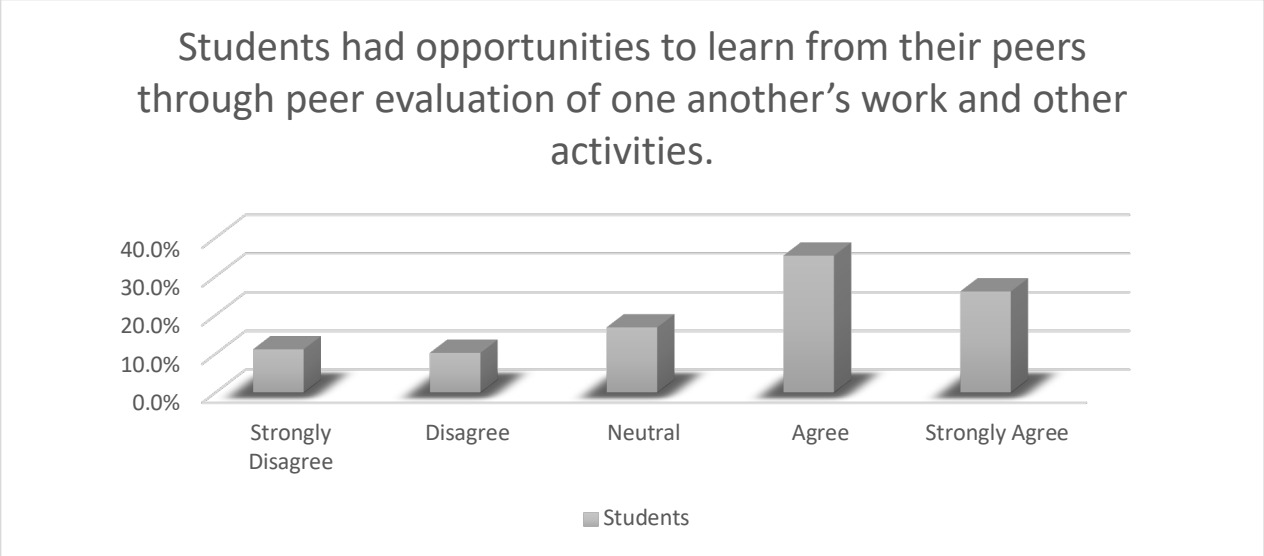


Figure 46

Recommendations addressing the assessment methods subdimension include, as previously, clear communication of assessment opportunities, purposes, expectations, and how the factor into the final grade. Additionally, faculty may benefit from professional development on the design and delivery of both peer- and self-assessment methods in order to maximize their use and value, and to appropriately communicate and provide feedback to students on these items.

Recommendation: Provide faculty with professional development opportunities on the design and delivery of both peer- and self-assessment methods for students.

Target Audience	Faculty
Needs	Provide professional development opportunities on the design and delivery of peer- and self-assessment methods for students
Initiatives	Develop and deliver professional development opportunities for faculty on the design and delivery of peer- and self-assessment methods for students
Goals	Increase the effective use of peer- and self-assessments in courses for the purpose of supporting student learning
Actions	Develop and deliver professional development opportunities for faculty on the design and delivery of peer- and self-assessment methods for students
CSFs	Professional development opportunities are developed and provided to faculty on peer- and self-assessment methods for students
KPIs	• Faculty participate in professional development opportunities • Faculty develop and implement peer- and/or self-assessment opportunities for students

Subdimension: Assessment Types

Measures of satisfaction with assessment types both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID (though satisfied responses decreased only slightly) while neutral, unsatisfied, and very unsatisfied responses increased (Figure 47).

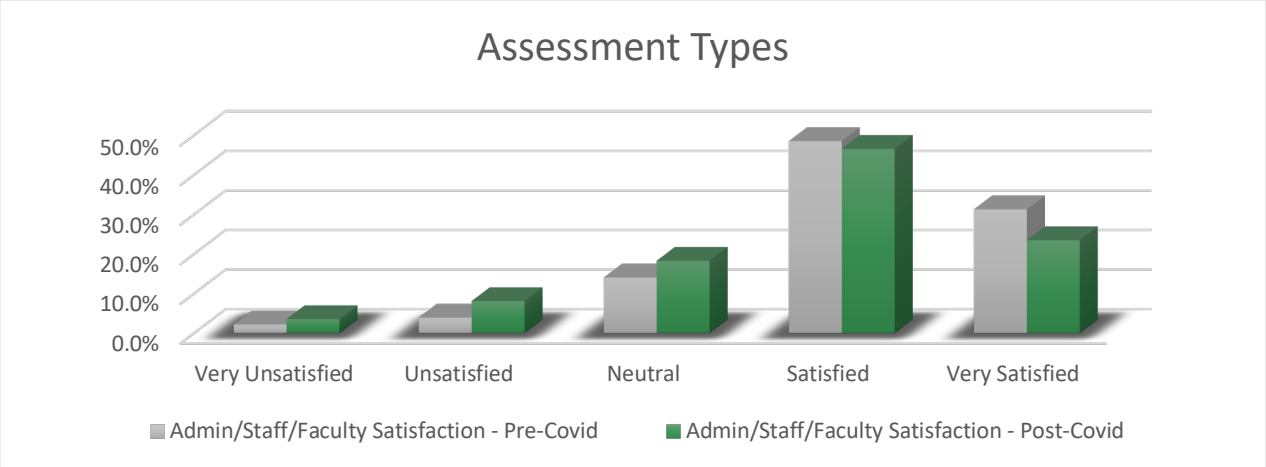


Figure 47

Administrators/staff, faculty, and students were all asked to rate their level of agreement or disagreement with the assertion that "opportunities are present to demonstrate proficiency in ways other than just tests and quizzes." Response patterns by group were in alignment with the other items in the assessment dimension. Again, interview data support these findings, and several examples of varied assessment types are included in their comments. Recommendations for this subdimension include increased volume and clarity of communication to students regarding what is considered assessment, the purpose of each assessment, and expectations and grading for each assessment, which are covered in the detailed recommendations from previous Assessment subdimensions.

Expert Recommendation: Provide opportunities to assess learning at higher levels of knowledge acquisition.

Target Audience	Faculty
Needs	Assessments for higher order thinking
Initiatives	Ensure knowledge acquisition
Goals	Implement assessments to reflect higher order thinking
Actions	Develop assessments (e.g., papers, projects, group activities, etc.) that reflect knowledge acquisition at a higher level
CSFs	Learners acquire needed knowledge
KPIs	Courses include assessment activities that fit higher order thinking on Bloom's Taxonomy

Subdimension: Innovation

Measures of satisfaction with assessment innovation both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID while neutral, unsatisfied, and very unsatisfied responses increased (Figure 48).

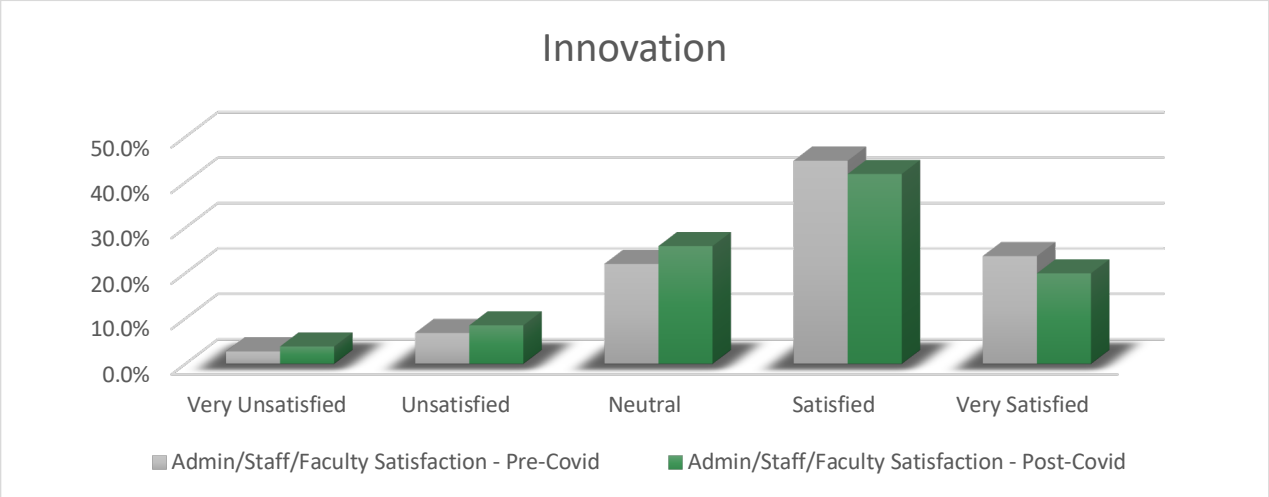


Figure 48

The innovation subdimension for assessment was measured indirectly by a number of the questions described in the previous subdimension findings. Innovation may be measured through queries on new strategies and the inclusion of current and relevant literacies, the use of new methods, and opportunities to demonstrate learning in a variety of ways. Qualitative data indicate high interest in innovative assessments for online courses, both in current practice as well as exploring new opportunities.

The recommendations above are relevant to innovation, as well as direct attention to the discovery and dissemination of innovative assessment strategies, processes, methods, and types. Further, faculty and others should be directly encouraged to include innovative assessments in their online courses, and provided training on design, development, and delivery of these innovations.

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

Target Audience	Faculty
Needs	• Encourage the discovery, dissemination, and implementation of innovative assessment strategies, processes, methods, and types • Provide professional development on the design, development, and delivery of innovative assessment
Initiatives	• Explicitly encourage innovative assessment through communications, activities, and professional development • Develop and implement professional development opportunities on innovative assessment
Goals	Increase the design, development, and delivery of innovative assessment
Actions	• Develop and implement strategies for the discovery and dissemination of innovative assessment techniques • Develop and implement professional development opportunities for faculty on the design, development, and implementation of innovative assessment
CSFs	• Innovation relevant to assessment is actively encouraged • Professional development opportunities related to innovative assessment are provided
KPIs	• Clear encouragement of innovative assessment is communicated to faculty • Faculty participate in professional development opportunities related to assessment • Faculty implement and measure innovative assessment practices in their courses

Dimension V: Technology

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

Prior to COVID, satisfaction measures in the technology dimension indicate overall congruence among administrators, staff, and faculty, and this largely remained following COVID. As supported by survey and interview data, readiness needs were primarily focused on aspects of internet access, coverage, and reliability. Results suggest that improvements were needed pre-COVID on internet access, coverage, and reliability, and these areas were not sufficient to support fully-online course delivery on such a large scale.

Overall findings across administrators and staff, faculty and student groups all indicate generally positive technology and perceptions across all nine subdimensions. Administrators and staff tended to have slightly different perceptions of the state of technology strategy and implementation than did faculty and students. Patterns in the qualitative responses indicate this largely due to the differentiation in campus roles; where administrators and staff are the ones in operational technology roles, faculty and students are in the roles of technology customer, thus not as knowledgeable of the technology landscape at the operational strategy level.

Subdimension: Centralized Infrastructure

Measures of satisfaction with centralized infrastructure both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that post-COVID, satisfied responses decreased but very satisfied responses increased (Figure 49).

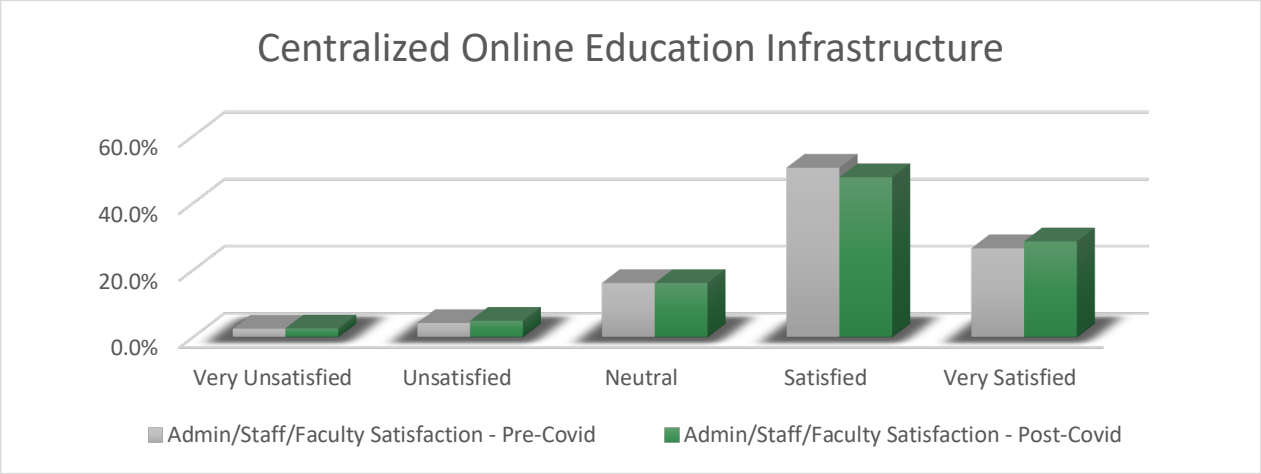


Figure 49

Administrators and staff noted that centralized support infrastructure was made widely available, including support for building and maintaining the technical infrastructure with 46.1% saying they agreed and 27.8% saying they strongly agreed.

The qualitative data is supportive in the sense of the availability and variety of technical offerings with the caveat of capacity. “We have invested a lot in our technology, in our network, high speed network, on the equipment, the pieces, the headphones, the cameras, the latest technologies… everything is connected together” says one respondent, while another says “Our real problem is we struggle with the infrastructure a little bit because we didn’t expect that huge usage of Internet in the ecampus. Or in our server.”

Recommendation: Evaluate technology infrastructure to ensure that it is sufficient to meet current and upcoming demands, and create and implement improvement plans as appropriate.

Target Audience	Administrators, Staff
Needs	Evaluate technology infrastructure to ensure that it is sufficient to meet demand; create and implement improvement plans as appropriate
Initiatives	• Evaluate technology infrastructure • Utilize evaluation results to create and implement any necessary improvement plans
Goals	Ensure that technology infrastructure is sufficient to meet current and anticipated demands, increasing the likelihood of smooth online learning experiences for faculty and students
Actions	• Evaluate technology infrastructure • Utilize evaluation results to create and implement improvement plans as needed
CSFs	• Technology infrastructure is evaluated for ability to meet demand • Results are utilized to create and implement any necessary plans for improvement
KPIs	• Technology capabilities and capacities are understood and needs identified • Technology infrastructure is improved as needed to support demand • Technology infrastructure adequately meets the needs of faculty and students

Subdimensions: Internet Access, Reliability

Measures of satisfaction with internet access both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 50).

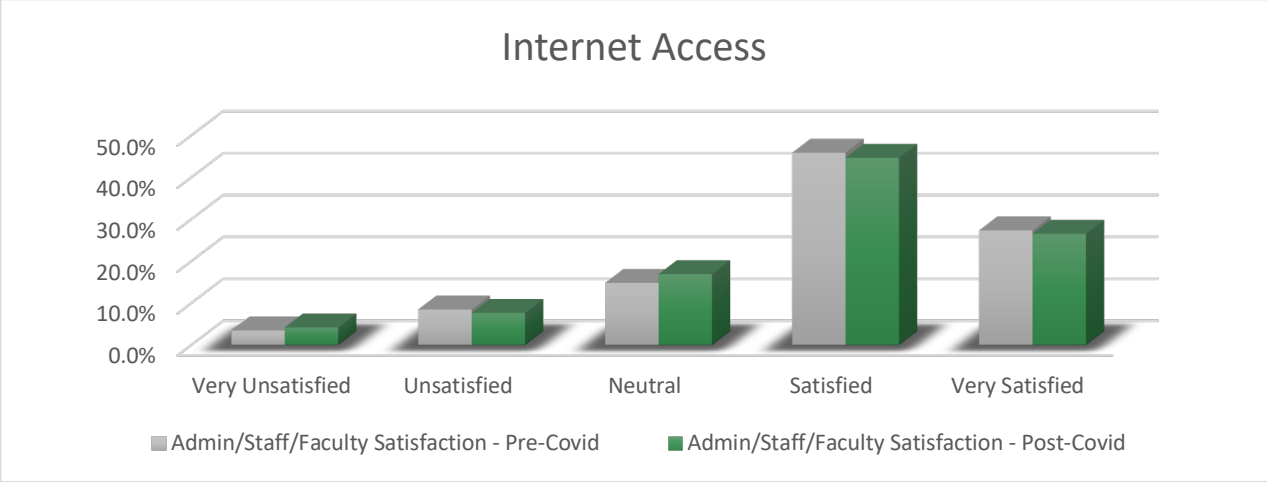


Figure 50

Measures of satisfaction with reliability both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 51).

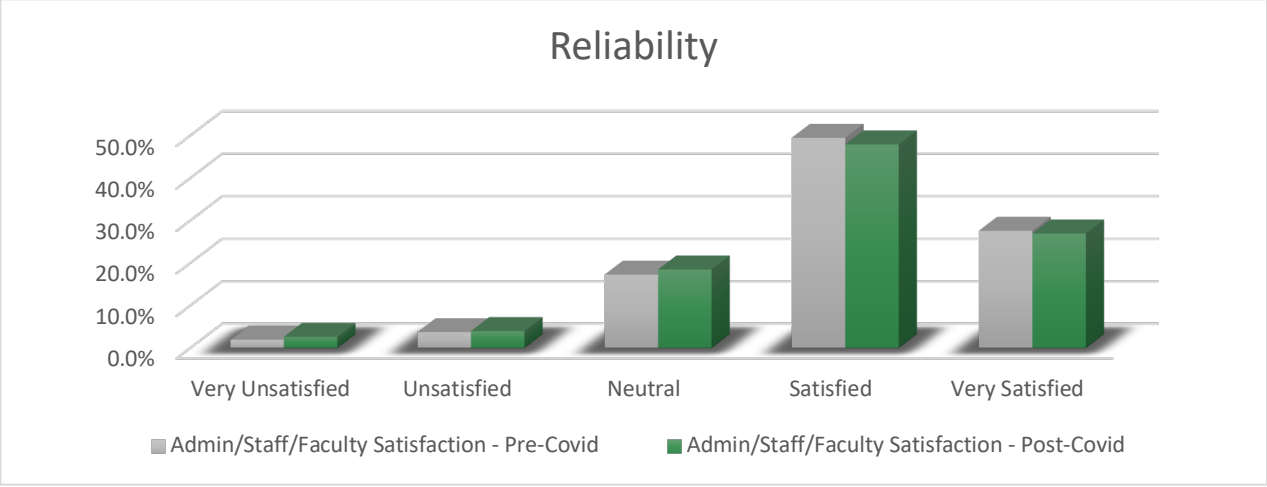


Figure 51

The subdimensions of Internet access and reliability are closely linked as they were frequently referenced together in the qualitative data. While overall technology reliability was seen as relatively high across all respondents, the same was not found for Internet reliability. Internet access was viewed as critical to success across all of the respondent categories, but answers were mixed as to whether access was available in widespread, reliable ways. While 66.9% of students reported that they either agreed or strongly agreed that they have internet available anytime to work online, only 51.5% agreed or strongly agreed that the institution provided reliable access to wireless Internet (Figure 52). This contrasts with the and 69.8% and 72.3% of administrative staff and faculty respectively say the institution provides reliable access to wireless internet, the qualitative data tells a slightly different story. Internet access on campus may be widely available, but it is unclear as to whether students have reliable access at a distance. “Some are from far places or some villages, you know, not actually the city’s students… They find some difficulties ... joining the lecture all the time. They are going out and joining in again

because of the Internet," said one faculty member. "Our real problem," said another, "is that most, some of them, they have weak computers, weak connection. So that's the challenging part of teaching online."

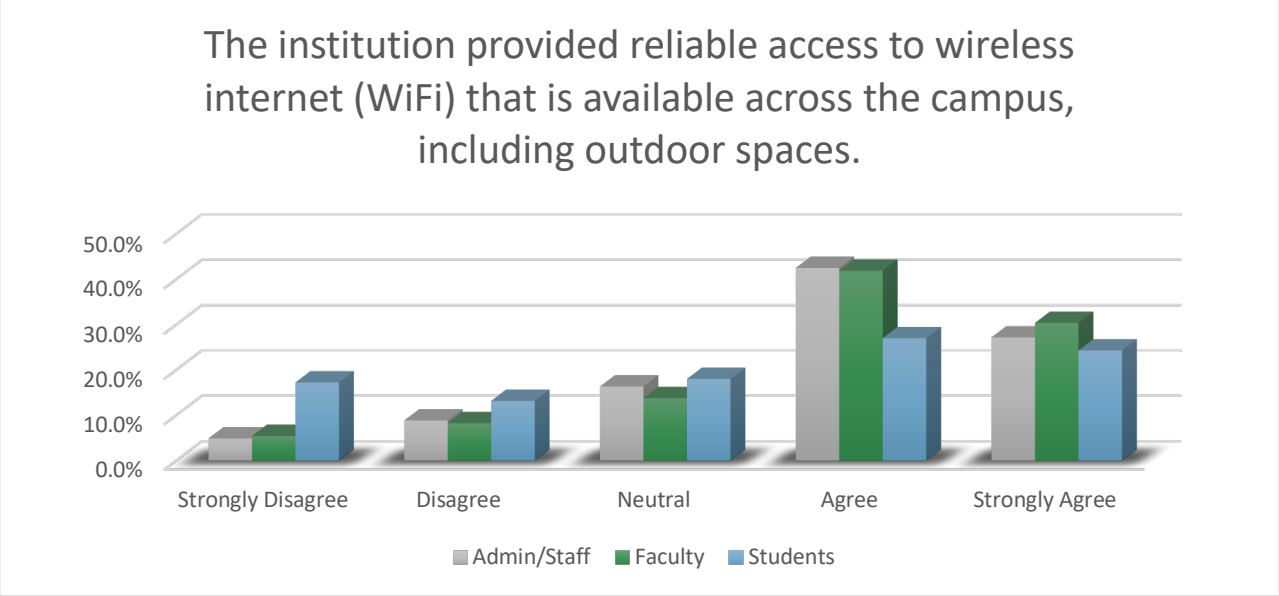


Figure 52

Recommendation: Given challenges with identifying whether Internet access will be reliable, or where students will be located when completing their online courses, alternatives should be considered such as a reduction in the number of synchronous course meetings, or technology and faculty development working together to support faculty in offering different, flexible access options that do not rely heavily on immediately accessible technology.

Target Audience	Administrators, Staff, Faculty
Needs	Flexible options for completing online courses to account for internet reliability and/or student needs
Initiatives	• Develop and implement flexible course participation and completion options • Collaborations between faculty and technology administrators/staff to support flexible course options
Goals	Improve the ability of faculty and students to successfully engage in online education
Actions	Develop, implement, and support flexible options for course participation and completion
CSFs	Presence and awareness of flexible course participation and completion options
KPIs	• Faculty and student use of flexible options to support online learning • Evaluations and feedback indicate efficacy and result in recommendations for potential improvements

A secondary recommendation that emerged repeatedly in the qualitative data was the idea of using university funds to procure and distribute needed equipment such as functional laptops to students and faculty for the purposes of support in not only the ability to access learning materials, but in ease of support for administrators and staff who would then maintain a consistent fleet of technology across the board. While this recommendation is not directly related to modality, it is related to the primary recommendation for this subdimension (above) and bears consideration for effective faculty and student support.

Subdimension: Information Technology Service Management (ITSM) Compliance

Measures of satisfaction with ITSM compliance both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 53).

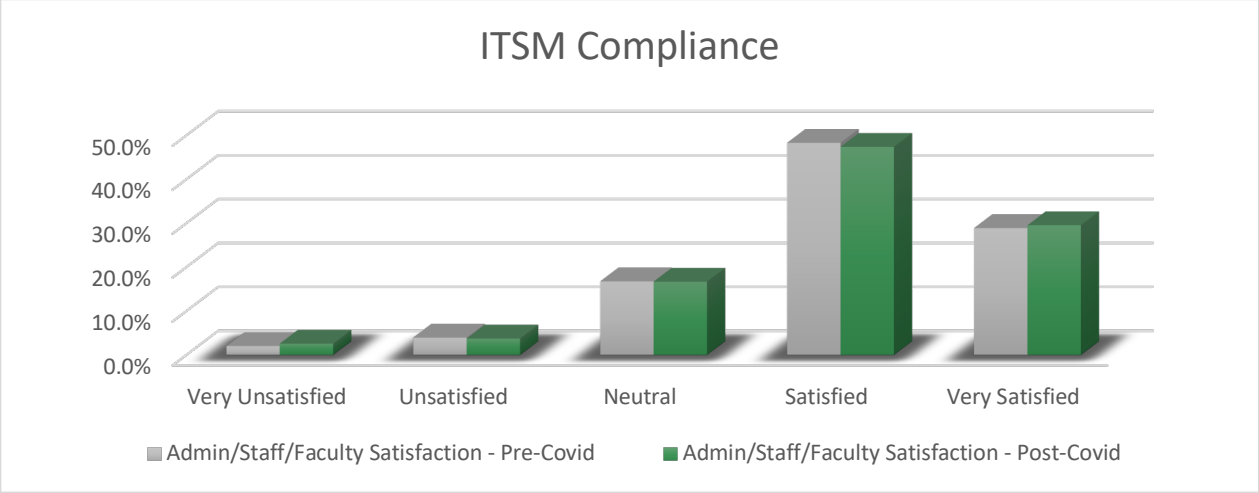


Figure 53

Administrators and staff noted strongly that an IT Service Management (ITSM) plan was in place to design, plan, deliver, operate, and control information technology in support of online program development; 46.6% agreed while 30% strongly agreed. In the qualitative data, service lines were evident in regard to technology support such as server and desktop help, but less evident in academic technology or instructional design support. In regard to planning support, one respondent said “we were only talking about the infrastructure level of the IT technology, like assisting our labs, increasing number of laptops” while another noted difficulties “dealing with the support of instructors and they’re still figuring out the Blackboard and the online teaching aspect for the lecture based courses moving online.”

Recommendation: Create faculty development and support materials around how the academic technologies offered by IT work, and incorporate these services purposely into overall ITSM structures.

Target Audience	Faculty
Needs	Faculty development and support materials on the academic technologies supported by IT
Initiatives	Develop and disseminate faculty development and support materials related to academic technologies' use and available support through IT
Goals	To ensure awareness and support for academic technologies, including instructional design support and just-in-time technical resources
Actions	Develop and disseminate faculty development and support materials related to academic technologies supported by IT
CSFs	• Faculty development and support materials related to academic technologies are developed • Communications are provided regarding these resources to increase faculty awareness and use of academic technologies and associated support needs
KPIs	• Faculty development and support materials related to academic technologies are developed, disseminated, and accessed by faculty • Increased use of academic technologies and/or support resources

Subdimension: Modality

Measures of satisfaction with modality both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 54).

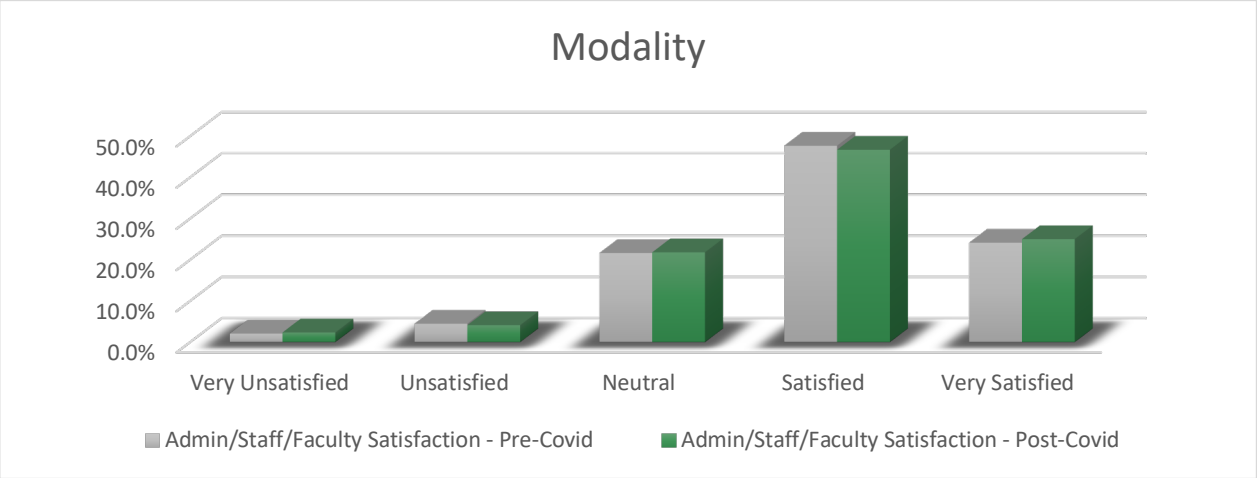


Figure 54

Students were generally in agreement that online courses were delivered with an effective mix of synchronous or asynchronous delivery, depending on the learning outcomes. While 18.9% were neutral about the mix, 38.1% of students were in agreement and 28.8% strongly agreed that they experienced both modalities depending on the delivery needs of their learning objectives. This is in strong contrast with faculty who report at 53.2% agreement and 27.7% strongly in agreement. Administrators and staff strongly agreed more at 29.2%, but tended to be between faculty and student ratings (Figure 55).

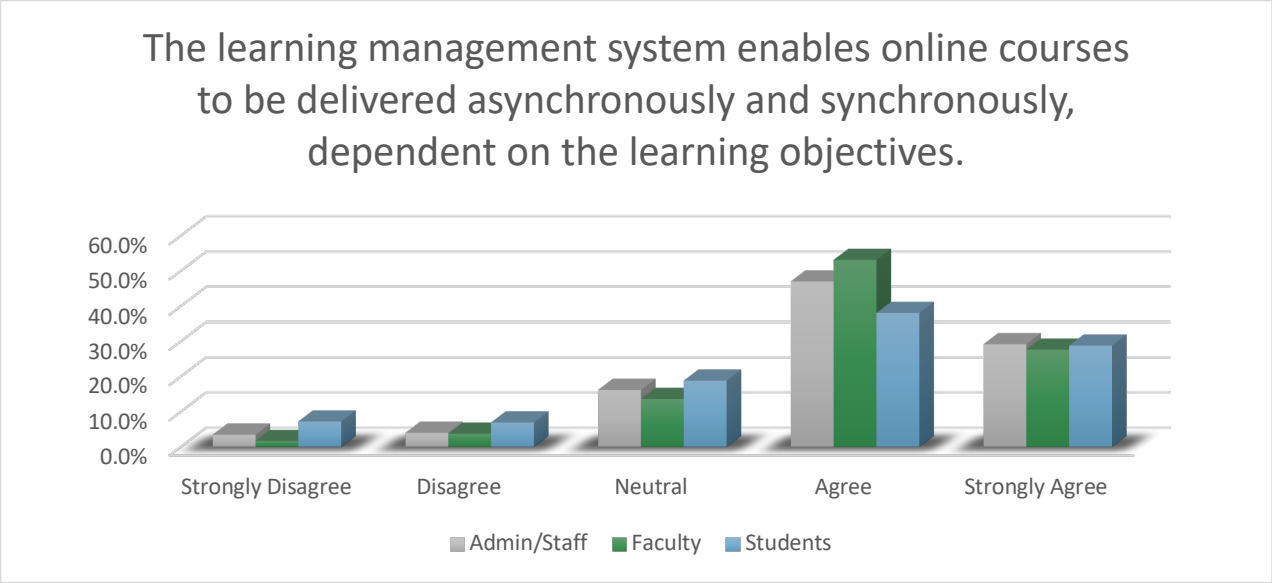


Figure 55

Recommendation: Evaluate student experiences, needs, and perceptions regarding synchronous and asynchronous learning in online courses and incorporate findings into course design and delivery.

Target Audience	Students
Needs	Understand student experiences, needs, and perceptions regarding synchronous and asynchronous learning, and utilize those findings to inform course design and delivery decisions
Initiatives	• Evaluate student experiences, needs, and perceptions regarding synchronous and asynchronous learning in online courses • Include findings in course design and delivery decision-making
Goals	Support successful student learning experiences through the evaluation of synchronous and asynchronous experiences, needs, and perceptions and implementation of effective course design and delivery to support student needs
Actions	• Gather student feedback on their experiences, needs, and perceptions regarding synchronous and asynchronous online learning • Evaluate feedback and incorporate findings in decision-making processes for online course design and delivery
CSFs	• Student feedback is collected • Feedback is evaluated for student needs • Needs are addressed through course design and delivery
KPIs	• Student feedback regarding experiences, needs, and perceptions of synchronous and asynchronous online learning is regularly collected, evaluated, and incorporated into course design and delivery • Student feedback and course outcomes indicate effective course design and delivery

Subdimensions: Operability, Security

Measures of satisfaction with operability both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 56).

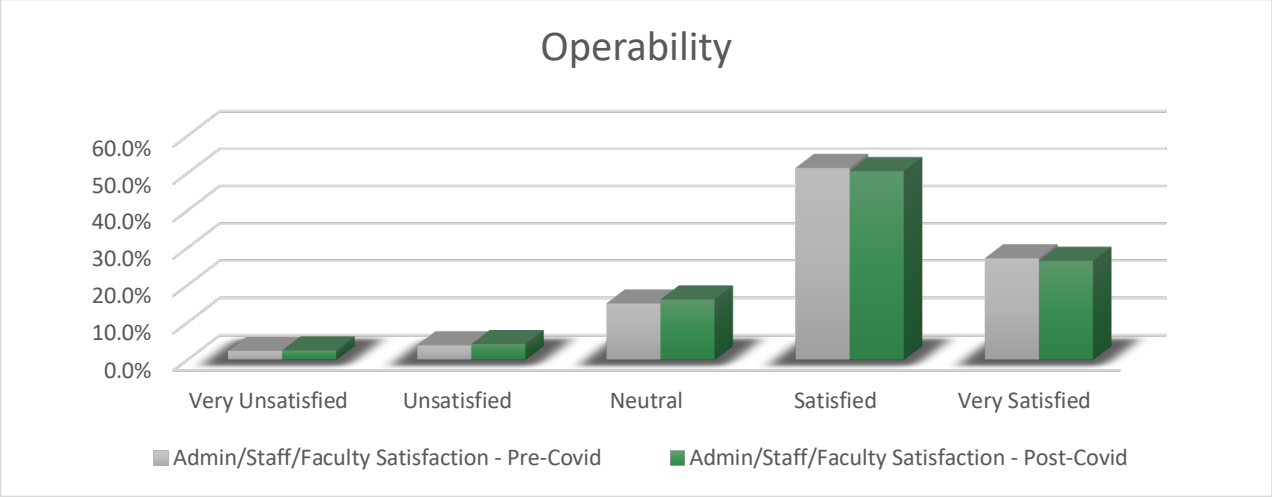


Figure 56

Measures of satisfaction with security both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 57).

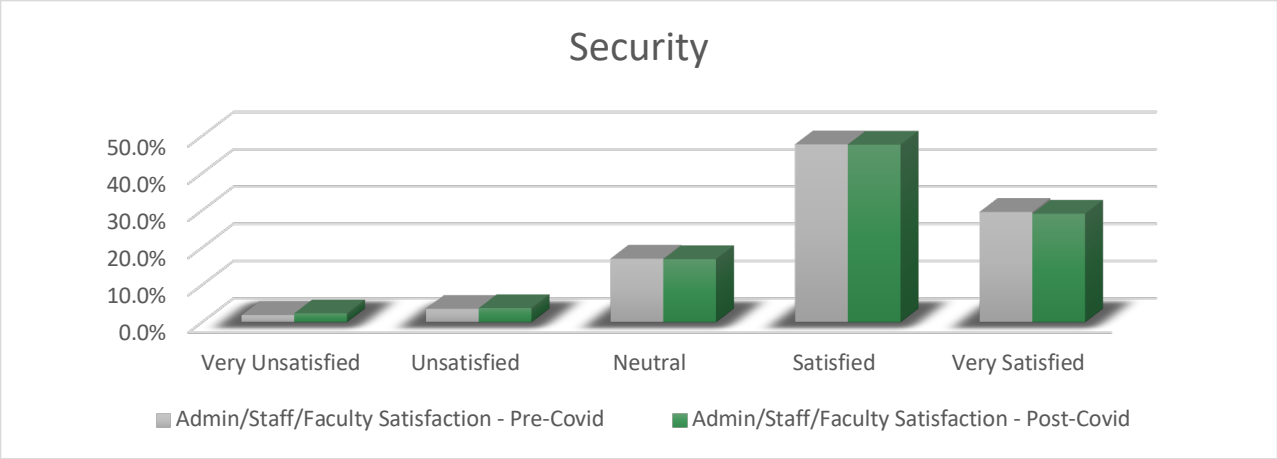


Figure 57

Subdimensions operability and security work closely in the support of online education. When asked if the learning management system, the primary delivery mechanism for online courses, had an established interoperability protocol established so that embedded applications could provide a seamless experience, 70.3% of administrators and staff either agreed or strongly agreed. In regard to security, 76% of administrators and staff either agreed or strongly agreed that digital security measures were in place to ensure the integrity and validity of information including identity access.

Recommendation: Operability and security should be regularly monitored and functionality maintained and updated as needed.

Target Audience	Administrators, Staff
Needs	Regular monitoring
Initiatives	Operable and secure technology to support online learning
Goals	Ensure the regular functioning and security of technology to support online learning
Actions	Establish protocols for regular review of the learning management system and other technologies to ensure they continue to operate as required and remain secure
CSFs	Functioning technology to support online learning
KPIs	• No, or limited, downtime for the learning management system or other technologies • No security breaches with the learning management system or other technologies

Subdimension: Technology Plan

Administrators and staff are varied in their answers about whether there is a documented technology strategic plan in place to ensure quality standards in online learning. While 45.7% agreed and 25.8% strongly agreed, 18.7% reported being neutral in their perceptions. Patterns in the qualitative data indicate that while the strategic technology plan may be known, its connection to online learning may not always be as evident. That said, the clearest connection in the qualitative data between the strategic technology plan and the success of online learning was in instructional technology support such as faculty development. “We are moving to more often giving trainings on instruction of technology and also how the courses could be standardized,” said one respondent. “So far we have finished a plan of how to create and produce courses. We’re trying also to provide more resources for how tools could be used for that purpose.”

Recommendation: Administrators/staff and faculty receive communications regarding technology plans, including clear indicators of how the plan is connected to, and supports, online education.

Target Audience	Administrators/staff and Faculty
Needs	Increase awareness of technology plans and how they connect with and support online education
Initiatives	Develop and implement a communication plan for administrators/staff and faculty regarding technology plans and online education
Goals	Increase awareness and understanding of technology plans, particularly as related to online education in order to better support stakeholder needs
Actions	Develop and implement a communication plan for administrators/staff and faculty regarding technology plans and online education
CSFs	Communications are provided to administrators/staff and faculty regarding technology plans and online education
KPIs	Administrators/staff and faculty report increased awareness of technology plans and how they connect with and support online education

Subdimension: Coverage

Measures of satisfaction with coverage both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 58).

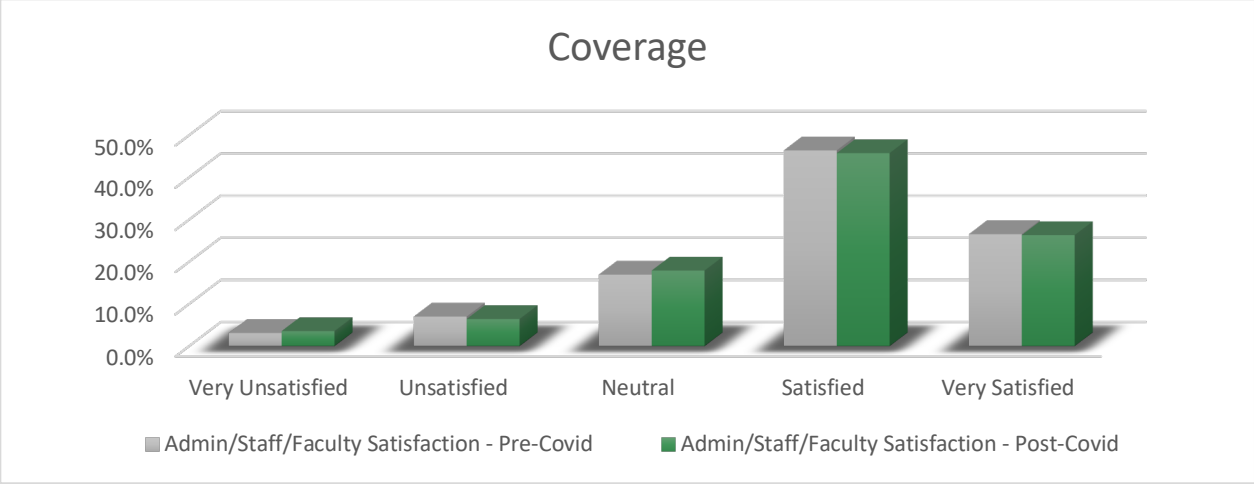


Figure 58

Administrators, staff, and faculty mostly felt that their institution had sufficient coverage and were generally satisfied pre- and post-COVID-19. Administrators/staff reported at 71.9% and faculty at 75.1% that the technology used supports students as they access and move through an online course (Figure 59).

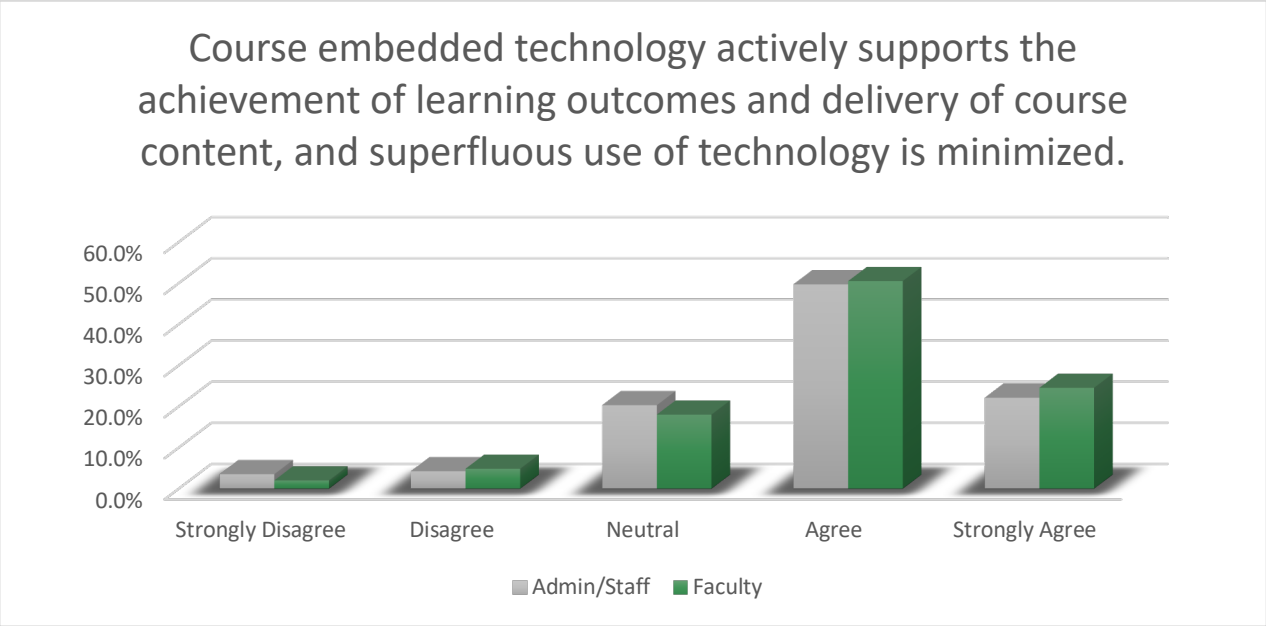


Figure 59

Students reported far greater extremes for coverage with stronger disagreement, but also stronger agreement. However, 73.1% of students agreed or strongly agreed that they were able to access all that they needed for online learning in one place (Figure 60).

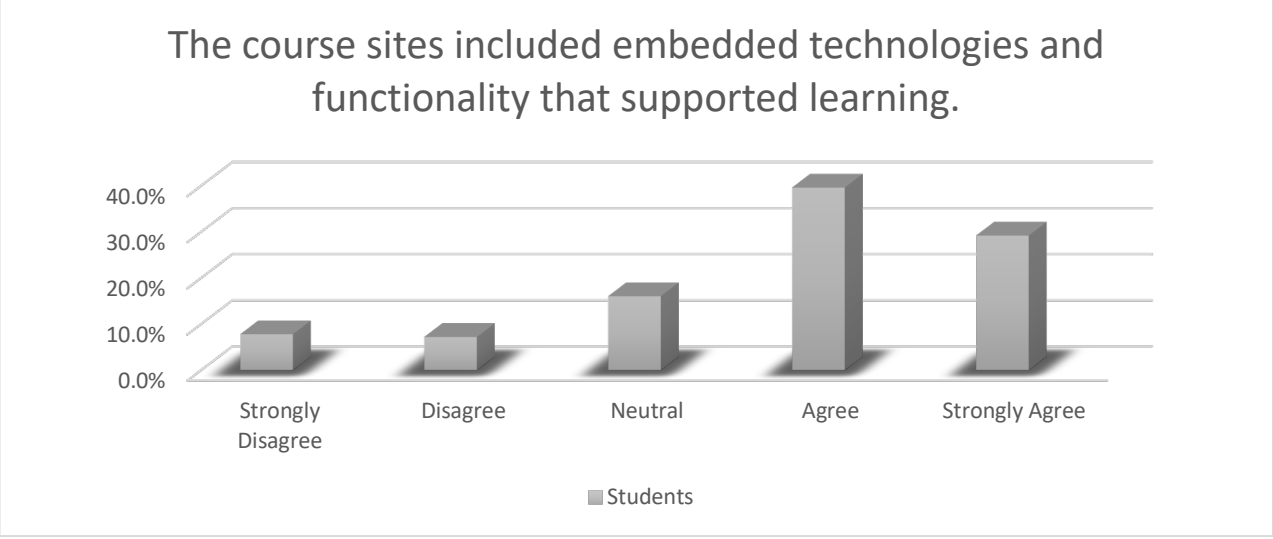


Figure 60

Recommendation: Continual monitoring of coverage and access to online learning needs for administrators/staff, faculty, and students.

Target Audience	Administrators, staff, faculty, and students
Needs	Regular monitoring
Initiatives	Continuous coverage and access to online learning technology
Goals	Ensure that administrators, staff, faculty, and students are able to access technology needed for online courses
Actions	Establish programs for review of technologies to make sure access is maintained
CSFs	Technologies available to administrators, staff, faculty, and students
KPIs	Coverage and access to online learning technologies maintained

Subdimension: Innovation

Measures of satisfaction with technology innovation both pre- and post-COVID, among both administrators/staff and faculty indicate that the majority of participants are overall satisfied or very satisfied. Post-COVID, satisfied responses decreased slightly and neutral responses increased (Figure 61).

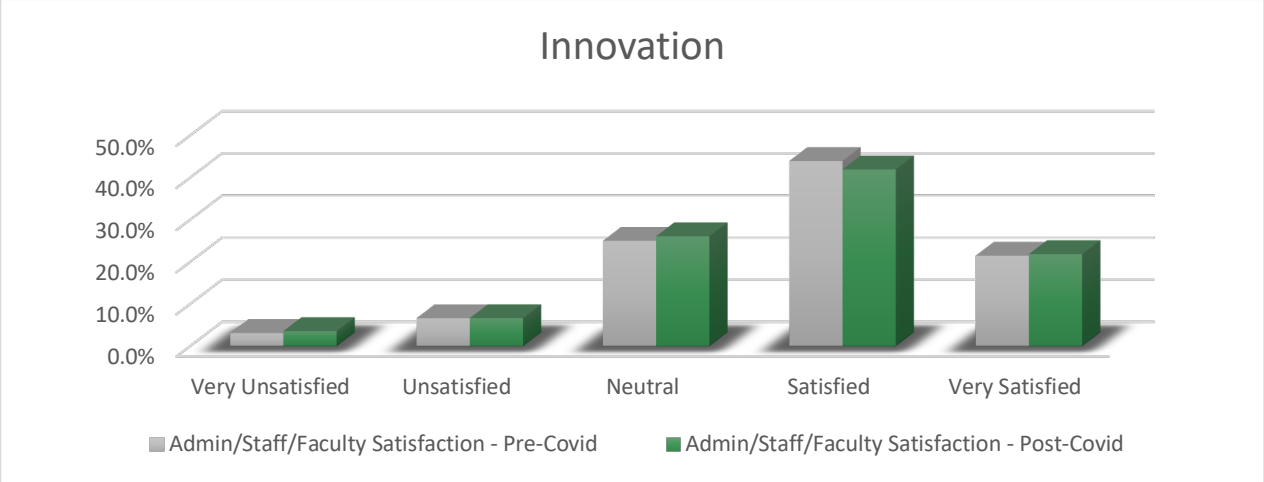


Figure 61

Overall, administrators, staff, and faculty report that they are satisfied with their institution's online learning innovation. Administrators/staff (73.3%) and faculty (72.4%) report that their institution pilots, supports, and encourages innovative technologies; however, students report lower at 64.4% (Figure 62).

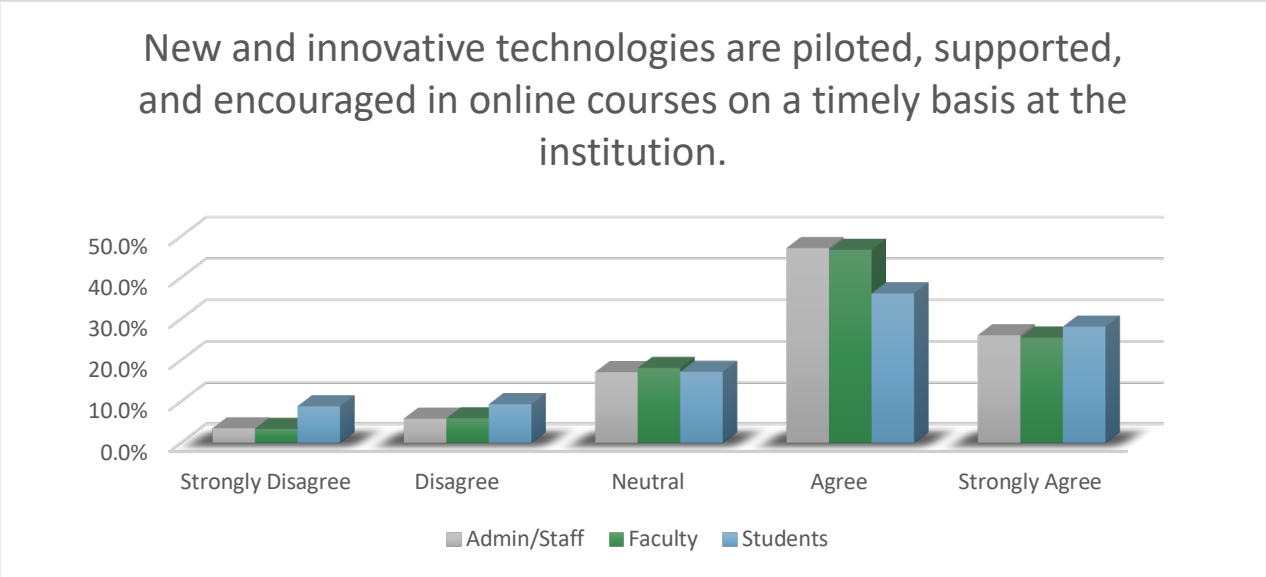


Figure 62

Recommendation: Provide opportunities for student feedback regarding innovative technology.

Target Audience	Students
Needs	Include student feedback regarding the use and implementation of innovative technology
Initiatives	Provide opportunities for students to give feedback on implemented tools/practices, and for them to share their thoughts, needs, and ideas on innovation
Goals	Increase student awareness of innovative practices and incorporate their feedback as appropriate in continual improvement of technology innovation
Actions	Develop and implement opportunities for student feedback on the success and development of innovative practices in technology
CSFs	Student feedback opportunities are provided
KPIs	Student feedback is evaluated and incorporated into decision-making on innovative practices

Dimension VI: Student Support

The Student Support dimension measures five subdimensions including Student Orientation, Equity, Accessibility, Compliance Standards, and Innovation.

Prior to COVID, satisfaction measures in the student support dimension indicated positive responses, through survey and interview data indicate that readiness for supporting students in a fully online environment needed improvement across all subdimensions, with the exception of compliance standards. As detailed below, this

dimension revealed interesting differences with regard to perception of readiness between private and public university respondents.

The findings in the Student Support dimension indicate a discrepancy between the students' experiences and the administrators/staff and faculty perceptions of the availability of student support for their online courses provided when the global pandemic prompted a rapid, worldwide adoption of remote learning. The disparity between the groups' opinions remains consistent within each of the five subdimensions with exception of Compliance Standards. All three stakeholder groups reported similar, positive responses regarding institutional adherence to policies and agreements. Administrators/staff and faculty perceptions remain aligned across all subdimensions, suggesting positive communication strategies and effective interactions regarding student support. While the students' responses remained constant in their relation to the administrators/staff and faculty opinions, they vary significantly by the students' institution type (public or private). The interview data provides a broader picture of the variability in institutional approaches to repositioning all courses to the digital environment.

As displayed in the graphs at the start of each subdimension, there was very little change in the administrators/staff and faculty pre- and post-Covid-19 satisfaction with student support subdimensions. This data point is perplexing when juxtaposed with students' opinions of institutional readiness for online learning and deserves further analysis.

The interview format provided the students, administrators/staff, and faculty an opportunity to share unstructured responses that afforded insight into the unanticipated obstacles many students had to overcome during their online learning. Learning from home presented many unexpected challenges for both students and faculty. A public university faculty honed in on the unforeseen chaos of shared learning: "You're doing it in the comfort of your own home. But at the same time, everybody is at home. And so you're kind of trying to adapt your schedule to everyone that is learning with you and using platforms, especially if you're a mom. You have to make sure your children are opening their laptops and doing that online, learning as well. And I think it's, you know, overwhelming for the students as well." Several students noted the stress, anxiety, and mental confusion stimulated by the appearance of a rare global pandemic. One public university student worded the experience very succinctly: **"**I think we were all mentally unstable." The student concluded: "So I think it affected our grades and our learning."

As noted, the students' experiences varied by institution type. The data suggests that many students enrolled in private universities were unfamiliar with online learning, and this inexperience informed their beliefs about their institution's preparedness for distance education. Public university students had a more positive perspective on their institutions' readiness for the rapid conversion. While almost 40% of students attending public universities found the COVID-19 transition to be relatively smooth, none of the students attending private universities reported a seamless transition.

Subdimension: Orientation and Support

Measures of satisfaction with orientation and support both pre- and post-COVID, among both administrators/staff and faculty indicate that the majority of participants are overall satisfied or very satisfied. Post-COVID, very

satisfied responses decreased, neutral responses increased and there were slight increases in unsatisfied and very unsatisfied responses (Figure 63).

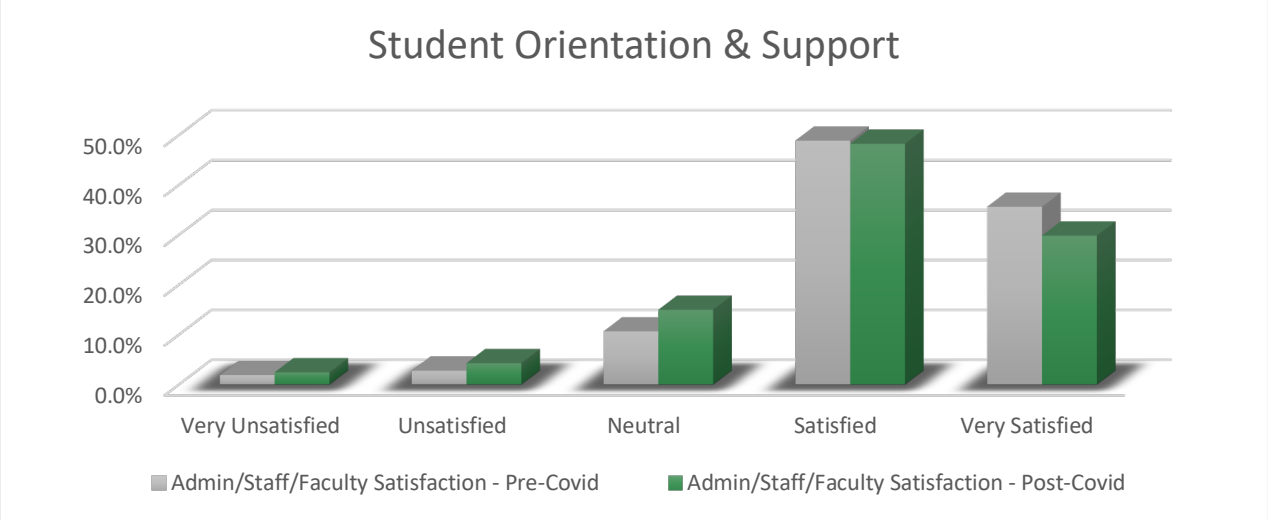


Figure 63

Early and ongoing orientation and training opportunities can set clear expectations and accelerate the learning in digital education spaces. During the interview, one private university student posited his thoughts on the need for an orientation: "Maybe it was because it was our first time to use the online apps and programs. We never had online courses before, so we didn't know how to use it. But after they announced that we had to take the online courses, they sent us an email with instructions on how to use it…." A faculty member at a public institution reflected on the need for clearly stated, upfront expectations: "So I think once everybody understands what's expected or how they're expected to learn online, then I think it makes it a little bit easier to determine basic methods of what we need to do."

Students, administrators/staff, and faculty were asked to rate their agreement with the availability of several student support services (Figure 64). Administrators/staff, faculty, and students agreed that institutions provided them with an orientation to the course design and technologies, (81%, 84%, and 72%, respectively), information on university technology and academic support resources (82%, 84%, and 68%, respectively), and access to personnel who could assist them with their technology and academic support needs (81%, 80%, 67%, respectively). While approximately two-thirds of students agreed that the services were made available to them, Figures 64 and 65 display the students' reported usage and helpfulness of the resources. More than 90% of students made use of the program technology help desk and other faculty when seeking assistance, and the vast majority noted some degree of satisfaction with the service they received. The data indicates that students relied upon friends, not classmates, during this time, which could suggest a need for emotional and social support.

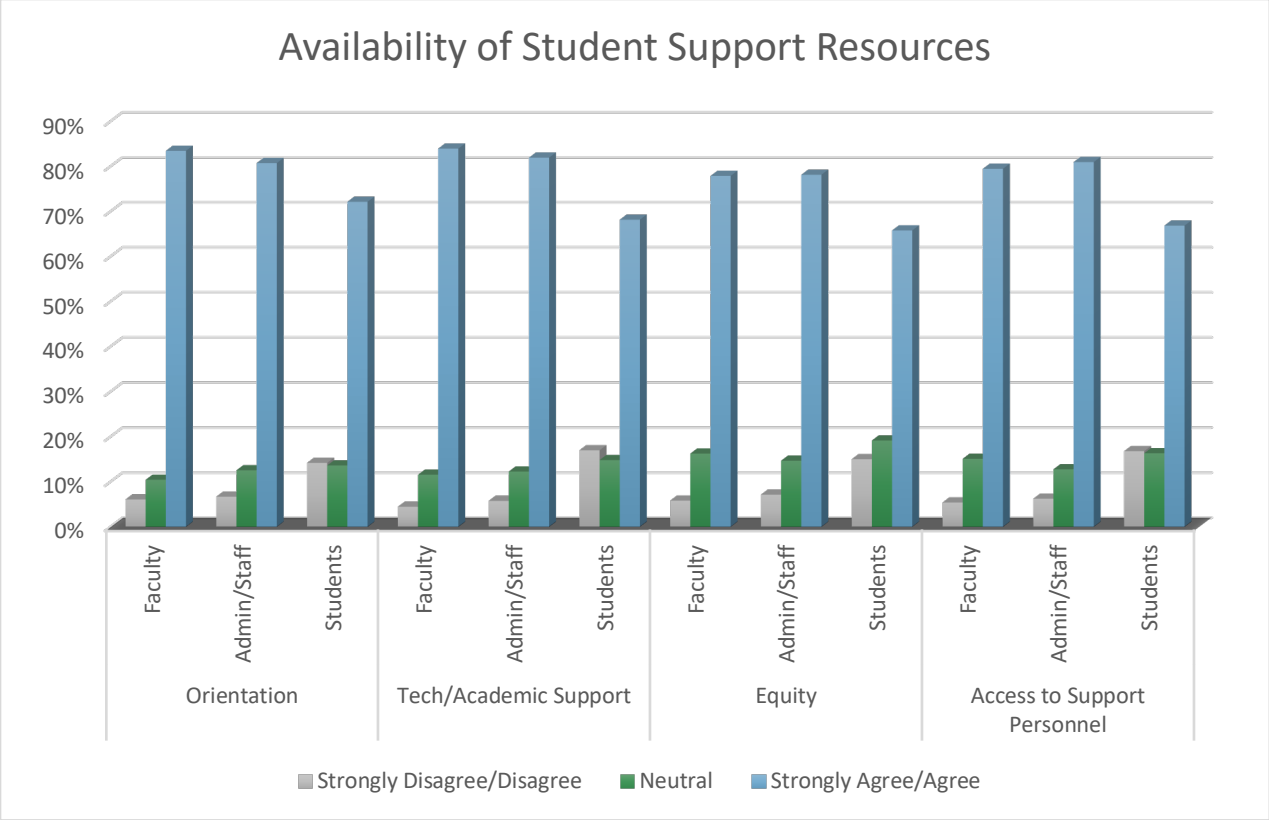


Figure 64

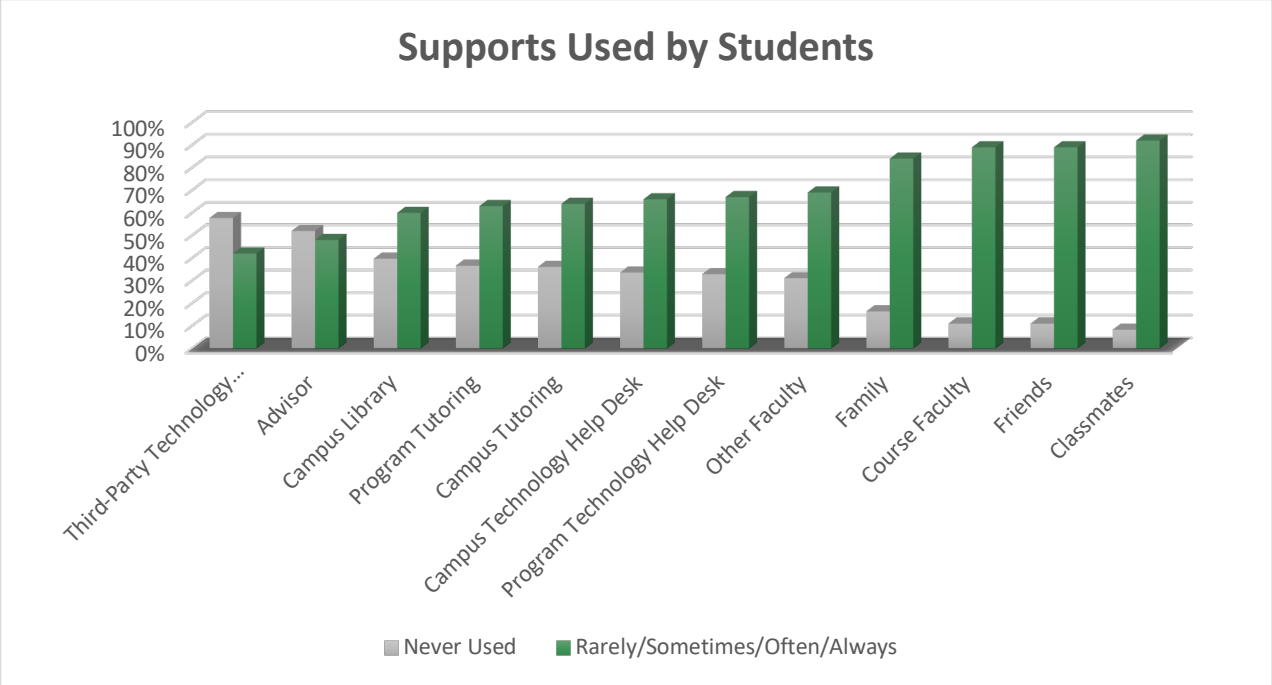


Figure 65

A caveat, the students did not report the nature of the help they requested from each source. The interviews supplement this data by providing more context to the problems students hoped to resolve. Many faculty and staff noted the rapid transition led to an increased need for them to provide assistance to students outside of the course content. For example, a staff member from a private university commented: "Our students are e-mailing us and chatting with us about other issues not related to e-learning. Sometimes they ask us about registration and admin and admission… Sometimes they ask us about their concerns regarding tuition or payment or any other issues. So I believe they choose us over the department because we respond quickly and immediately and we provide feedback that they believe or they can rely on." Several students noted the delay in response time to requests that required immediate resolution including one private university student: "…they couldn't respond to us quickly because there were a lot of questions from students." A staff member at a public university buttressed the student's concerns: "The pace of courses required quick response."

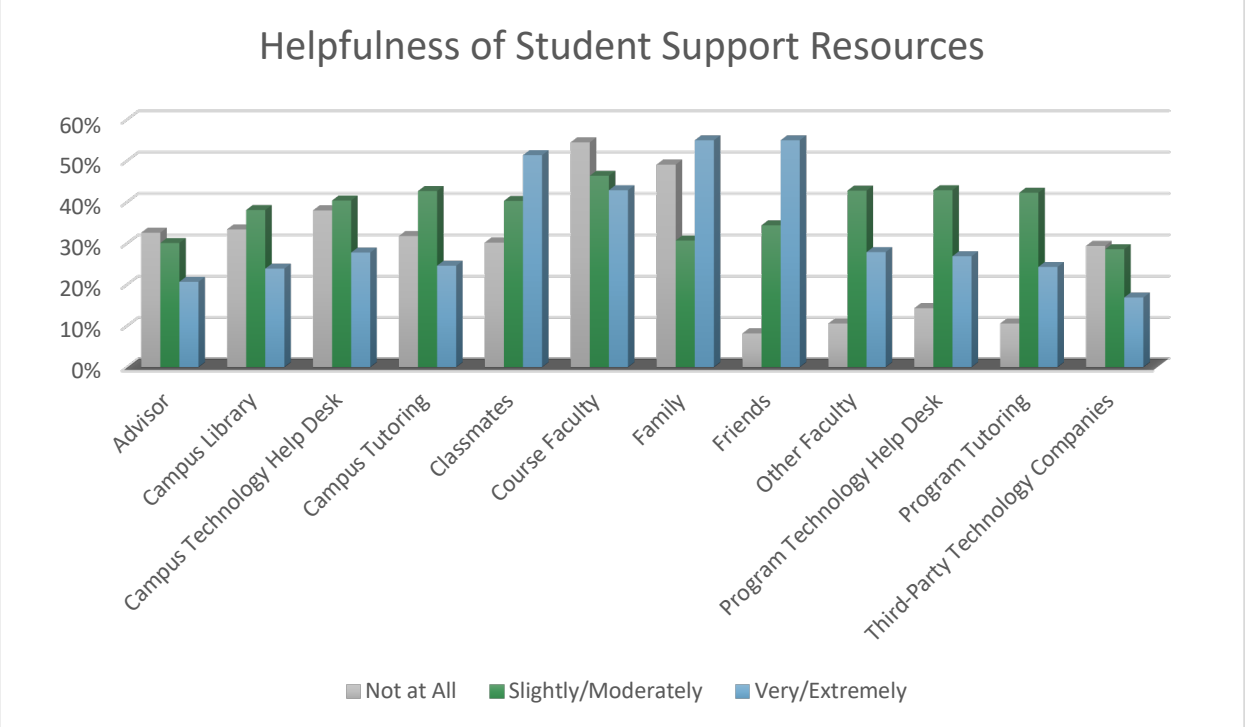


Figure 66

Recommendation: Ensure availability of orientations and student resources targeted to support students and faculty in online learning environments.

Target Audience	Faculty, Students, Advisors, Information Technology Staff, Instructional Designers
Needs	• Reduce response time to address student problems/complaints • Increased availability of students support services to address the specific needs of students in online learning environments
Initiatives	Ensure technology training, tools/hardware, and resources to support best practices and academic success are available to all faculty and students engaged in online learning
Goals	Enrich and support the student and faculty online learning experience to ensure successful student outcomes
Actions	• Extend the breadth and depth of orientation topics • Introduce Online Learning Readiness assessment prior to enrollment in online courses • Provide voluntary, interactive training opportunities • Invest in technology/staffing ○ to scale, streamline student problem/complaint mechanisms and reduce response time; ○ to deliver online resources comparable to those available to on-campus students; and ○ to ensure all faculty and students in online courses have required technology tools
CSFs	• The technology and teaching and learning requirements for online courses is clearly communicated to faculty and students • The availability of student support resources is clearly communicated to faculty, advisors, and students
KPIs	• Students' surveys and feedback report prompt responses to problems/complaints • Students' surveys and feedback report the availability and helpfulness of support services

Expert Recommendation: Provide student support equal to those provided to face-to-face students.

Target Audience	Administrators, staff
Needs	Student support for online learners
Initiatives	Provide student services to online learners that is equivalent to services provided in-person
Goals	Provide services through virtual modality for students unable to access in-person
Actions	Review existing student services and provide options for online students to access
CSFs	Improved service to online students
KPIs	Online students able to access needed services through virtual modality

Subdimension: Equity

Measures of satisfaction with equity both pre- and post-COVID, among both administrators/staff and faculty indicate that the majority of participants are overall satisfied or very satisfied. Post-COVID, satisfied and very satisfied responses decreased and neutral, unsatisfied and very unsatisfied responses increased (Figure 67).

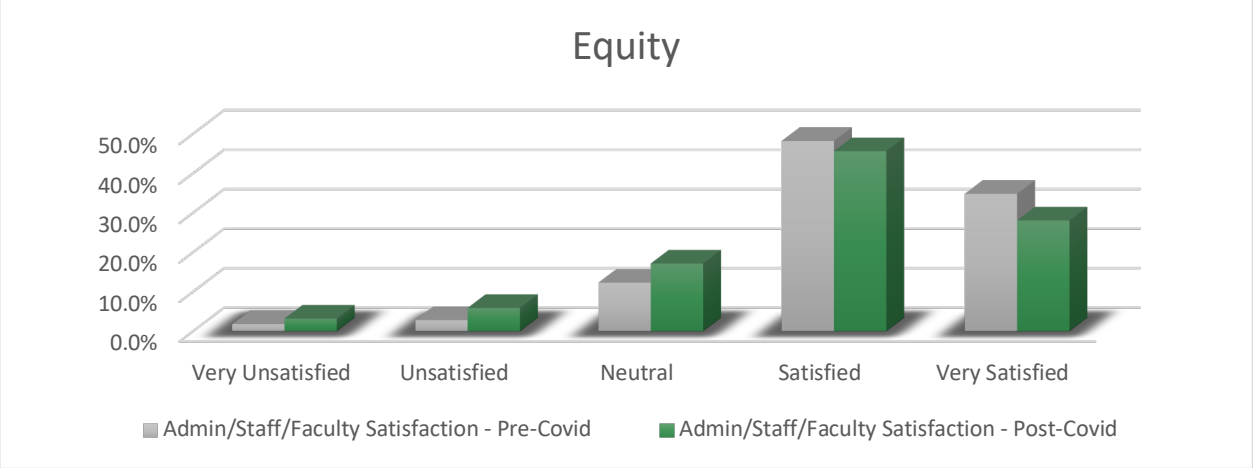


Figure 67

All students, including underrepresented students, need the ability to access the resources (e.g., technology, course materials, support) to achieve academic success. According to the survey data, the majority of administrators/staff (78%), faculty (78%), and students (66%) believe these were available. However, all groups were less certain about the availability of tools and other resources to assist students challenged by disabilities. Administrators/Staff agreed or strongly agreed at 70%, with faculty at 65%, and students at 56%.

The interview data provided insight into the obstacles created by limited technology resources and/or access. Regardless of the challenges, several faculty and administrators/staff noted examples of diversified learning opportunities that they provided to students to increase interest, engagement, and learning. A public university faculty member shared several positive practices: “The discussion boards provided an opportunity for students who weren’t able to have a good Internet connection or ability to get online at that moment or stay online because some of them would be there for a minute and then just disappear. It gives them an opportunity to still do the work… And again, being flexible and having some sort of collaborative environments for them to work together because they still need the student to student interaction as well.”

Faculty at both private and public institutions shared the importance of flexibility, communication, patience, and humor to maintain a positive, equitable learning environment. From a public university educator: “Providing maybe more asynchronous options might be a good idea, especially for those like I said, who either don’t have good Internet access or have other siblings who are online or parents who are working online at the same time and then having to log off and on so often.” And another public university faculty shared: “It was very important for me to be very flexible with the student who could not get online.” He reflected on the need to view situations

from a different lens: "...this student has maybe three other siblings that have to be online at the same time. What else? A little bit of humor is needed. It isn't that the student is not motivated, he is just always worried and has anxiety. They have other siblings who are online or parents who are working online at the same time and then having to log off and on so often."

Several faculty recounted challenges engaging students due to technology, cultural norms, and personality differences. Deficient internet access can result in loss of significant synchronous learning opportunities. "There are a lot of excuses. Well, my microphone is not working. This is not working. So I have to consistently say, hey are you online. So and so are you still here? So and so, sic let me know in the chat. Just something I think maybe a little bit of a change of mindset about online learning in regards to from a cultural perspective would be very helpful because it is distracting when you only have two or three out of thirty five students actually even saying anything in class or discussing anything or presenting anything there, you know." And another faculty agreed, commenting "I have difficulty with getting the students to actually speak up."

Recommendation: Ensure availability and communication of learning and technology requirements as well as available assistance to support faculty and students in online learning environments.

Target Audience	Faculty, Students, Advisors, Information Technology Staff, Instructional Designers
Needs	• Increase faculty and students' knowledge of technologies and online learning best practices • Increase training for faculty to increase engagement from all students • Instructional designers to assist faculty in developing courses and using tools/apps that increase engagement and limit distractions • Increase technology, including assistive technology access • Provide a seamless process for faculty and students to request accommodation or other support to create equitable learning opportunities
Initiatives	Ensure technology training, tools/hardware, and resources to support best practices and academic success are available to all faculty and students engaged in online learning
Goals	Enrich and support the student and faculty online learning experience to ensure successful student outcomes
Actions	• Extend the breadth and depth of orientation topics • Introduce Online Learning Readiness assessment prior to enrollment in online courses • Provide training opportunities using assistive technologies • Ensure instructional design support provides faculty the tools and best practices that support engagement from diverse student groups • Invest in technology and training to ensure all faculty and students have access to accommodations or assistive technologies to deliver an equitable learning environment including the course content and associated resources
CSFs	• Ensure early communication of the availability of instructional design support, assistive technology, other support services to students and faculty

KPIs	• Students' surveys and feedback report that the necessary tools, training, resources, and assistance was available for them to participate in the online learning environment

Subdimension: Accessibility

Measures of satisfaction with accessibility both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID (though satisfied responses decreased only slightly) while neutral, unsatisfied, and very unsatisfied responses increased (Figure 68).

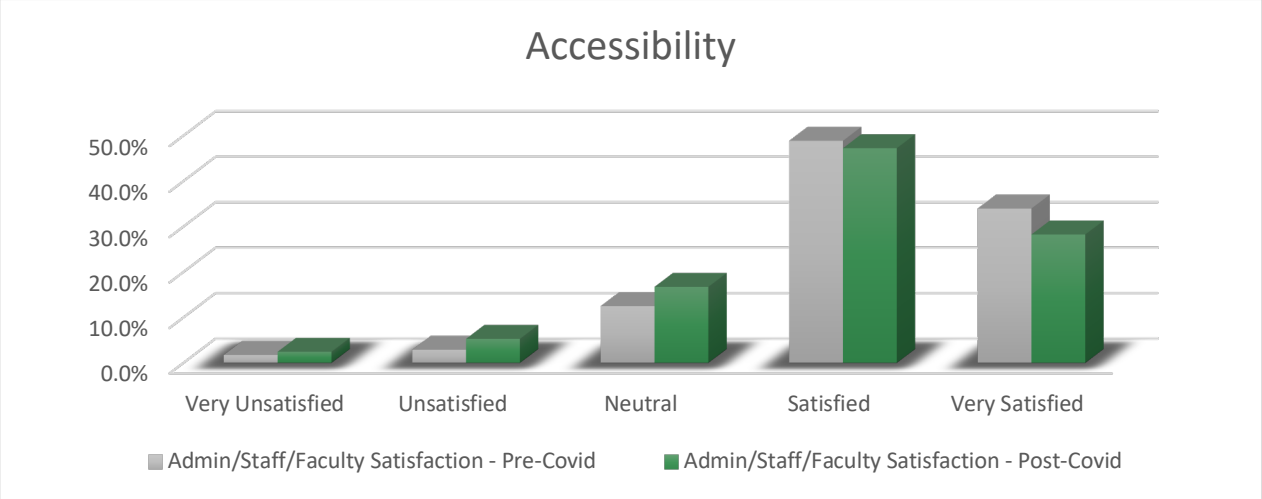


Figure 68

As discussed in the previous section, 30% to 40% of faculty, students, and administrators/staff disagreed, or were uncertain, about the availability of tools and other resources to assist students challenged by disabilities. Yet, they reported that they believed the institution's online courses demonstrated compliance with accessibility standards at high rates, with 80% administrators/staff, 82% of faculty, and 75% of students agreeing or strongly agreeing.

The Ministry of Higher Education is a centralized authority responsible for directing university education in accordance with the adopted policy, supervising the development of university education in all sectors and formulating rules and regulations for compliance by all institutions of higher learning. Since higher education in Saudi Arabia has undergone tremendous growth over the past decade, it is vital to monitor laws and establish policies that govern disability access to online courses.

Recommendation: Ensure appropriate accessibility needs are in place through investigation of current practices.

Target Audience	Ministry of Education, Administrators, Staff, Information Technology Staff, Instructional Designers, Faculty
Needs	• Investigate student and faculty needs • Monitor legal requirements • Explore assistive and adaptive technology • Establish policies and practices to support course designers and provide accommodations for students and faculty with a disability • Ensure accessibility features and functions are built in from the beginning, rather than approached retroactively
Initiatives	Ensure online learning practices adhere to accessibility laws, policies, and standards
Goals	Provide an equitable learning environment for students and faculty that follows best practices for digital learning
Actions	• Form an Accessibility Task Force composed of IT staff, Faculty, college Administrators/Staff to investigate current technology and capacity for accessibility • Provide recommendations to the appropriate university administrators and the Ministry of Education • Make use of UDL
CSFs	• Laws, policies, and practices are in place to ensure that the technology and resources for online courses is available to faculty and students
KPIs	The Accessibility Task Force surveys the current online learning environment and submits its findings and recommendations to the appropriate administrators, departments, and divisions of government

Subdimension: Compliance Standards

Measures of satisfaction with compliance standards both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID (though satisfied responses decreased only slightly) while neutral, unsatisfied, and very unsatisfied responses increased (Figure 69).

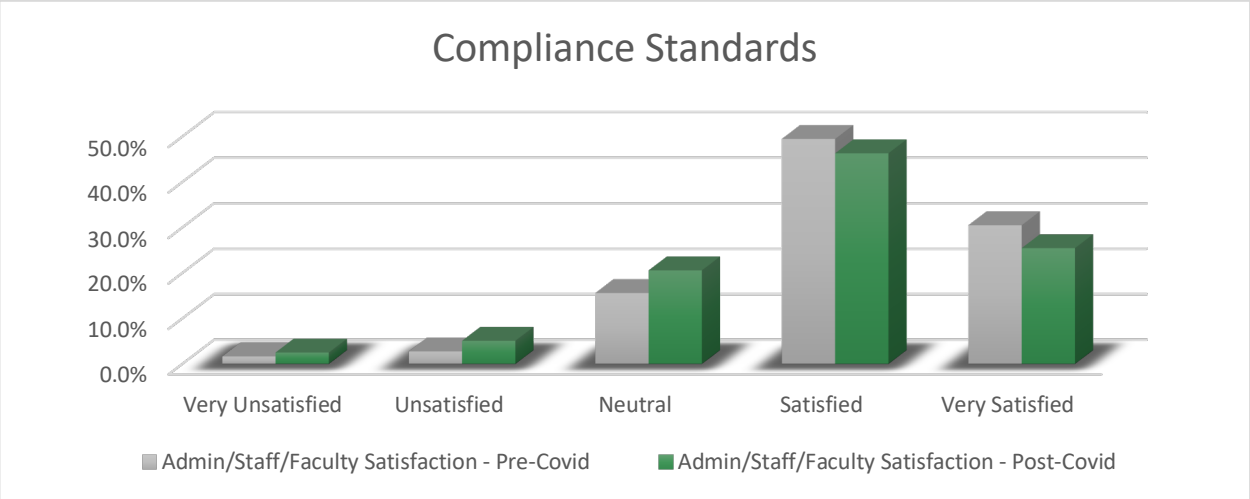


Figure 69

As referenced in the accessibility subdimension, all groups report agreement that the university's online courses meet compliance with accessibility standards (Administrators/Staff: 80%, Faculty: 82%, Students: 75%). Additional data regarding institutional compliance was not available in the data. Future directions for compliance may address issues of economic competitiveness and online learning and institutional leaders should engage administrators, faculty, staff, students, and technology and content vendors as they prepare and implement their institutional compliance goals.

Recommendation: Include all stakeholders including administrators/staff, faculty, Instructional Designers, and educational technology vendors in the implementation of compliance goals.

Target Audience	Administrators, Staff, Information Technology Staff, Faculty, Educational Technology Vendors
Needs	• Include all stakeholders in the implementation of compliance standards • Provide training about compliance standards and goals • Communicate compliance goals to the university community
Initiatives	Verify that all university personnel and staff are aware of and maintaining compliance goals
Goals	Provide a secure, trustworthy learning environment for the university community
Actions	• Establish annual review of the institution's compliance goals • Implement compliance training for administrators/staff, faculty, and students
CSFs	Implementation of training and annual review of compliance goals
KPIs	• Successful completion of compliance training • Effective communication of compliance goals • Completion of annual review of compliance standards and goals

Subdimension: Innovation

Measures of satisfaction with student support innovation both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID while neutral, unsatisfied, and very unsatisfied responses increased (Figure 70).

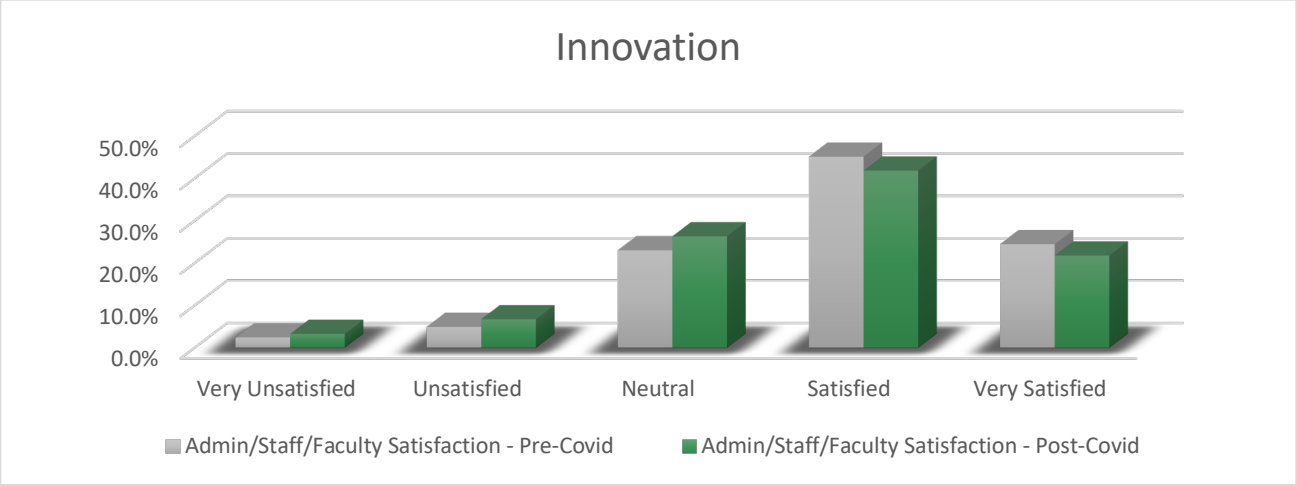


Figure 70

The data indicates that many public institutions had provided online learning courses prior to the COVID-19 rapid transition to online course delivery; however, it seems that the majority of private institutions had yet to build online learning capacity at their institutions. Three-quarters of administrators/staff (75%) and faculty (75%) agreed that their institutions are supporting students in innovative ways, such as relevant communication modes or through AI communication tools. Students reported slightly less support (62%), with almost two-thirds agreeing that their campuses made use of innovative tools.

A staff member from a private university explained that the campus use of an online ticketing system that provided students easy access to one space to request any type of assistance: “So most of the services are provided online except, as I said, for student activities.” One private university faculty shared their experience with the engagement vs disengagement challenge of incorporating video, communication, and social media applications in online courses. He commented: “During the lecture they text - that is the direct interference. We allow them to open the apps if they have to answer… But even during the delivery of lectures they continue to communicate with you. The class used the WhatsApp group but students would use apps during class and were not engaged. It was a distraction.”

Recommendation: Invest in educational technology tools and research to stimulate innovative online educational practices and support services.

Target Audience	Administrators, Staff, Faculty, Students, Information Technology Staff, Instructional Designers, Educational Technology Vendors
Needs	• Create capacity and scale for online learning • Make use of third-party vendors as appropriate and cost effective • Improve the online learning experience for students • Investigate the delivery of health and well-being check-ins, automated feedback, and technology training through vendors • Make use of shared tools through strategic approach to learning tools adoption
Initiatives	Develop policies and practices to investigate innovative tools and implement an adoption strategy for tools and practices
Goals	Provide a secure, engaging learning experience that leads to positive student learning outcomes
Actions	• Create a Learning Innovation Taskforce (or new unit) to investigate tools and pedagogy • Develop policies and practices that deliver cost-effective, innovative tools that provide capacity and scale for online learning
CSFs	Increased capacity for online learning and delivery of student support resources
KPIs	Students' surveys and feedback report positive interactions with course tools and provide opportunities for timely, engaging faculty and peer interactions

Dimension VII: Training & Support

The Training and Support dimension measures five subdimensions including Technical Assistance, Professional Development, Orientation, Mentoring, and Innovation.

Prior to COVID, satisfaction measures in the training and support dimension indicate overall congruence among administrators, staff, and faculty. The study revealed two primary areas that would have benefitted from additional readiness prior to the pandemic: technical assistance (particularly for students) and professional development. These items are detailed below, and results indicate that priority was placed on these readiness items quickly, as evidenced by post-COVID satisfaction measures.

Overall findings indicate that the majority of administrators, staff, and faculty felt that those teaching online courses had sufficient training and support for the move to remote learning. These activities often include workshops provided by their institutions. There are some small discrepancies between perceptions by administrators/staff and faculty to the degree of their agreement, but they overall trend similarly. While students were not asked to rate items from these subdimensions since it would be unlikely that they would have insight

into these areas, interview questions illuminate concerns that faculty were not as adequately prepared nor had sufficient technical assistance to support students and have high quality course delivery.

Subdimension: Technical Assistance

Measures of satisfaction with technical assistance both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied. It is of note that post-COVID, satisfied responses decreased slightly while very satisfied responses increased (Figure 71).

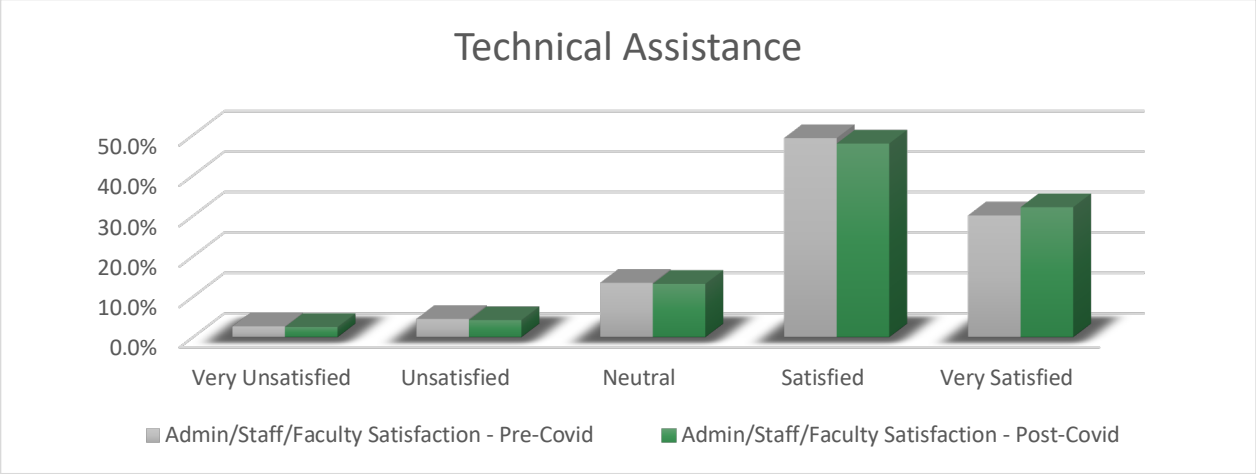


Figure 71

The overwhelming majority of administrators, staff, and faculty felt that those teaching received sufficient technical assistance for course development and online teaching. Administrators and staff reported that they agreed or strongly agreed at a rate of 81.4% where faculty similarly reported at a rate of 81.9% (Figure 72).

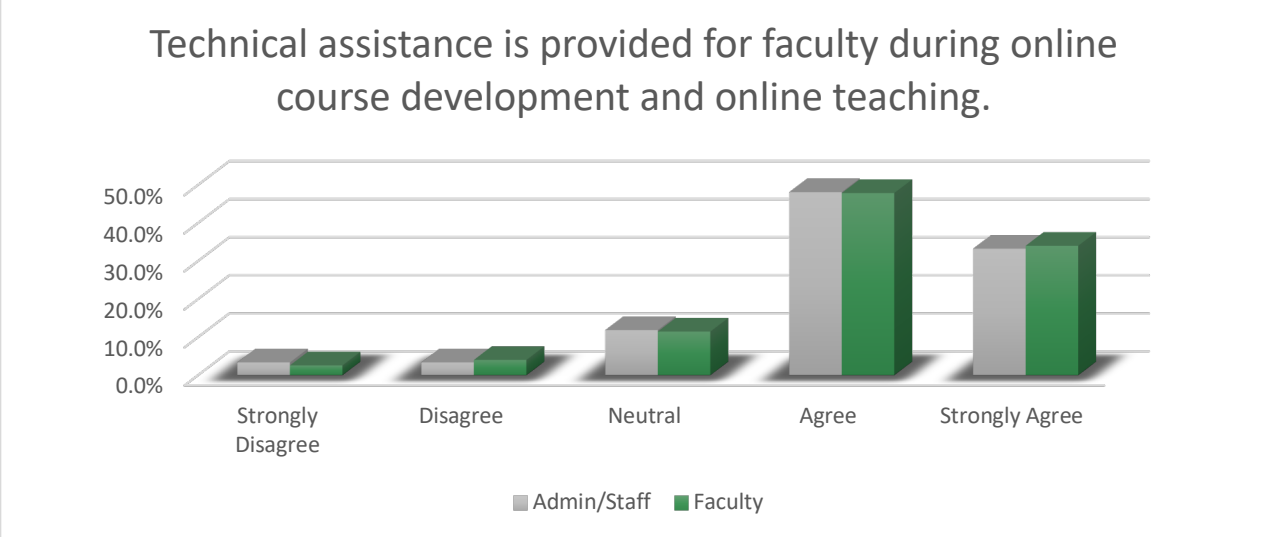


Figure 72

While students did not respond to this subdimension in the survey, public and private school students shared that faculty ran often into technical issues, such as around recorded lectures, and that overall everyone needed more technical assistance to use new technologies. Some had great responses emailing technical support offices, but one shared that "You just have to email the Dr. and tell them it's crashed and deal" and if they do not accept the excuse, "there's nothing else that you can do." Another mentioned that they "did not have any technical assistance." Multiple students said that there was often a substantial time gap in responses to technical issues, with one sharing that they felt it is because there were "a lot of questions from students" at that time.

Recommendation: Administrators, staff, and faculty generally felt that there was sufficient technical assistance, but students sampled for this study tended to have a more negative response to technical issues and support.

Target Audience	Administrators, Staff, Faculty, Students
Needs	Improve communication and technical assistance mechanisms for students
Initiatives	Create a centralized support space through a website; Resources explicitly shared and stressed by faculty in syllabi and online course, and the institution
Goals	Remove barriers for course progress and develop resources for common issues
Actions	• Create an advisory team of stakeholders across campus including student members to guide development of needed resources • Create a centralized website with curated resources (e.g., guides, videos, frequently asked questions) and support mechanisms (ex: live chat, chatbot) • Communicate resources through institutional channels, online courses, and syllabi
CSFs	• Stakeholder expertise and listening to student needs • Centralized website available with curated resources and support mechanisms, and updated to ensure current • Resources shared through institutional channels, online courses, and syllabi
KPIs	• Website piloted and shared for feedback • Future student technical issues curated to update website • Each syllabus and online course has common support language • Institution shares resources through a variety of channels

Expert Recommendation: Provide adequate technical assistance for faculty.

Target Audience	Administrators, staff, faculty
Needs	Improve communication and technical assistance mechanisms for faculty
Initiatives	Create a centralized support space through a website; Resources explicitly shared by staff
Goals	Remove barriers for faculty teaching in an online modality
Actions	• Create an advisory team of stakeholders across campus including faculty to guide development of needed resources • Create a centralized website with curated resources (e.g., guides, videos, frequently asked questions) and support mechanisms (ex: live chat, chatbot) • Communicate resources through institutional channels
CSFs	Centralized website available with curated resources and support mechanisms, and updated to ensure current
KPIs	• Website created • Faculty technical issues curated to update website

Subdimension: Professional Development

Measures of satisfaction with professional development both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 73).

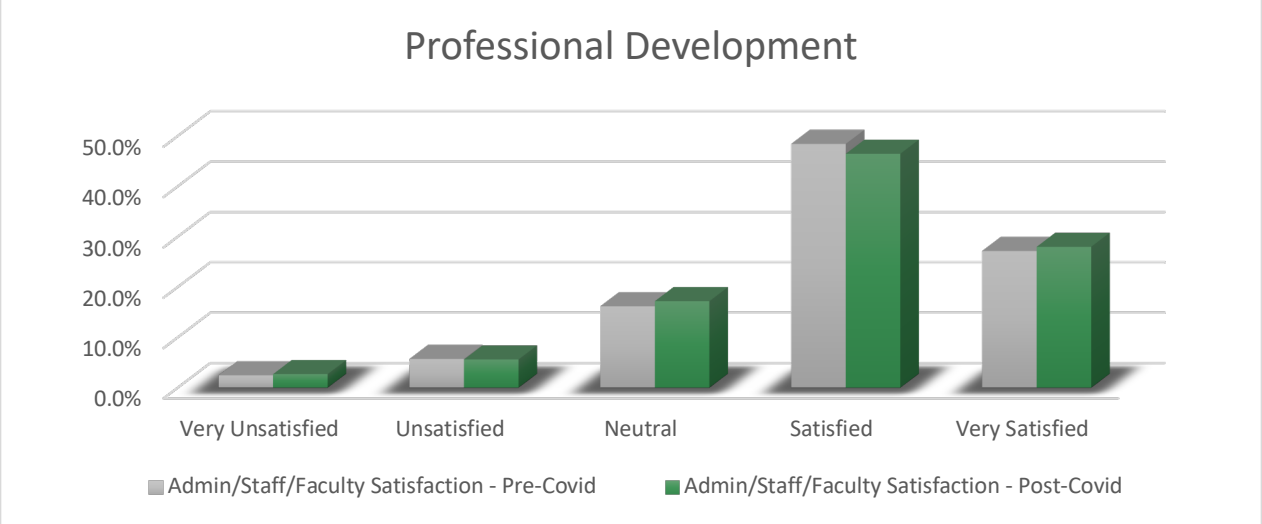


Figure 73

Overall, the majority of administrators, staff, and faculty felt that those teaching received training assistance, and support to prepare for course development and online teaching. Administrators and staff reported that they agreed or strongly agreed at a rate of 81.4% where faculty reported at a higher rate of 83.9% (Figure 74). Similarly,

faculty reported a higher rate of 81.2% that they received ongoing professional development for online teaching and learning over administrators/staff who reported at 78.4% (Figure 75).

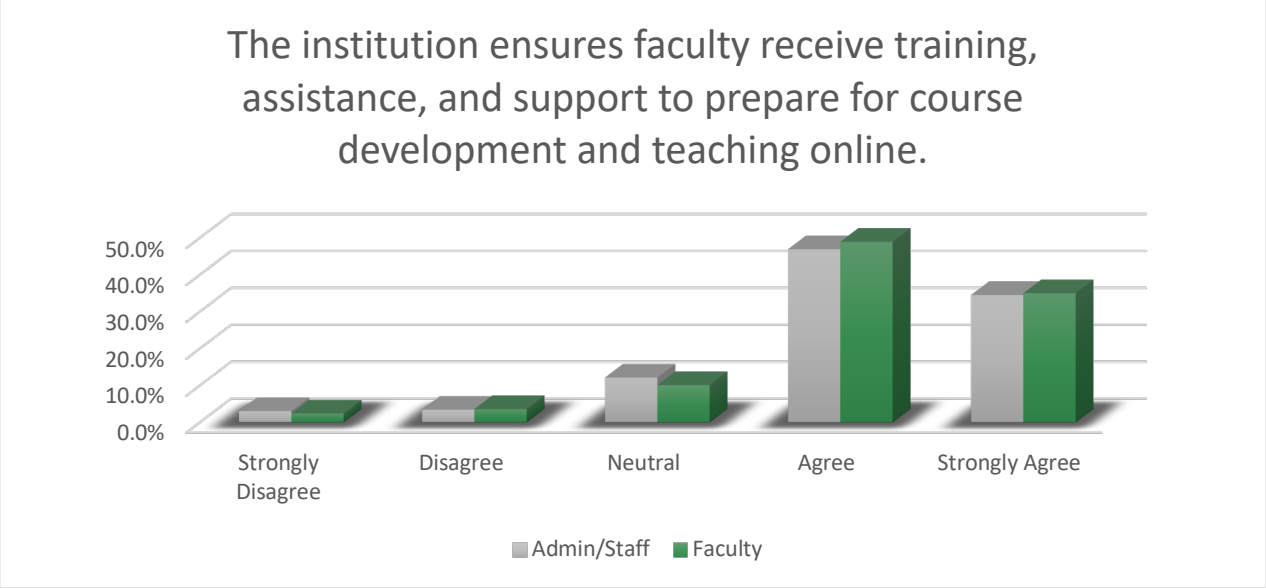


Figure 74

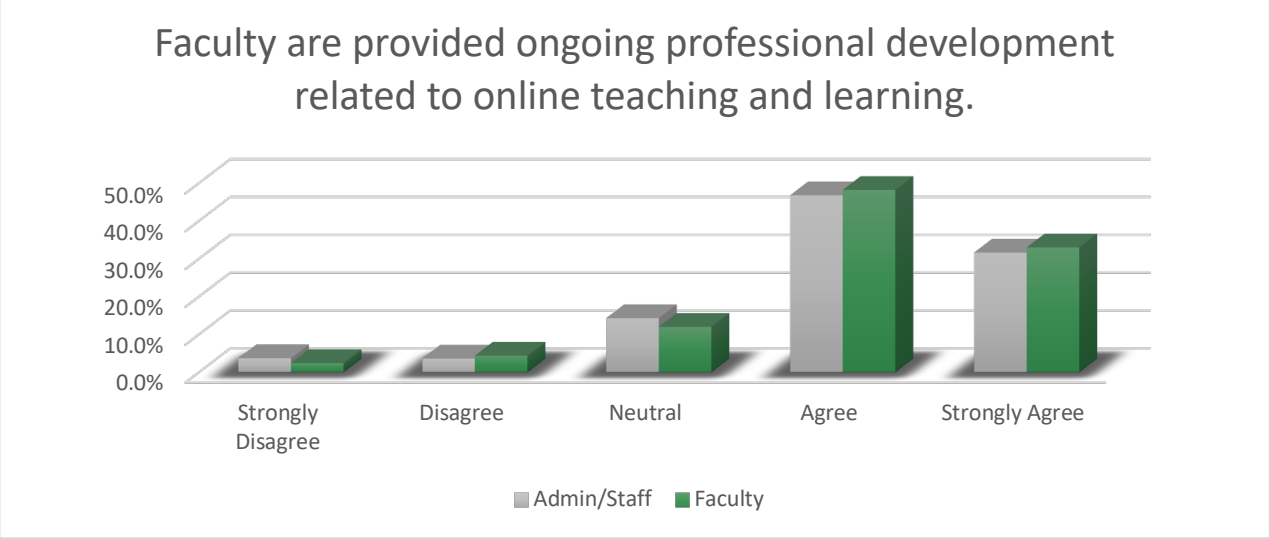


Figure 75

Similarly, the majority also felt that faculty had sufficient time for professional development; however, there was a slight difference between administrators/staff and faculty. Administrators/staff reported at 73.7% while faculty reported at 69.8% (Figure 76). Additionally, while most administrators, staff and faculty felt that clear standards were established for faculty engagement and expectations concerning online teaching, administrators/staff reported at 78.4% while faculty reported lower at 73.6% (Figure 77). These findings illuminate a small discrepancy

between administrators/staff and faculty as it related to faculty development. They also are the lowest rated of training and support subdimensions.

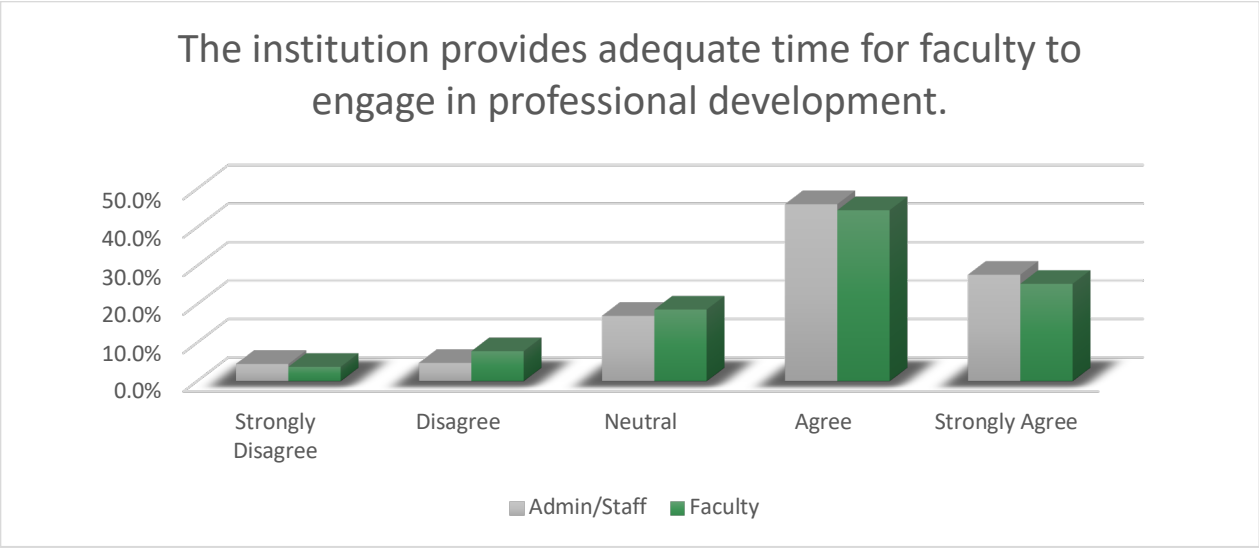


Figure 76

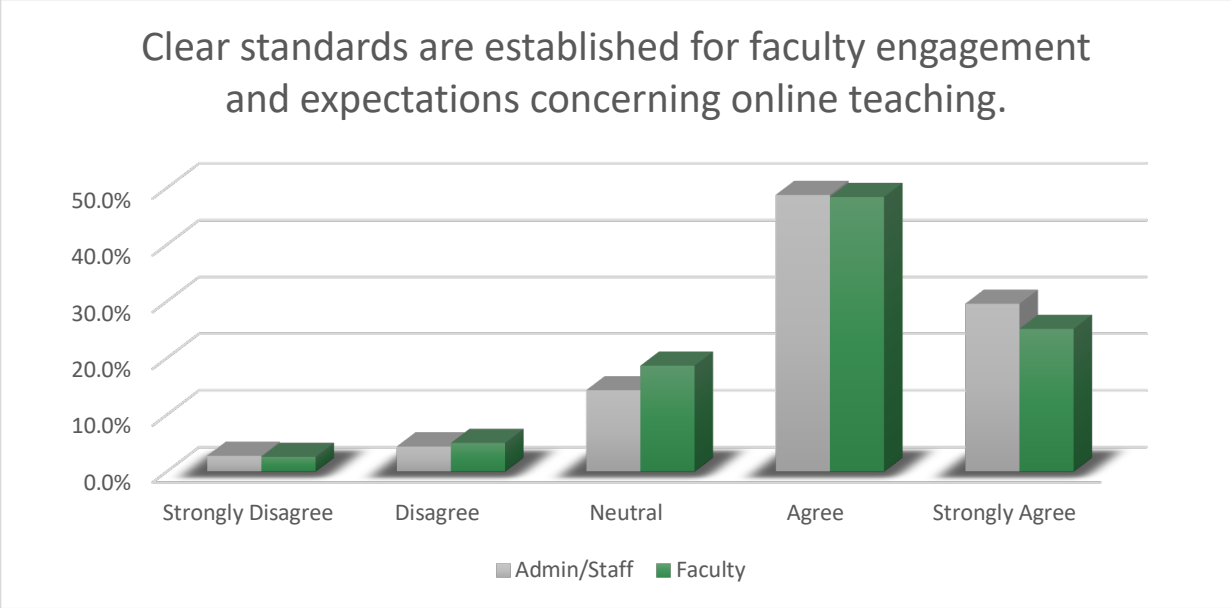


Figure 77

An administrator at a public institution mentioned that they had concerns about faculty having "advanced skills on how to teach properly" online nor "new tech tricks to make their classes lovely," instead focusing solely on PowerPoint presentation and conducting class "the same way that they are used to…teaching in front of their students inside their classrooms." A faculty member at a private institution similarly stated that "some of our staff are not tech savvy. I think they would need more workshops. Also…we need to expand our horizon when it comes to using this technology."

A number of administrators at public institutions also shared the desire for faculty certification for training with one sharing that teachers at one of the international universities "will be given a certificate" for completion. A faculty member at a private institution also shared that their institution "conducted several workshops to the faculty and different sessions of different levels to accommodate the majority of the faculty. Some of them don't have experience with any virtual classes. So they have them as a beginner session and they had an intermediate session and advanced sessions…It was very good. Very challenging because in one week we've done everything and the next week we just started our online classes."

While students did not respond to this subdimension in the survey, students at public institutions felt that they "need a faculty that is well-trained and updated with technology… for the long run… after the coming semester." One student at a private institution shared that their faculty did not know how to use technology and "some of them were even asking students what to do." They continued that the transition to online "was a mess" and "a lot of them weren't prepared" to move online.

Recommendation: Overall, administrators, staff, and faculty tend to agree that they had sufficient training and support. Given that there were some discrepancies between administrators/staff and faculty on a number of different areas, increased communication between those stakeholder groups could take place to improve rating by faculty. In addition to faculty, students had a far more negative perspective in their interview responses and can help close the feedback loop.

Target Audience	Administrators, Staff, Faculty
Needs	Improved communication between stakeholder groups
Initiatives	Create mechanisms for a feedback loop
Goals	Improve communication and better understand where pain points exist and how to better address faculty and student needs to improve overall course outcomes
Actions	• Create opportunities for stakeholder feedback (e.g., post-event surveys, focus groups, town hall meetings) • Conduct a needs assessment to help illuminate areas of where faculty need more support, resources, etc. • Create a mechanism for students to share their perspectives (e.g., town hall meetings, focus groups, survey)
CSFs	• Broad faculty participation in needs assessment • Timely creation of feedback loops that are maintained and communicated each semester • Feedback implemented
KPIs	• Response rate of 50% or greater • Improved faculty satisfaction with professional development and student satisfaction with courses

Recommendation: Time proved to be a challenge for those needing professional development during the move online; however, this challenge is not unique to the time affected by COVID (although it further exacerbated the challenges). A recommendation might be moving a long synchronous training into a modular, asynchronous format. Doing so provides opportunities for faculty to complete the work when they have time and in smaller chunks.

Target Audience	Administrators, Staff
Needs	Increase opportunity for faculty to complete professional development and remove barriers for support resources
Initiatives	Transition synchronous training to be more asynchronous and curate resources in a centralized space
Goals	Provide greater flexibility and more options to complete professional development and remove barriers for support resources
Actions	• Break longer synchronous training sessions into more manageable parts that can be completed over a longer period of time • Create short courses using the resident learning management system (LMS)(ex: Blackboard) around specific training topics to create a space for engagement, practice with tools and features, and share ideas, ask questions, and engage with the content • Curate, post, and communicate resources pertaining to moving teaching online in one space (such as a website for a Center for Teaching and Learning)
CSFs	• Opportunities for faculty to ask questions in a synchronous format (e.g., weekly live session or virtual office hours) • Modular content that can be completed in shorter chunks of time • Technical support structure for short courses • Advisory group of faculty and staff to provide feedback on curated resources • Faculty are made aware of resources through a variety of channels (e.g., departments, emails, etc.)
KPIs	• Increased faculty participation in professional development • Improved student outcomes (depending on topic)

Expert Recommendation: Provide regular opportunities for professional development specific to online learning.

Target Audience	Faculty
Needs	Regular access to professional development
Initiatives	Faculty training on course design and teaching online
Goals	Provide regular access to professional development specific to online learning
Actions	• Identify professional development needs • Provide workshops on specific needs (either in-house or through provider)
CSFs	Faculty better trained to teach online

KPIs	Faculty provided with access to quality training

Subdimension: Orientation

Measures of satisfaction with orientation both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied (Figure 78).

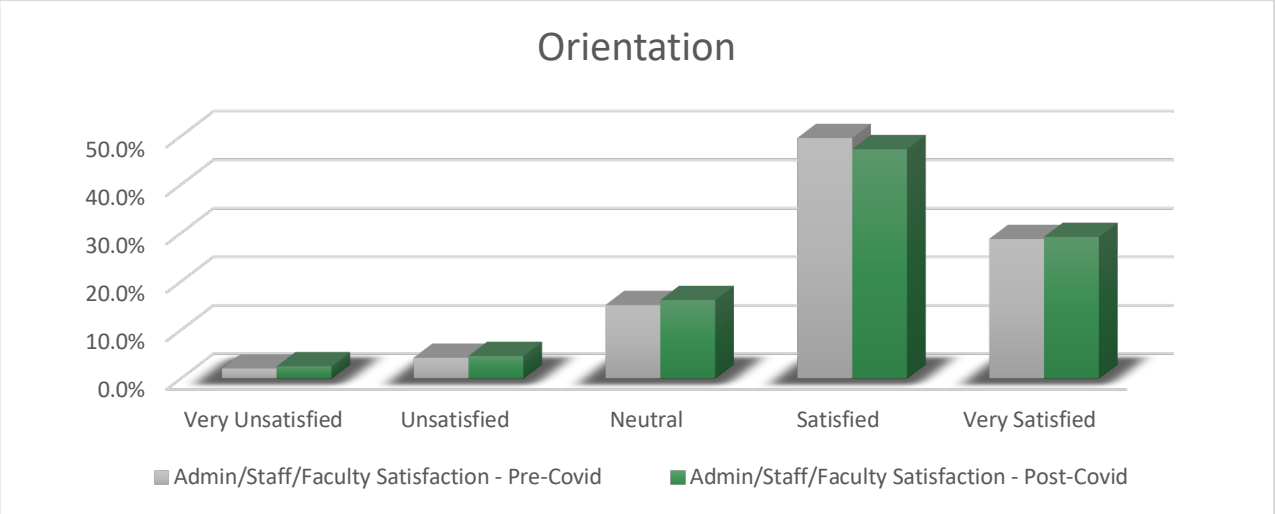


Figure 78

The overwhelming majority of administrators, staff, and faculty felt that those teaching received a sufficient technology and instructional design orientation. Overall, administrators/staff reported at 79.6% and faculty reported at 78.2%; however, faculty reported 4.3% fewer on strongly agree than administrators and staff with higher agree (Figure 79).

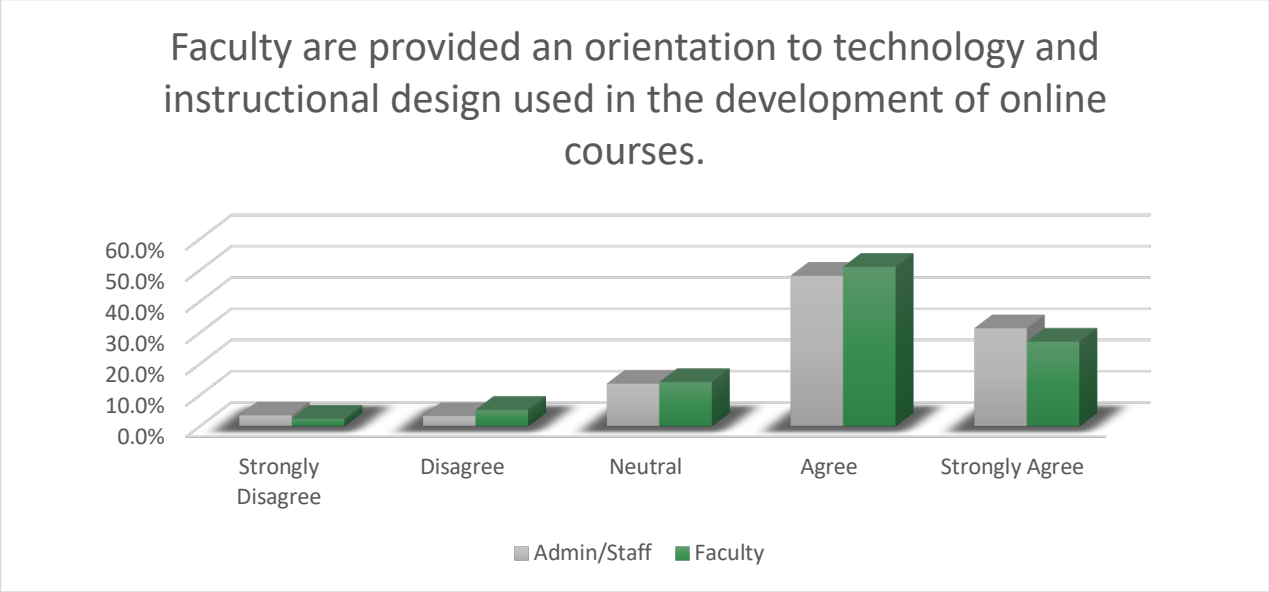


Figure 79

One faculty member at a private institution shared that they created a e-learning committee and conducted "orientation for the faculties and students for how to handle the online courses and how to teach online." An administrator also shared that their institution had a mandatory "Blackboard orientation" for students.

Recommendation: Most faculty shared that they received an orientation and it is not fully clear why those who reported they disagreed did not, or why a number were neutral. Throughout the Kingdom of Saudi Arabia, many technologies will be the same across institutions. The Ministry or NELC could work with some institutions to identify these technologies and develop and share common orientations that could be used by anyone within the Kingdom.

Target Audience	Administrators, Staff, Ministry of Education, National E-Learning Center
Needs	Improve access to orientations for widespread/common technologies
Initiatives	Develop and share common orientation modules for institutions
Goals	Decrease resistance and challenges among faculty for online learning technologies and improve student outcomes
Actions	• Identify widespread technologies and determine most critical to develop • Partner with different institutions to develop and pilot orientation modules • Publicly host and share modules with institutions
CSFs	• Most critical technologies identified • Periodically updated to include new technologies • Piloted with institutions to provide 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 both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied. It is of note that post-COVID, satisfied responses decreased slightly and neutral responses increased (Figure 80).

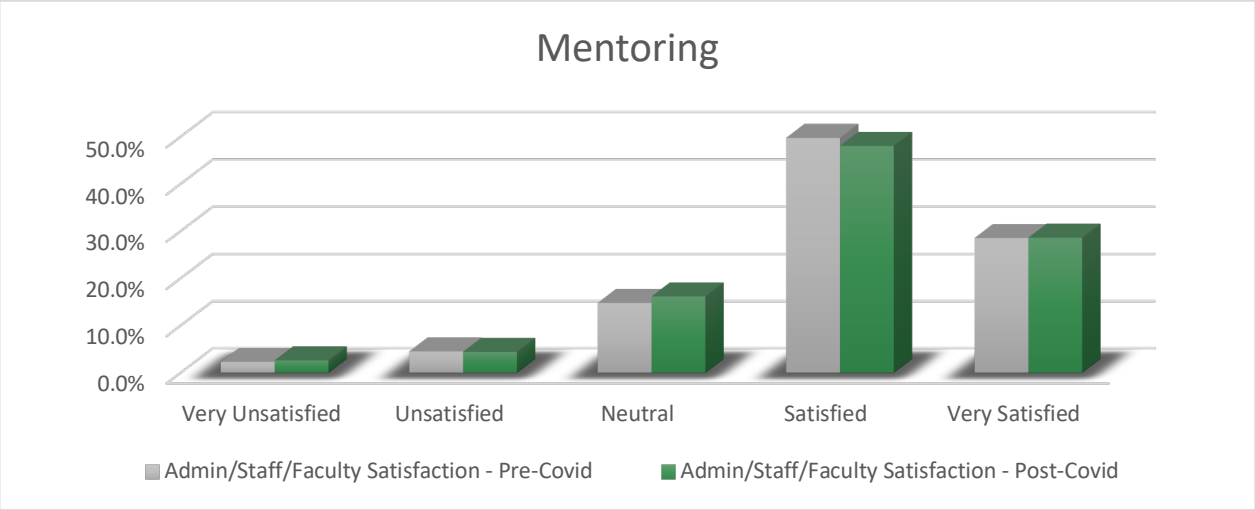


Figure 80

Overall, most administrators, staff, and faculty felt that those teaching received sufficient peer mentoring resources. Administrators/staff reported at 77.8% with faculty reporting at 74%. Similarly, faculty reported more neutral indications and fewer strongly agreed (Figure 81).

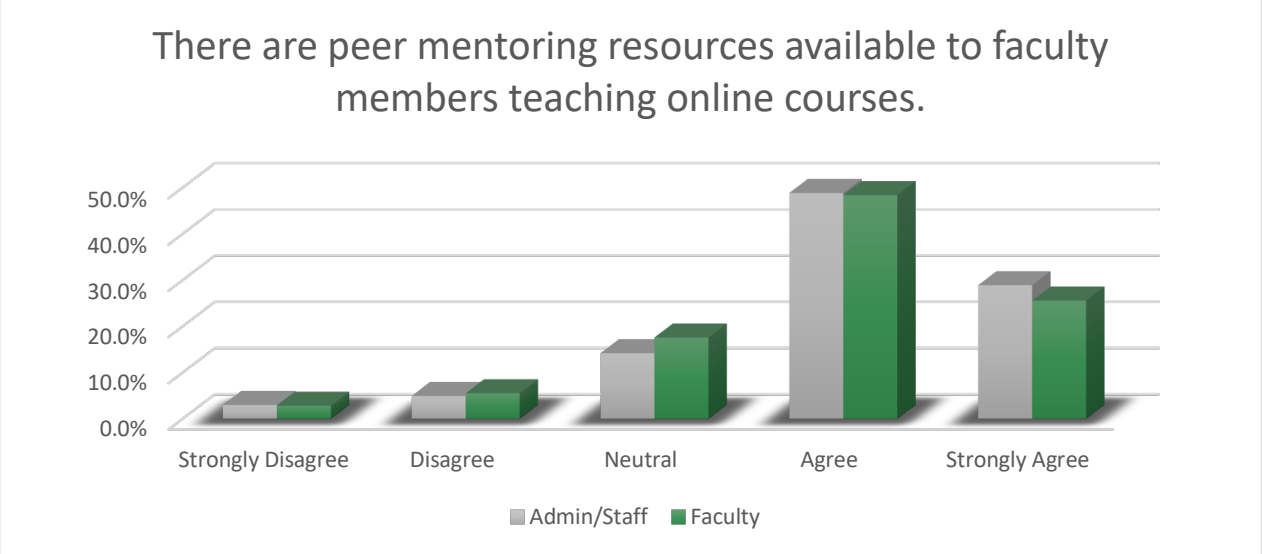


Figure 81

Recommendation: While faculty generally indicated that they received sufficient peer mentoring resources, almost a quarter did not. 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 virtual mentoring program coordinated centrally could provide opportunities for greater connection and support.

Target Audience	Administrators, Staff, Faculty
Needs	Preserve and improve opportunities for peer mentoring
Initiatives	Develop a virtual mentoring program
Goals	Provide opportunities for faculty to continue to receive support and guidance during remote teaching and learning, including maintaining academic momentum
Actions	• Communicate with faculty to identify mentoring needs • Pair mentors with mentees based on needs • Provide resources and incentives where possible and appropriate
CSFs	• Needs identified • Faculty volunteers to be mentors and mentees • Means for incentivizing participation, if possible • Feedback loop to improve program where possible
KPIs	• Number of mentors and mentees • Academic output (e.g., publications, grants, etc.) • Faculty retention • Faculty health and wellbeing

Subdimension: Innovation

Measures of satisfaction with training and support innovation both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied. It is of note that post-COVID, satisfied and very satisfied responses decreased slightly and neutral responses increased (Figure 82).

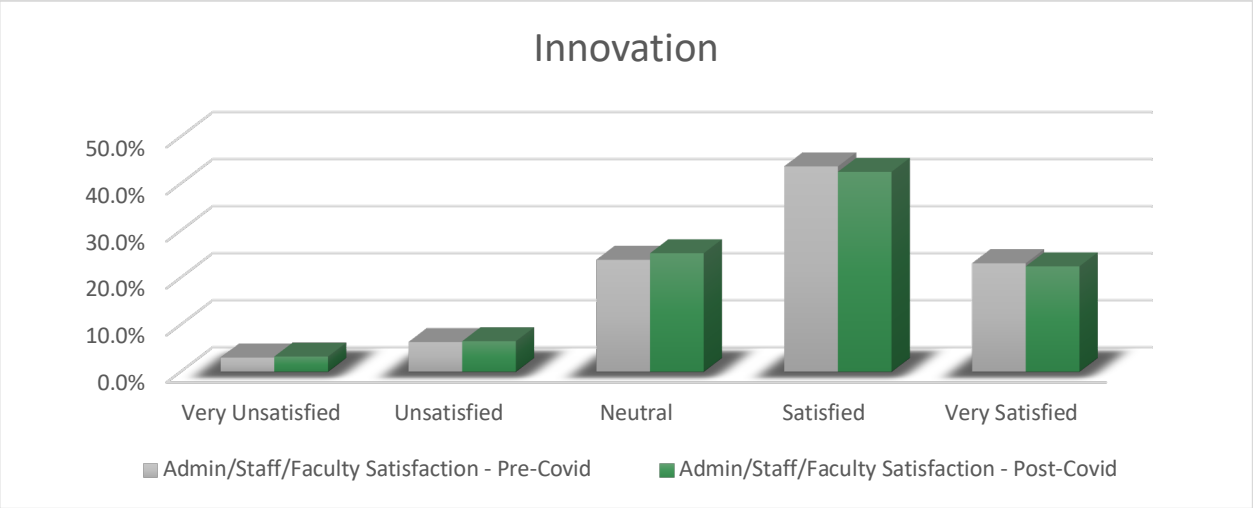


Figure 82

The majority of administrators, faculty, and staff felt that those teaching were informed about emerging technology and new tools. Administrators/staff reported at 79.6% and faculty similarly reported at 79.9% (Figure 83).

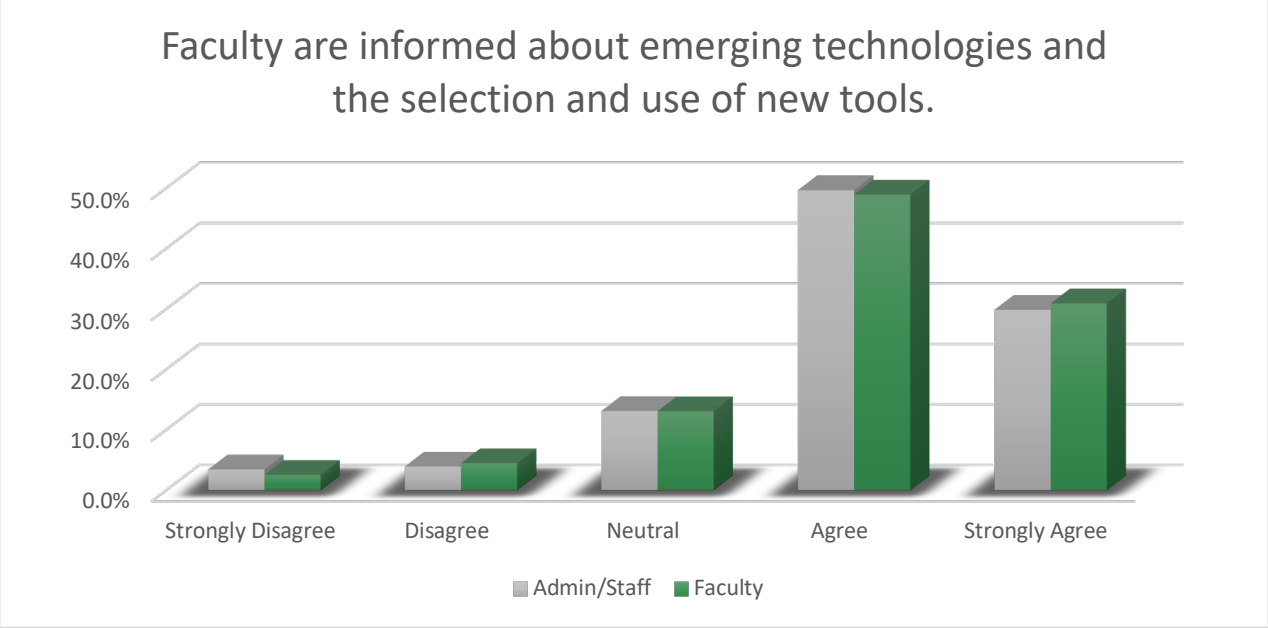


Figure 83

An administrator at a private institution shared that they have a "Center of Excellence in Teaching and Learning that offers training for faculty…new ways of teaching methods, innovation, and teaching assessment planning." They continued that faculty could "submit a portfolio describing their ways of teaching and which way they became innovative" and encouraged them to "be innovative on their own."

Recommendation: A fantastic way to support the awareness and use of new technologies is through a faculty learning community program. These communities can take place organically, led by a university staff member or faculty member, or can be coordinated centrally through divisions of academic/faculty affairs or teaching and learning centers.

Target Audience	Administrators, Staff, Faculty
Needs	Greater awareness and use of innovative technologies
Initiatives	Develop a faculty learning community program
Goals	Build capacity around online learning tools and approaches
Actions	• Bottom-up: faculty/staff self-organize into a community (or multiple communities) • Top-down: institution recruits faculty/staff into communities and provides centralized way to coordinate the groups
CSFs	• Bottom-up: Groups set expectations, regular meetings, participants share resources and ideas • Top-down: Clear expectations for program, regular meetings, a point person to coordinate the group and ensure all needs and outcomes met, incentives for participation (stipends, resources, awards/recognition, etc.), recruitment from all departments to grow champions
KPIs	• Number of groups • Participation in groups • Diffusion 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, Faculty Satisfaction, Staff Satisfaction, and Innovation.

Prior to COVID, satisfaction measures in the evaluation and continuous improvement dimension indicated positive responses, through survey and interview data indicate that readiness for a fully online environment needed improvement across all subdimensions, with the exception of student satisfaction. This is evident in that satisfaction decreased while dissatisfaction and neutral perceptions increased post-COVID, and is supported by survey and interview data, detailed below.

Overall findings indicate that the majority of evaluation and continuous improvement activities are focused on course outcomes and program quality. Both survey and interview data suggest that these initiatives are comprehensive and multi-layered, encompassing multiple evaluation measures and types across course,

program, and institutional levels, as well as including a variety of stakeholders for both conducting evaluations and planning based on results. Findings indicate a discrepancy between administrators/staff and faculty with regard to the use of innovative analytics for programmatic decision-making, and faculty responses also indicated potential improvement opportunities for peer evaluation at the course level. Additionally, student responses indicate that there are potential improvement opportunities for providing feedback on both course improvements as well as the effectiveness of instruction and quality of online learning materials.

Subdimension: Evaluation of Course Outcomes and Program Quality

Measures of satisfaction with evaluation of course outcomes and program quality both pre- and post-COVID, among both administrators/staff and faculty reflect that the majority of participants are overall satisfied or very satisfied. It is of note that both satisfied and very satisfied responses decreased post-COVID while neutral, unsatisfied, and very unsatisfied responses increased (Figure 84).

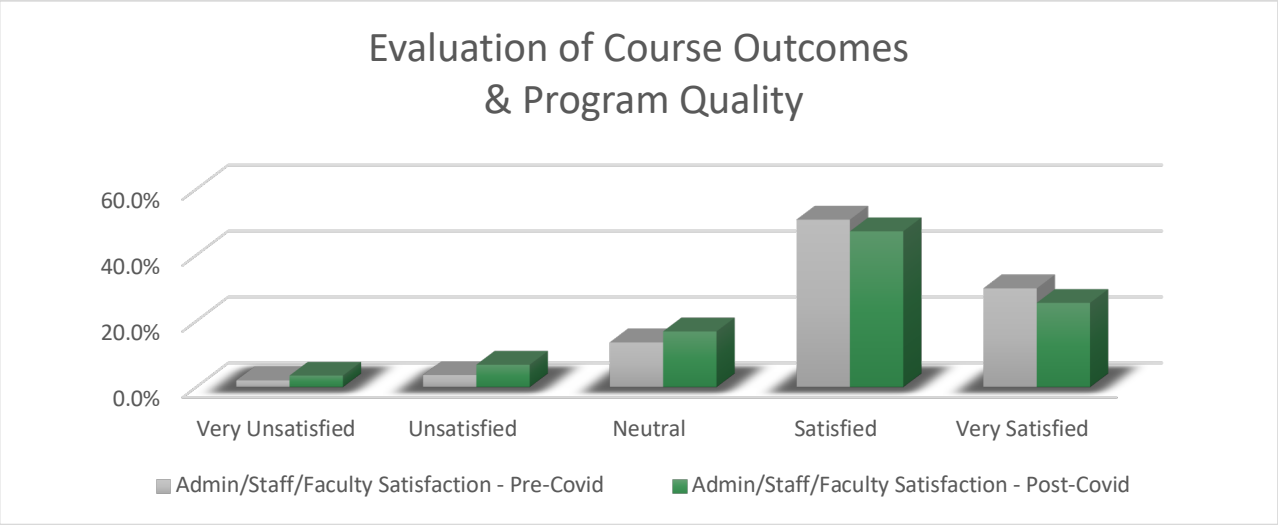


Figure 84

Administrators and staff reported at a rate of 73.8% that they believe there are procedures and policies for evaluating and improving programs, and both administrators/staff and faculty agreed at rates of 75% or above that there are established processes, standards, and course-level alignment and evaluation in place. Additionally, faculty responded at similarly high rates that overall course-level evaluations, as well as evaluations of syllabi, teaching materials, course assignments and activities, and teaching performance are implemented. Interviews confirm these findings with statements such as: “We used to have and still have, of course that assessment committee that reviews all the courses and makes sure to align all the outcomes of the courses with the outcomes of the program. In addition, where this is to maintain the quality of the courses and for the program at all. And also we have the students’ feedback at the end of each course, at the end of each semester, and of course we have peer

review for the quizzes," and another that stated "Accredited assessment through different levels. Course level, program level, institution level. Every course is assessed through the student point of view from their own course surveys. At the end of the summer, but also regularly during the semester, there are class visits from other peer reviews, from the leadership in the department. And for the program, all these are incorporated into assessment of the end of the semester, into assessment of learning outcomes, how much students learned in the course. Also across the programs we study and we quantify how much learning happened in a program from all the students. And then we can conclude from the institution level."

As noted above, there are discrepancies between administrators/staff in the implementation and use of peer evaluation, with faculty responding at a rate of 65.6% that agreed or strongly agreed that these methods are used, and 12.7% indicating that they disagreed or strongly disagreed (Figure 85). There is also a slight gap between faculty and administrators regarding the use of innovative analytics for programmatic decision-making, with 74.7% of administrators/staff agreeing or strongly agreeing, and 67.9% of faculty agreeing or strongly agreeing (Figure 86).

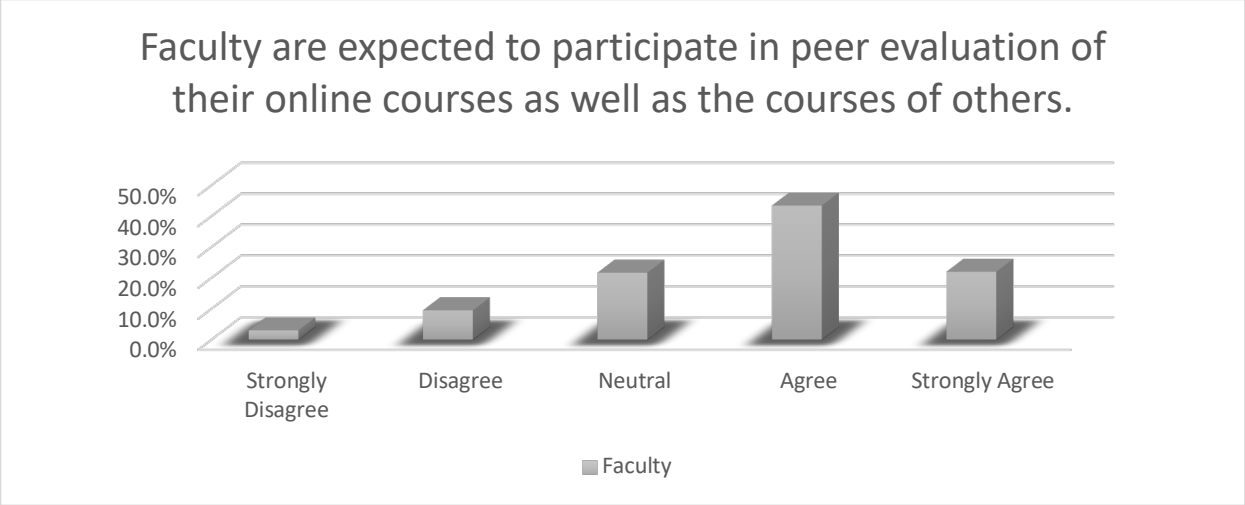


Figure 85

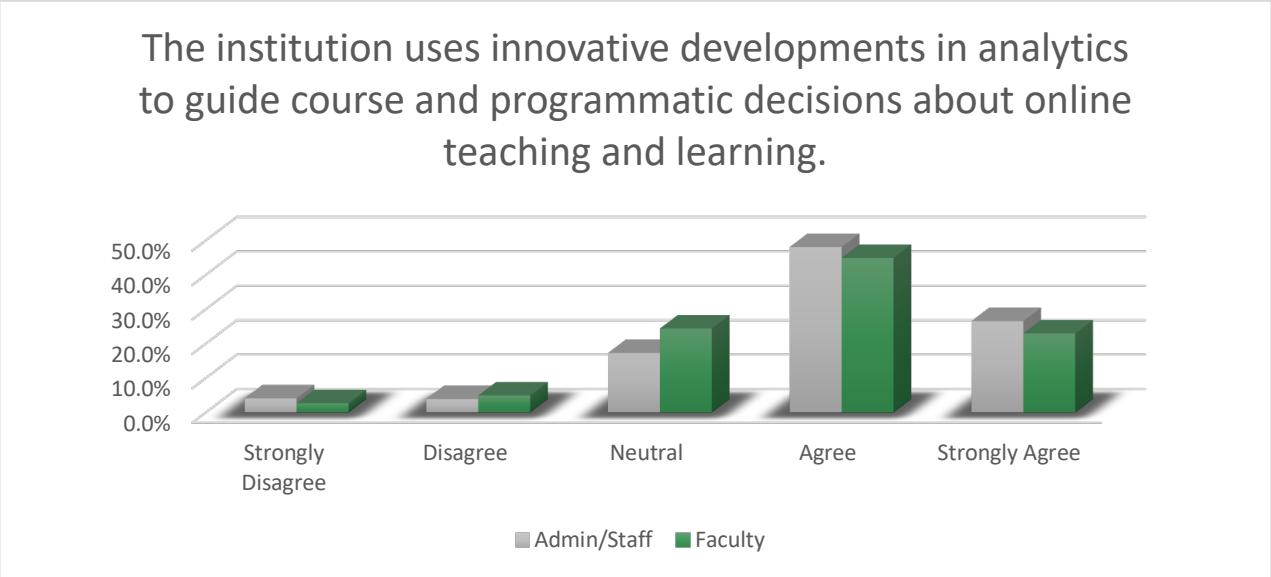


Figure 86

Recommendations in this area are to continue following established processes, procedures, and policies with regard to course and program evaluation, and to regularly review and update them in alignment with quality standards and best practices. It is essential to continue including a variety of evaluation types as well as a diverse representation of stakeholders in evaluation planning and processes. Regarding innovative analytics for programmatic decisions, it is possible that increased transparency and communication about these initiatives may benefit the opinions, beliefs, and perceptions of faculty, and including faculty in these initiatives could also make a difference. The other discrepancy in this section, faculty peer evaluation, could benefit from clear practices and expectations on peer evaluations, as well as explicit processes and procedures related to peer evaluation, and appropriate professional development on the development, implementation, and use of such practices.

Recommendation: Ensure adherence to established processes, procedures, and policies on course and program evaluation, including regular review and updating.

Target Audience	Faculty
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	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	• Courses and programs are evaluated in alignment with established processes, procedures, and policies • Course and program processes, procedures, and policies are reviewed and updated as appropriate on a regular schedule

Recommendation: Provide communication and transparency to faculty, and involve faculty when possible in initiatives regarding analytics for programmatic decisions.

Target Audience	Faculty
Needs	Increased communication, transparency, and involvement of faculty with regard to analytics used for programmatic decision-making
Initiatives	• Communications to faculty regarding the analytics included in programmatic decision-making • Inclusion of faculty in programmatic analytics and decision-making when possible and appropriate
Goals	Increase faculty awareness, participation, and buy-in of programmatic decision-making
Actions	• Communicate with faculty regarding analytics used for programmatic decision-making • Include faculty, when possible, in programmatic decision-making
CSFs	• Communications are provided to faculty regarding programmatic decision-making • Faculty are included in programmatic decision-making
KPIs	• Faculty indicate awareness of analytics used for programmatic decision-making • Faculty participate in programmatic decision-making processes

Recommendation: Develop and implement practices and expectations regarding faculty peer evaluation, including explicit processes and procedures as well as appropriate professional development on the development, implementation, and use of such practices.

Target Audience	Faculty
Needs	Develop and implement practices and expectations regarding faculty peer evaluation, including processes and procedures as well as professional development on development, implementation, and use
Initiatives	Implement faculty peer evaluation, and provide related professional development
Goals	Increase the use of effective peer evaluation for faculty in order to support continued evaluation and development of effective teaching and learning practices
Actions	• Develop and implement practices and expectations regarding faculty peer evaluation • Provide professional development on peer evaluation to faculty
CSFs	• Clear practices and expectations for faculty peer evaluation are in place • Professional development opportunities on peer evaluation are available to faculty
KPIs	• Faculty peer evaluation is effectively employed • Faculty participate in professional development opportunities related to peer evaluation

Subdimensions: Student Satisfaction, Faculty Satisfaction, and Staff Satisfaction

Measures of satisfaction with student satisfaction both pre- and post-COVID, among both administrators/staff and faculty remained stable, with the majority of participants indicating that they are overall satisfied or very satisfied. It is of note that post-COVID, satisfied responses decreased slightly while very satisfied responses increased (Figure 87).

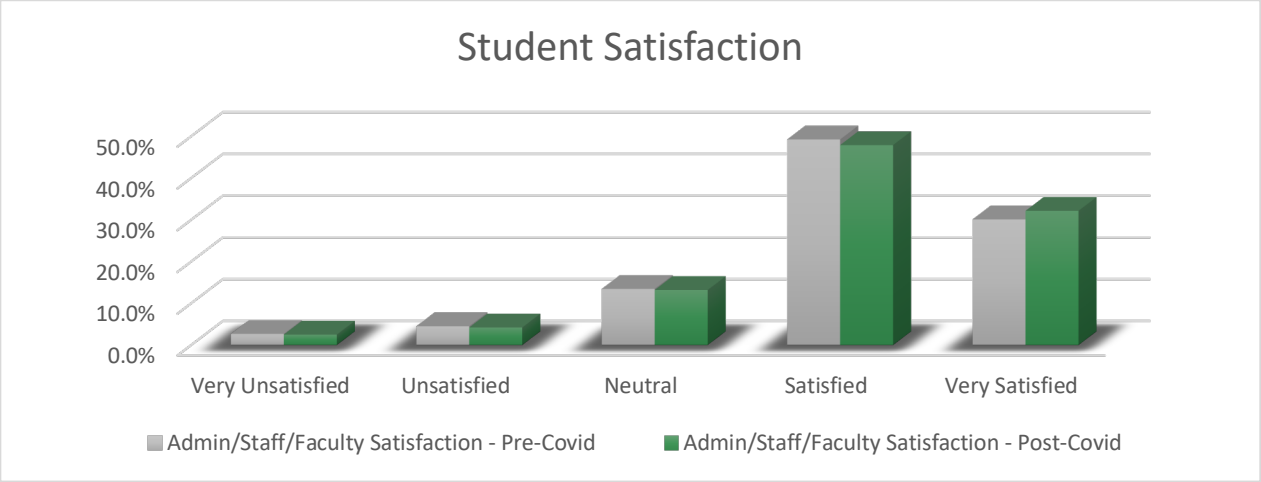


Figure 87

Measures of satisfaction with faculty satisfaction both pre- and post-COVID, among both administrators/staff and faculty indicate that the majority of participants are overall satisfied or very satisfied. It is of note that post-COVID, satisfied and very satisfied responses decreased while very neutral, unsatisfied, and very unsatisfied responses increased (Figure 88).

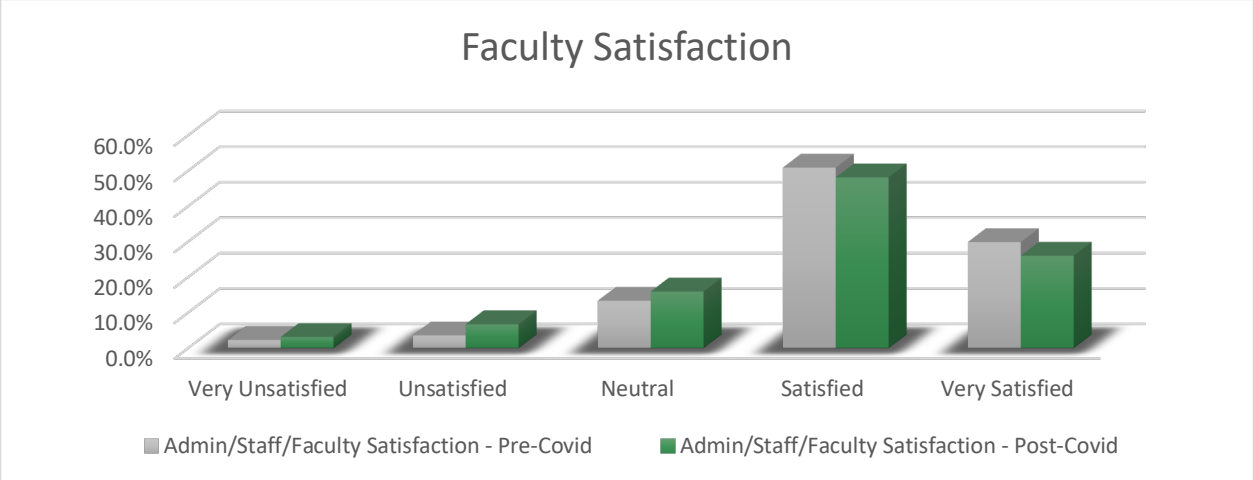


Figure 88

Measures of satisfaction with faculty satisfaction both pre- and post-COVID, among both administrators/staff and faculty indicate that the majority of participants are overall satisfied or very satisfied. It is of note that post-COVID, satisfied and very satisfied responses decreased (though satisfied responses decreased only slightly) while very neutral, unsatisfied, and very unsatisfied responses increased (Figure 89).

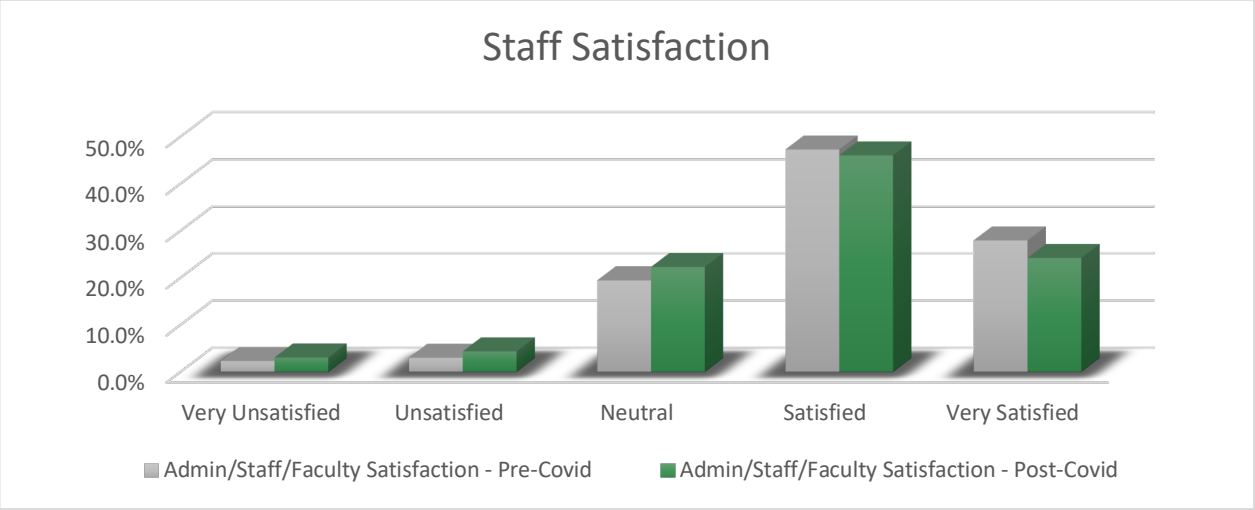


Figure 89

Administrators/staff and faculty were queried as to whether stakeholder assessments for students, faculty, and staff were in place. The majority, 75.3%, agreed or strongly agreed with this statement, with less than 8% disagreeing or strongly disagreeing (Figure 90).

Student responses indicated that opportunities exist for feedback on both course improvements (62.1% agreed or strongly agreed that they are present; 20.6% disagreed or strongly disagreed), and evaluations on the quality of instruction and online materials (66.9% agreed or strongly agreed that they have these opportunities; 15.6% disagreed or strongly disagreed). Interestingly, interview data repeatedly indicates that student evaluations and feedback are collected.

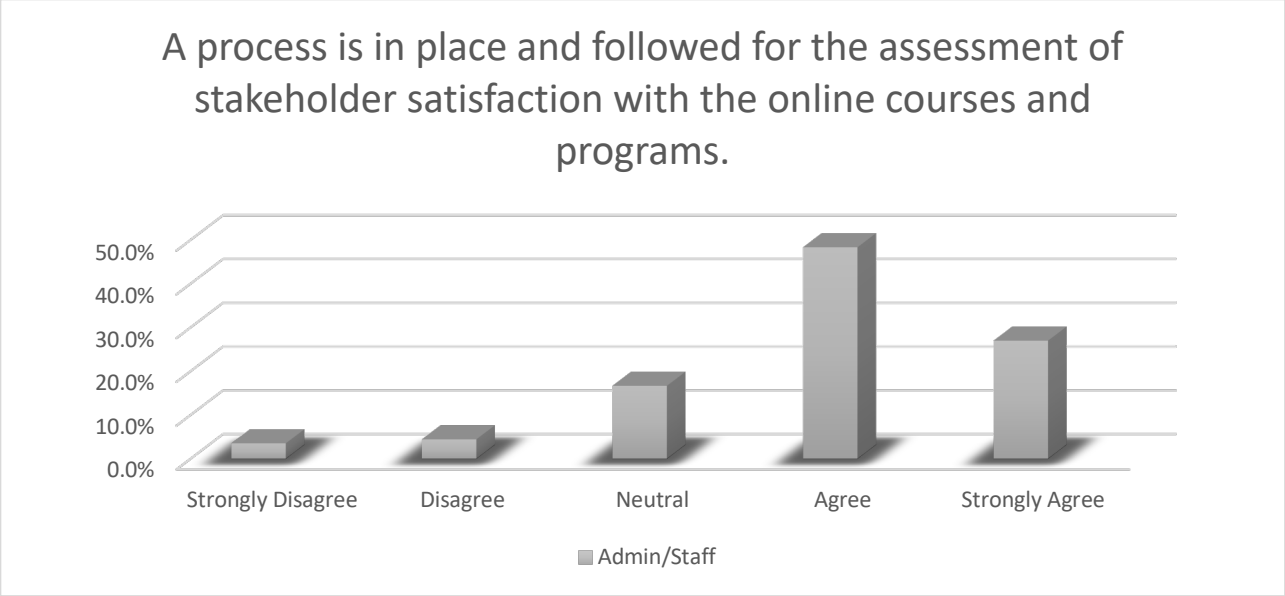


Figure 90

Recommendations include communication of evaluation opportunities (faculty, students, and staff) and their purpose, as well as communications about how such feedback is incorporated into course and program improvements. Intentional development of evaluation and feedback opportunities to directly impact ongoing improvements is also recommended.

Recommendation: Communications are provided to faculty, students, and staff regarding evaluation opportunities and their purpose, including information on the use of such feed for course and program improvements.

Target Audience	Faculty, Staff, and Students
Needs	Communications to faculty, students, and staff regarding evaluation opportunities, their purpose, and how feedback is incorporated into course and program improvements
Initiatives	Create a communication plan for faculty, staff, and students regarding evaluation opportunities, purposes, and uses
Goals	Increase awareness and opportunities for faculty, staff, and student evaluations
Actions	Develop and implement a communication plan regarding evaluation opportunities, purposes, and uses for faculty, staff, and students
CSFs	Communications are provided to faculty, staff, and students regarding evaluation opportunities, purposes, and uses
KPIs	Faculty, staff, and students participate in evaluation opportunities

Subdimension: Innovation

Measures of satisfaction with faculty satisfaction both pre- and post-COVID, among both administrators/staff and faculty indicate that the majority of participants are overall satisfied or very satisfied. It is of note that post-COVID, satisfied and very satisfied responses decreased (though very satisfied responses decreased only slightly) while very neutral, unsatisfied, and very unsatisfied responses increased (Figure 91).

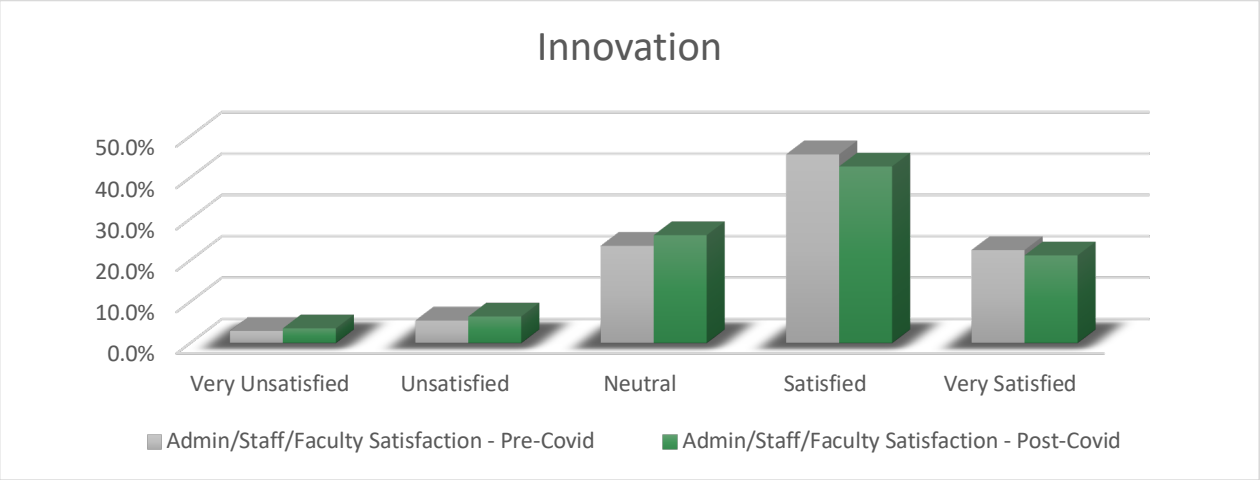


Figure 91

Innovation in the evaluation and continuous improvement dimension includes the continual implementation of appropriate assessment methods for the evolving online higher education landscape in the KSA, as well as explicit attention to the development, implementation, and communication regarding innovative analysis methods used to inform improvements (as noted in a previous section).

Expert Recommendation: Incorporate best practices.

Target Audience	Administrators, staff, faculty
Needs	Access to research and international experts
Initiatives	Implement best practices identified by online learning experts
Goals	Ensure quality of online learning by benchmarking against best practices
Actions	• Review quality standards (rubrics, scorecards, research, etc.) shared by online learning experts • 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

Pressing Challenges and Opportunities

In Part III of the Higher Education survey, respondents were asked to choose from a list of 28 items that they perceived or experienced as challenges for online learning at their institutions and could check all that they felt applied to their context. The top five reported challenges include *Student Online Readiness* (61.9%), the *Quality of Online Courses* (50.2%), *Access to the Internet* (44.4%), *Familiarity with Online Learning* (43.2%), and *Technological Infrastructure* (38.1%). Some other relevant findings include *Student Engagement with their Course* (37.3%), *Time Management* (34.6%), *Availability of Professional Development Funding* (34.5%), *Faculty-Student Engagement* (34.4%), *Extra-Curricular Group and Campus Engagement* (33.4%), and the *Flexibility of Student Academic Support Services* (31.5%). The items that had the fewest noted challenges include *Shared Governance Policies/Processes* (19.1%), *Spaces for Learning* (18.4%), *Area-Specific Leadership* (16.5%), and the *Cost of Course Materials* (15.2%). Additional findings are all located in Appendix IX: Pressing Challenges. Overall, respondents considered leadership factors as less of a challenge, where technology, online courses and readiness, and engagement were more of a challenge.

In addition to challenges, respondents were asked to rank 19 potential opportunities for future investment of resources to support online learning. The following findings are ranked from highest to lowest.

1. Faculty/Instructor Training ($M = 4.37$, $SD = 3.790$)
2. Leadership ($M = 4.41$, $SD = 4.698$)
3. Institutional Policies ($M = 4.72$, $SD = 4.122$)
4. Student Academic Support Services ($M = 5.49$, $SD = 3.501$)
5. Student Online Readiness ($M = 5.50$, $SD = 3.409$)
6. Technology Infrastructure ($M = 6.52$, $SD = 3.382$)
7. Instructional Design ($M = 6.58$, $SD = 3.088$)
8. Student Technology Resources ($M = 7.98$, $SD = 2.961$)
9. Faculty Technology Resources ($M = 8.14$, $SD = 3.110$)
10. Online Work Skills (e.g., Microsoft Word) ($M = 9.93$, $SD = 3.092$)
11. Mental Health Services ($M = 11.43$, $SD = 3.159$)
12. Open Educational Resources ($M = 12.49$, $SD = 2.866$)
13. Physical Health Services ($M = 12.50$, $SD = 3.026$)
14. Communication ($M = 12.94$, $SD = 3.288$)
15. Innovative Thought Leadership ($M = 13.68$, $SD = 3.683$)
16. Student Engagement with Course ($M = 14.24$, $SD = 3.879$)
17. Accessibility and Universal Design Resources ($M = 15.46$, $SD = 3.564$)
18. Governance, Policies, and Processes ($M = 15.65$, $SD = 4.774$)
19. Opportunities for Peer Learning ($M = 16.81$, $SD = 4.269$)

While there are some similarities between challenges and opportunities, there are also some notable differences. Where some leadership factors were considered less of a challenge, respondents felt that more investment is needed. Student engagement was seen as a significant challenge, but was rated low for additional investment. Student online readiness, training for faculty for building online courses, and technology infrastructure all rate as higher on both.

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 online higher education. Several expert recommendations in addition to the key actions are also provided to further support online education initiatives and Vision 2030. Overall, findings indicate a high level of consensus among administrators/staff and faculty across all eight dimensions. Areas in which there are differences among administrators/staff and faculty are clearly indicated, along with potential reasons for their presence and recommendations to address them. While a number of items indicate that students are in alignment with administrators and faculty/staff, a clear gap is often present between students and administrators/staff. Recommendations include potential explanations and solutions to address these gaps.

Recommendations are provided in detail in the narrative above and summarized in Appendix IV: Future Action Framework (including priority recommendations for COVID).

An action plan for implementing recommendations within the context of readiness, challenges, responses, and impact is summarized in Appendix II: Research Findings. A trend identified in this appendix is that there are many areas in which ad-hoc solutions to address challenges either illuminated or caused by the pandemic were put in place locally at institutional levels or independently by faculty and instructors. In order to most effectively implement the action plan, evaluation of the gaps addressed in this manner should take place, and determination of need for scaled processes and solutions as well as which should remain at independent levels should be completed. These issues are addressed through the recommended actions, but clear awareness of this trend is warranted. Additionally, many areas in this study reflected either increases or decreases in satisfaction post-COVID, though explicit actions that may have resulted in these changes are not indicated. It may be of value to further investigate the impetus for change in some of these areas based on selected priorities. 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. The OLC Evaluate tool can also help specific higher education institutions determine their campus-specific needs based on their unique contexts.

As noted above, though gaps exist and are addressed in this study, the overall high and consistent rate of similarity in reported opinions, beliefs, and experiences reported not only provides indications for areas of improvement, existing areas of excellence are evident, and the findings demonstrate that there is a solid foundation upon which to build as the Kingdom of Saudi Arabia pursues its online education goals.

Considerations of Future Study

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.

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. 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 private institutions, public institutions, specialized institutions, and by further disaggregated stakeholder characteristics. These analyses would primarily benefit institutional-level stakeholders by providing recommendations specific to their individual environments and contexts.

During both the development and analysis processes for the current study, a potential need for the design and completion of a similar study, focused on employment projections and employer needs, community needs, and partnership opportunities and needs emerged. The completion of such a study would benefit higher education stakeholders in the KSA, including administrators/staff, faculty, and students. The incorporation of such findings has the potential to proactively inform future course and program curriculum development as well as to assess and improve existing curriculum to best equip students for future employment success. Understanding community needs could potentially inform not just curriculum, but provide insight to administrators/staff and faculty regarding the student population and their holistic support needs (academic, financial, health, and social-emotional). Similarly, understanding the present and potential partnership opportunities could allow for the development and/or modification of strategic plans that include optimally effective and efficient structures spanning a wide variety of institutional, stakeholder, and Kingdom-level needs.

There are a number of expansions and/or additional studies that may be beneficial to higher 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 Allocations, Periodic Review & Updating, Innovation					
2	Curriculum Design & Planning					
	Instructional Design Methods & UDL, Alignment with Standards, Course Syllabi, Course Materials & Content, Innovation					
3	Online Teaching & Learning					
	Communication, Engagement, Expectation Setting, Outcomes, Course Interaction, Feedback, Resources, Innovation					
4	Assessment					
	Assessment Strategies, Assessment Processes, Assessment Methodology, Assessment Types, Innovation					
5	Technology					
	Operability, Centralized Online Education Infrastructure (SSO, LMS, etc.), Modality, Security, ITSM Compliance, Internet Access, Reliability, Coverage, Innovation					
6	Student Support					
	Student Orientation & Support, Equity, Accessibility, Compliance Standards, Innovation					
7	Training & Support					
	Technical Assistance, Professional Development, Orientation, Mentoring, Innovation					
8	Evaluation & Continuous Improvement					
	Student Satisfaction, Faculty Satisfaction, Staff Satisfaction, Evaluation of Course Outcomes and Program Quality, 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, Process, Resource Allocation, Periodic Review and Updating, 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, Alignment with Standards, Course Syllabi, 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, Resources, 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, Assessment Types, Innovation					
5	**Technology**	**Objectives**	Baseline measures of subdimensions; what was present and used regarding operability, centralized online education infrastructure,	Within each subdimension, what challenges remained, arose, or became more	Within each subdimension, what has the response related to technology been?	Within each subdimension, what impact has occurred due to technology	Recommendations resulting from analyses, both by overall dimension and subdimension.

			modality, security, ITSM Compliance, internet access, reliability, and coverage prior to COVID-19?	amplified as a result of COVID-19?		responses to COVID-19?	
		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
		Operability, Centralized Online Education Infrastructure (SSO, LMS, etc.), 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, 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, faculty, 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
		Student Satisfaction, Faculty Satisfaction, Staff Satisfaction, Evaluation of Course Outcomes and Program Quality, Innovation					

Research Findings

Dimensions	Subdimensions	Before	During Covid 19			Post Covid 19
		Readiness	Challenges	Response	Impact	Recommendations
Leadership	Governance	Appropriate governance structures are in place to support online education	Involve faculty in governance and related decision-making	No explicit actions described	Consistent satisfaction pre- and post-COVID, though very satisfied decreased slightly and neutral and dissatisfied responses increased slightly	Provide sufficient opportunities for faculty to be involved in decisions related to online learning
	Strategies	Institutions have developed and articulated institutional strategies for online learning while aligning with existing university- and program-level plans	Communicate with faculty and involve them as appropriate regarding strategic planning	No explicit actions described	Majority satisfaction with strategies, though slight decreases occurred following COVID	Include online learning in strategic plans at the institutional level in order to appropriately align resources; Develop a strategic plan for online learning
	Policies	Institutions have policies that encourage the development of online courses and programs	Ensure comprehensive and clear policies support online education; communicate with and involve faculty as appropriate	No explicit actions described	Majority satisfaction with policies, though lower faculty agreement than administrator/staff	Develop national policies on the use of online education in higher education that can provide universities with guidelines and expectations for a quality learning experience
	Process	Institutional structure provides centralized support for online program development, faculty within online programs, and students enrolled in online programs	Even implementation of processes that are effective for online programs	No explicit actions described	Majority satisfaction with processes	Ensure that processes (e.g., admissions, registrar requests, testing, etc.) work with students at a distance

	Resource Allocation	Training and development or faculty development programming are in place to provide knowledge, skills, and abilities for the design and teaching of online courses	Development and implementation of processes on planning and allocating resources for online learning, incentives for related course development and design, consideration of the positional parity of instructional designers	Uneven implementation of resource allocations; some actions localized institutionally to address challenges	Consistency in overall pre- and post-COVID satisfaction; areas of challenge identified	Provide incentives to faculty to participate in professional development and create online courses; Evaluate internet availability throughout the Kingdom of Saudi Arabia to determine opportunities to improve access; Prioritize access to technology, technology support, and technology training to better support students
	Periodic Review & Updating	Institutions have governance structures to enable systematic and continuous improvement related to the administration of online education	Ongoing implementation of review and updating of processes	No explicit actions described; increase in satisfaction indicates increased visibility and/or adoption of such processes	Decrease in satisfied and neutral responses and increase in very satisfied responses	Conduct regular institutional reviews of online learning courses and programs; Conduct regular and substantive reviews of online learning at the National level
	Innovation	Majority satisfaction with innovation in leadership	Allocation of financial support and incentives for innovation; inclusion of innovation in teaching and learning as part of evaluation and promotion policies	No explicit actions described, though some localized actions may have been implemented as satisfaction increased after the pandemic	Increase in satisfaction post-COVID; discrepancies remain between administrators/staff and faculty	Rewards, recognition or other incentives should be provided to encourage innovation

Curriculum Design & Planning	Instructional Design Methods & UDL	Processes are in place to ensure effective development and implementation of curriculum and design	Increase human resources for better quality assurance; faculty involvement in curriculum design and development; training in instructional design; inconsistent student experiences	Independent and localized efforts at institutional levels are indicated	Consistency in satisfaction pre- and post-COVID	Provide regular opportunities for faculty input on curriculum design and planning decisions, and clearly communicate with faculty regarding such decisions to ensure buy-in across the institution(s) and effective implementation of decisions; Develop and regularly offer professional development and training on instructional design and UDL, and provide ongoing instructional design support to faculty; Include instructional design in quality review processes and whenever possible, employ standardized practices
	Alignment with Standards	Courses are aligned with best practices and quality standards for design, development, and delivery	Ensure that alignment is accurate and supports students' ability to develop necessary knowledge and skills to achieve learning outcomes	No explicit actions described	Slight decreases in satisfaction following COVID-19, indicating that the pandemic illuminated or resulted in additional alignment needs	Ensure alignment with standards through quality review, and collect student feedback and measure their learning outcomes to improve and monitor effectiveness
	Course Syllabi	Majority agreement that syllabi contain essential course and content information	Include expectations for participation in syllabi	No explicit actions described	Slight decrease in satisfaction post-COVID, potentially due to the rapid shift to remote teaching	Develop and implement clear syllabi components, including clearly labeled course objectives, learning outcomes, assessment methods, descriptions of content and activities, and expectations; Ensure that syllabi are easy to locate and use in a consistent course design practice

	Course Materials & Content	Materials are accessible, easy to use, and may be accessed on multiple devices; a variety of content/materials types appropriate for multiple learning objectives are present	Ensure sufficient breadth, depth, and currency of instructional materials; include current content such as online resources and/or videos	No explicit actions are described	Slight decrease in satisfaction and increase in neutral responses following COVID	Regularly review course materials and content for sufficient coverage and currency, and update as appropriate with current and media-rich content; Ensure academic rigor of content with activities at the appropriate level of Bloom's Taxonomy
	Innovation	Institutions support innovation in curriculum design and planning	Student communication/feedback and/or recognition of innovative planning and practices	No explicit actions described	Consistent responses pre- and post-COVID	Provide opportunities for student feedback regarding innovative pedagogical and technological practices in curriculum design and planning
Online Teaching & Learning	Communication	Faculty are expected to hold virtual office hours and frequently communicate with their students in various ways	Increase communications with students in the virtual setting in ongoing, timely, effective, and appropriate ways	Independent faculty changes to communication types and frequencies	Decrease in satisfaction with communication post-COVID	Consider identifying and defining a list of core definitions as they apply to the institution; Consider what measurements (if any) define these terms
	Engagement	Course design promotes student engagement, including academic challenge and social involvement with each other and the instructor	Ensure that students are academically challenged and interact with each other and with faculty	No explicit actions described	Decrease in satisfaction post-COVID, potentially due to the rapid shift to remote instruction	Provide interactive opportunities, both formal and informal, for students to interact with one another and faculty, and ensure that academic challenge is incorporated into these experiences as appropriate
	Expectation Setting	Courses contain clearly defined student activity expectations	Ensure clear expectations and effective communication of expectations to students	No explicit actions described, though faculty clearly understand the importance of doing so	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID	Ensure that online courses include clearly defined student activity expectations, and that these expectations are communicated to students; Provide information on expectations for teacher responsiveness

	Outcomes	Mixed results regarding whether onsite and online outcomes are equivalent	Ensure equivalence of outcomes regardless of modality; address perceived gaps in technology for teaching and assessing hands-on needs (such as medical or nursing courses)	Independent and localized efforts at the institutional level are described	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID	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 faculty-to-student interactions are encouraged and facilitated	Ensure that technology availability and selection is sufficient to support quality interactions	Independent and localized efforts at the institutional level are described	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID	Establish the presence of the online educator
	Feedback	Faculty and instructors provide timely and detailed feedback on assessments and student inquiries	Clear communication of feedback is provided to and understood by students	No explicit actions are described	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID	Set expectations for feedback provision and methods, as well as when feedback will be provided and how it is related to course learning objectives; Implement student experience measurements within online learning experiences as a part of the design process
	Teaching and Learning Resources	Administrators/staff and faculty indicate that course resources provide richness in learning materials and activities, support and instruction, instructor interactions, and tools and media	Resources are present and students recognize and utilize them	No explicit actions are described	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID	Develop and implement evaluation procedures to gather information regarding student perceptions of course resources, and include this data in continual course improvement processes
	Innovation	Administrators/staff and faculty indicate that innovation is encouraged for online teaching and learning	Increase student awareness of innovation	No explicit actions are described	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID	Provide communications to increase student awareness of innovations implemented in online teaching and learning, and provide opportunities for student feedback regarding innovative practices

Assessment	Assessment Strategies	Assessment strategies encompass student readiness for online learning, piloting strategies that include digital and other pertinent literacies, and formative assessment	Communicate with students to identify assessments, their purposes, and learning outcomes	No explicit actions are described	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID	Develop and implement course-level communications to students that identify assessments, their purposes, and the learning outcomes for each
	Assessment Processes	Administrators/staff and faculty indicate that assessments are aligned to learning objectives, criteria, graduation, and expectations are communicated, and feedback is provided	Communicate with students regarding assessment processes and set expectations for feedback	No explicit actions are described, though independent and localized efforts are indicated	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID	Ensure alignment of learning objectives and assessments through quality review processes; Align course design practices regarding assessment with best practices for the placement and use of communications and materials including criteria, assignments, expectations, and grading rubrics; Set expectations for feedback provision and methods, as well as when feedback will be provided and how it is connected to each assessment
	Assessment Methods	New assessment methods, a variety of assessment methods, the use of multiple and timely assessment activities, and the belief that course grades are not based solely on exams are present	Increase opportunities for self- and peer-assessment and feedback	Independent improvement of online assessments is indicated by faculty	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID, potentially influenced by the rapid shift to remote instruction	Provide faculty with professional development opportunities on the design and delivery of both peer- and self-assessment methods for students
	Assessment Types	Opportunities are present to demonstrate proficiency in ways other than just tests and quizzes	Clearly communicate different types of assessment and their purposes to students	No explicit actions are described	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID	Provide opportunities to assess learning at higher levels of knowledge acquisition

	Innovation	Innovation through new strategies, the inclusion of current and relevant literacies, the use of new assessment methods, and opportunities to demonstrate learning in a variety of ways is supported	Provide professional development on innovative assessment	No explicit actions are described	Decrease in satisfaction and increase in neutral and dissatisfied responses post-COVID	Innovation in assessment strategies, processes, methods, and types is encouraged and supported, and related professional development on design, development, and delivery is provided
Technology	Centralized Online Education Infrastructure (SSO, LMS, etc.,)	Moderate agreement that centralized support infrastructure is widely available, including support for building and maintaining the technical infrastructure	Ensure equitable availability of centralized support infrastructure	No explicit actions are described; increased use of and exposure to online education infrastructure may have resulted in increased satisfaction following the pandemic	Consistency in satisfaction pre- and post-COVID overall, though very satisfied responses increased and satisfied responses decreased	Evaluate technology infrastructure to ensure that it is sufficient to meet current and upcoming demands, and create and implement improvement plans as appropriate
	Internet Access and Reliability	Mixed results regarding whether technology and internet access was available and/or reliable	Assess needs and address equity of access and reliability	No explicit actions are described, though there is an understanding that improvements are needed	Consistent and positive rates of satisfaction pre- and post-COVID, though uneven access and reliability are repeatedly described	Alternatives should be considered such as a reduction in the number of synchronous course meetings, or technology and faculty development working together to support faculty in offering different, flexible access options that do not rely heavily on immediately accessible technology
	ITSM Compliance	An ITSM plan is in place to design, delivery, operate, and control information technology in support of online program development	Determine priorities for ITSM services and address infrastructure and support needs	Some localized actions are indicated	Consistent and positive rates of satisfaction are present both pre- and post-COVID	Create faculty development and support materials around how the academic technologies offered by IT work, and incorporate these services purposely into overall ITSM structures
	Modality	Online courses are delivered with an effective mix of synchronous or asynchronous delivery,	Review modality decisions and communicate to students about modality and learning outcomes	No explicit actions are described	Consistent and positive rates of satisfaction are present both pre- and post-COVID	Evaluate student experiences, needs, and perceptions regarding synchronous and asynchronous learning in online courses and incorporate

		depending on learning outcomes				findings into course design and delivery
	Operability and Security	The Learning Management System has an established interoperability protocol established so that embedded applications provide a seamless experience; Digital security measures are in place to ensure the integrity and validity of information including identity access	Ensure that operability and security are regularly reviewed and updated for functionality	No explicit actions are described	Consistent and positive rates of satisfaction both pre- and post-COVID	Operability and security should be regularly monitored and functionality maintained and updated as needed
	Technology Plan	There is a document technology strategic plan in place to ensure quality standards in online learning	Increase communication and visibility of how technology plans are related to online learning	No explicit actions are described	Majority agreement that technology plans are in place	Administrators/staff and faculty receive communications regarding technology plans, including clear indicators of how the plan is connected to, and supports, online education
	Coverage	Sufficient coverage and ability to access items needed for online learning are present	Monitor coverage and make improvements as needed	No explicit actions are described	Consistent and positive rates of satisfaction both pre- and post-COVID	Continual monitoring of coverage and access to online learning needs for administrators/staff, faculty, and students
	Innovation	Administrators/staff and faculty indicate agreement that their institutions pilot, support, and encourage innovative technologies	Increase communication and understanding of technology innovation for students	No explicit actions are described	Decrease in satisfied and increase in neutral responses post-COVID	Provide opportunities for student feedback regarding innovative technology
Student Support	Student Orientation & Support	Institutions provide an orientation to course design and technologies, information on university technology and academic support resources, and access to personnel that provide assistance	Evaluate needs and solutions for social-emotional support	Independent faculty and localized efforts at institutional levels are indicated	Overall consistency in positive rates of satisfaction; decrease in very satisfied an increase in neutral responses post-COVID	Ensure availability of orientations and student resources targeted to support students and faculty in online learning environments; Provide student support equal to those provided to face-to-face students

	Equity	Survey data indicates agreement that equitable access to resources, technology, course materials, and support is provided. Interviews present more mixed indications of equity.	Evaluate and ensure equitable access to necessary course items and supports	Localized actions at institutional levels are indicated; it is possible that onsite equity was satisfactory and the pandemic resulted in an increase in need	Decrease in satisfied and increase in neutral and dissatisfied responses post-COVID	Ensure availability and communication of learning and technology requirements as well as available assistance to support faculty and students in online learning environments
	Accessibility	Online courses demonstrate compliance with accessibility standards	Availability of tools and other resources to assist students with disabilities	No explicit actions are described	Decrease in satisfied and increase in neutral and dissatisfied responses post-COVID	Ensure appropriate accessibility needs are in place through investigation of current practices
	Compliance Standards	Online courses meet compliance with accessibility standards	Consider economic competitiveness and online learning as compliance goals are developed and implemented	No explicit actions are described	Decrease in satisfied and increase in neutral and dissatisfied responses post-COVID	Include all stakeholders including administrators/staff, faculty, Instructional Designers, and educational technology vendors in the implementation of compliance goals
	Innovation	Institutions support students in innovative ways	Increase support for innovation at private institutions	Localized actions at an institutional level are indicated	Decrease in satisfied and increase in neutral and dissatisfied responses post-COVID	Invest in educational technology tools and research to stimulate innovative online educational practices and support services
Training & Support	Technical Assistance	Faculty and instructors receive sufficient technical assistance for course development and online teaching	Address uneven provision of technical assistance options for students	Independent actions by instructors are indicated	Consistent and positive satisfaction pre- and post-COVID	Administrators, staff, and faculty generally felt that there was sufficient technical assistance, but students sampled for this study tended to have a more negative response to technical issues and support; Provide adequate technical assistance for faculty
	Professional Development	Administrators/staff and faculty agree that they had sufficient training and support	Support faculty in available time for professional development, establish clear engagement and expectation standards	Localized actions at institutional levels are indicate	Consistent and positive satisfaction pre- and post-COVID	Increase communication between those stakeholder groups to improve rating by faculty; Move long synchronous trainings into modular, asynchronous formats; Provide regular opportunities for

						professional development specific to online learning
	Orientation	Faculty and instructors receive sufficient technology and instructional design orientation	Evaluate reasons for satisfaction/dissatisfaction with orientation and address them as appropriate	Localized actions at institutional levels are indicated	Consistent and positive satisfaction pre- and post-COVID	The Ministry or NELC could work with some institutions to identify these technologies and develop and share common orientations that could be used by anyone within the Kingdom
	Mentoring	Faculty and instructors receive sufficient peer mentoring resources	Evaluate access to and ability for participation in peer mentoring resources	No explicit actions are described	Consistent and positive satisfaction both pre- and post-COVID, though satisfied responses decreased and neutral responses increased following the pandemic	A virtual mentoring program coordinated centrally could provide opportunities for greater connection and support
	Innovation	Faculty and instructors are informed about emerging technology and new tools	Support both organized and independent efforts toward innovation	Independent and localized actions are indicated	Consistent and positive satisfaction pre- and post-COVID	Support the awareness and use of new technologies is through a faculty learning community program. These communities can take place organically, led by a university staff member or faculty member, or can be coordinated centrally through divisions of academic/faculty affairs or teaching and learning centers

Evaluation & Continuous Improvement	Evaluation of Course Outcomes and Program Quality	Procedures and policies for evaluating and improving programs and course-level alignment and evaluation are in place	Consider implementing and/or increasing faculty peer evaluation	Localized actions at institutional levels are indicated	Consistent and positive satisfaction both pre- and post-COVID, though satisfied responses decreased and neutral responses increased following the pandemic	Ensure adherence to established processes, procedures, and policies on course and program evaluation, including regular review and updating; Provide communication and transparency to faculty, and involve faculty when possible in initiatives regarding analytics for programmatic decisions; Develop and implement practices and expectations regarding faculty peer evaluation, including explicit processes and procedures as well as appropriate professional development on the development, implementation, and use of such practices
	Student, Faculty, and Staff Satisfaction	Stakeholder assessments for students, faculty, and staff are in place	Increase communication of and opportunities for students to provide feedback on course improvements and evaluations of the quality of instruction and online materials	No explicit actions are described	Overall consistency and positivity in satisfaction both pre- and post-COVID across all three groups, though small shifts occurred in the distribution of responses	Communications are provided to faculty, students, and staff regarding evaluation opportunities and their purpose, including information on the use of such feed for course and program improvements
	Innovation	Continual implementation of appropriate assessment methods for online education including development, implementation, and communication regarding innovative analysis methods used to inform improvements are present	Evaluate and continually improve innovation as appropriate to the current environment	No explicit actions are described	Consistent and positive satisfaction both pre- and post-COVID, though satisfied responses decreased and neutral responses increased following the pandemic	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 VI: 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 Higher Education

NELC FUTURE ELEARNING ACTION FRAMEWORK - HIGHER EDUCATION									
Dimension	**Subdimension**	**Needs**	**Initiatives**	**Goals**	**Action Lines**	**Critical Success Factors**	**KPIs**	**Target Audience**	**Priority for COVID**
Leadership	Governance	Online Learning Governance	Provide opportunity for faculty to be involved in decision making related to online learning	Establish a committee or advisory group for online learning made up of faculty or include faculty in an existing committee	- Form committee structure including mission and objectives - Identify appropriate faculty to serve on committee (through election, invitation, etc.) - Include administrators on committee as appropriate - Identify opportunities for faculty to make decisions on curriculum and other needs for online learning - Define how decisions will be made by the committee	Active engagement of faculty in online learning decision making	- Faculty involvement in decision making - Time to make decisions - Success of decisions made over longer term	Administrators at each higher education institution (specifically should be at the level that has oversight for faculty)	
	Strategies	One or more items related to online learning within the institutional strategic plan	Prioritize online learning	Prioritize online learning by including it in the strategic plan	Review existing strategic plan and revise to include online learning where appropriate	Commitment to online learning	Inclusion of online learning in institutional strategic plan	Institutional leadership	X
		Online learning strategic plan	Provide specific and actionable items related to online learning	Develop a strategic plan for online learning	- Identify committee made up of representatives from throughout the institution to serve on committee to develop - Write strategic plan - Align resources to strategic plan - Evaluate effectiveness of strategic plan	Sustain online learning	-Development of strategic plan -Alignment of resources to strategic plan	Institutional Leadership	X

	Policies	Policies specific to online learning	Establish standards of quality	- Develop appropriate policies related to online learning to encourage effective implementation - Develop standards of quality for online learning curriculum and programs	- Write policies for online learning at the course and program level (e.g., requirements to be able to offer online courses/programs, training requirements for faculty/staff, student services that need to be available, technical requirements, etc.) - Share policies with institutions of higher education - Review implementation of online learning against policies	Effective implementation of online learning	- Policies written and shared - Compliance with policies	National eLearning Center	X
	Process	Processes to support online learners	Processes to support virtual learning	Processes that meet the needs of online learning	Implement appropriate processes to support online learners	- Review existing processes and modify for online learners - Identify and develop additional processes needed to support online learners	Processes written and implemented	Administration, faculty	X
	Resource Allocation	Rewards, recognition or other incentives	Encourage faculty to develop online courses	Provide incentives to faculty to participate in professional development in order to develop online courses	Determine what types of incentives will be used institutionally (e.g., financial, additional resources, recognition, etc.) - Create guidelines to receive incentive (e.g., attend certain number of workshops, develop first online course, teach online course, etc.)	Faculty commitment	- Increase in number of faculty qualified to teach online - Increase in number of online courses offered	Administrators	X
		Adequate internet access	Increase accessibility to online learning	Provide adequate internet access throughout the Kingdom of Saudi Arabia (rural,	- Determine weak points for internet access throughout the country - Identify locations to install or upgrade internet	Learners able to access online courses	- Increase in number of students able to enroll in online learning	Government (possibly regional)	X

				suburban, and urban)					
		Technology, Technology Support and Technology Training	Improve use of technology	Allocate appropriate resources to support the use of technology for online learning	- Review technology being used to support online learning for effectiveness - Provide technology support for students and faculty that encounter issues with being able to access their online course - Provide professional development or workshops to students and faculty to help more effectively use educational technology	Learners and faculty able to more effectively engage with online classroom	- Increased use of technology to support online learning - Increased access to support for technology issues - Increased training for use of required technology - Increased student and faculty satisfaction with online learning	Administrators	X
	Periodic Review and Updating	Policies, processes and procedures specific to the regular review of online learning courses and programs	Development of policies, processes and procedures to review and provide feedback on online learning courses and programs	Maintain and regularly update the quality of online courses and programs	- Develop and implement policies, processes and procedures specific to the regular review of online learning courses and programs - Use standardized rubrics and scorecards (Online Learning Consortium, Quality Matters) as part of the process to review against quality standards - Conduct regular reviews as part of continuous improvement process	Online learning courses and programs continue to meet best practices	- Online learning courses and programs reviewed per policy - Online learning courses and programs continuously updated	Administrators, Faculty	

		Policies, processes and procedures specific to the regular review of online learning programs	Development of policies, processes and procedures to review and provide feedback to institutions on online learning courses and programs	Ensure the quality of online learning programs offered at institutions	- Develop and implement policies, processes and procedures specific to the regular review of online learning programs - Provide feedback on quality of program compared to industry standards	Quality online learning programs offered within the Kingdom of Saudi Arabia	- Policies, processes and procedures developed and shared with institutions - Regular reviews of online learning programs conducted	National eLearning Center	
	Innovation	Rewards, recognition or other incentives	Encourage faculty to be more pedagogically or technologically innovative	Provide incentives to faculty to participate in professional development in order to develop online courses	- Determine what types of incentives will be used institutionally (e.g., financial, additional resources, recognition, etc.) - Create guidelines to receive incentive (e.g., attend certain number of workshops, develop first online course, teach online course, etc.)	Faculty commitment to innovation	- Increase in number of faculty engaging in pedagogical innovation - Increase in number of faculty engaging in technological innovation	Administrators	X
Curriculum Design & Planning	Instructional Design Methods & UDL	- Opportunities for input on curriculum design and planning decisions - Communication regarding such decisions	- Create opportunities for faculty participation in decision-making, such as committee involvement and soliciting written input and/or feedback - Regularly communicate with faculty regarding	To utilize faculty expertise by including them in curriculum design and planning decisions and to increase the awareness and understanding of such decisions	Create opportunities and communications plans for faculty involvement in curriculum design and planning decisions	- Presence and awareness of opportunities for faculty participation - Regular communications to faculty regarding decisions	- Faculty are aware of and participate in curriculum design and planning decision-making opportunities - Communications are created and sent regularly, and faculty indicate awareness and understanding of	Faculty	

			curriculum design and planning decisions				decisions		
		- Professional development and training on instructional design and UDL - Ongoing instructional design support for faculty	- Develop and regularly offer professional development and training focused on instructional design and UDL - Develop ongoing instructional design support resources for faculty	To increase faculty knowledge, skill, and support resources on instructional design and UDL	Develop and regularly offer professional development and training on instructional design and UDL, and ensure that faculty are aware and able to access both training and support options	- Presence of professional development and support opportunities - Awareness of professional development and support opportunities	- Faculty participation in professional development opportunities - Faculty use of support resources - Evaluation of effectiveness based on course design outcomes and faculty feedback	Faculty	X
		Standardized course design practices	- Develop and implement standardized instructional design practices - Include instructional design in quality reviews	To increase course consistency and coherence through the use of standardized practices and quality review	- Develop standardized instructional design practices - Ensure that faculty understand and implement these practices - Include these practices in quality course reviews	- Standardized instructional design practices are developed - Standardized instructional design practices are implemented - Quality course reviews include instructional design	- Instructional design standards are evident in courses - Quality course reviews reflect adherence to standardized instructional design - Student feedback indicates an increase in consistent and coherent design across courses	Faculty, Students	X

	Alignment with Standards	Ensure that courses are aligned with standards and that students are able to develop the knowledge and skills needed to achieve learning outcomes	- Quality course review for alignment with standards - Collect student feedback on their ability to achieve learning outcomes - Regularly monitor student outcomes in courses	To increase alignment to standards in courses to support successful student learning outcomes	- Include alignment with standards in quality course reviews - Provide opportunities for student feedback regarding their ability to achieve learning outcomes - Measure student outcomes in courses for continuous improvement	- Alignment with standards is reflected in quality course reviews - Students are able to provide feedback regarding their ability to achieve learning outcomes - Student outcomes in courses are measured and reviewed regularly	- Alignment with standards is evident in quality course reviews - Students participate in feedback opportunities and indicate areas of success or challenge with their ability to achieve learning outcomes - Measurement and review of student outcomes in courses reflects improvement and/or is used for continuous improvement	Faculty, Students	X

	Course Syllabi	- Syllabi contain standard components that are clearly labeled and include course objectives, learning outcomes, assessment methods, descriptions of content and activities, and expectations - Syllabi are easy to locate and use with consistency in course design	- Develop and implement standard syllabi components - Implement course design standards ensuring that syllabi are consistently easy to locate and use	To increase students' ability to consistently locate and use syllabi, and increase students' understanding of course components and expectations through standard syllabi development practices	- Develop and implement standard syllabi components - Develop and implement standard course design practices for the location of syllabi within the course	- Standard syllabi components are developed and implemented - Standard course design practices for the location of syllabi within the course are developed and implemented	- Quality course reviews indicate that standard syllabi components are used and that syllabi are placed appropriately within the course design - Student feedback indicates that syllabi components are present and identifiable, and that syllabi are consistently located within their courses	Faculty, Students	X
	Course Materials & Content	Ensure that course materials and content include sufficient coverage 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 content is sufficient, updated, and includes current and media-rich resources	Develop regular review and updating processes and schedules for course content and materials	Course content and materials are regularly reviewed for currency and resource content and updated as appropriate	Reviews of course content and materials are completed and resources are updated with current and media-rich content	Faculty	
		Ensure that course content (activities, assignments) are at an appropriate level of academic rigor and include	Provide academic rigor in all courses	Offer academically rigorous programs that appropriate prepare learners	- Review activities and assignments in courses to ensure they provide for higher levels of thinking (Bloom's Taxonomy) - Add activities and assignments	Course content meets appropriate level of academic rigor	Activities and assignment included in courses offer higher order thinking	Faculty	X

		higher levels of thinking			that provide for higher order thinking				
	Innovation	Include student feedback in innovative pedagogical and technological practices	Provide opportunities for students to give feedback on implemented practices, and for them to share their thoughts, needs, and ideas on innovation	To increase student awareness of innovative practices and incorporate their feedback as appropriate in continual improvement of curriculum design and planning innovation	Develop and implement opportunities for student feedback on the success and development of innovative practices in curriculum design and planning	Student feedback opportunities are provided	Student feedback is evaluated and incorporated into decision-making on innovative practices	Students	
Online Teaching & Learning	Communication	Identify and define a list of core definitions as they apply to the institution	Consider the components and measurements associated with terms used for various iterations of online learning, identify, and define terms that will be consistently used	To increase the clarity and effectiveness of communication regarding the various iterations and components associated with online learning	- Determine terminology needs for each iteration or component associated with online learning - Define metrics (as appropriate and/or needed) and definitions of use for each term - Communicate terms and definitions, and implement consistent use of selected terminology across all stakeholder groups	- Terminology is selected and defined - Metrics associated with terminology (as appropriate) are selected and defined - Selected terms and definitions are communicated to stakeholders - Consistent use of selected terms is implemented	Selected terminology is consistently used across stakeholder groups and accurately used for various online learning instances	Administrators/ Staff, Faculty	X

	Engagement	Increase opportunities for students to interact with their peers and faculty, including academically challenging components	Implement both formal and informal opportunities for students to interact with each other and faculty, and to engage with academically challenging interactivity	To increase student engagement with course content, their peers, and faculty, including academically challenging components	Include intentional opportunities for academically challenging interactions with students and faculty in course design and delivery	Online courses provide interactive opportunities for students and the peers as well as faculty, and these opportunities include academically challenging components	- Quality course reviews indicate the presence of academically challenging interactive opportunities - Student evaluations and feedback indicate that interactive opportunities are present and academically challenging	Faculty, 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 - Student activity expectations are communicated to students	- Student activity expectations are evident in quality course review - Student evaluations and feedback indicate that expectations are present an effectively communicated	Faculty	X
		Expectations for responses from the faculty are clearly defined and shared with students	Establish expectations for responsiveness	To set expectations regarding when students can expect responses from 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	Teachers responding to student communications within set parameters	Faculty	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 for online courses are measured - Results are communicated and include relevant comparisons to onsite courses - Findings result in continual improvement for online courses - Administrators/staff and faculty indicate that they understand student learning outcomes data for online courses and their perceptions regarding the efficacy of online courses are in alignment with findings	Administrators/ Staff, Faculty	
		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	Rubrics developed and provided for all assignments and activities	Faculty	X

	Course Interaction	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 an instructor biography and contact information Share expertise with students through bringing outside resources (especially those written/prepared by the educator) Regularly participate in discussions or other collaborative activities	Increased engagement between the instructor and students	Instructor biography and contact information shared Instructor regular contributing in the virtual classroom	Faculty	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, 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	- Processes and methods of feedback are present and implemented - Communication to students regarding feedback is present and implemented - Student evaluations indicate that feedback processes, methods, and provision are implemented, understood, and support learning	Faculty	X

		Measure student experiences and quality perceptions as an integrated component of course design, and use the resulting data in continual improvement processes	Develop and implement measures of student experience and quality perceptions	To gain an understanding of student experiences and quality perceptions that are used in continual course improvement processes	Develop and implement measures of student experience and quality perceptions	- Measures of student experience and quality perceptions are present and utilized - Resulting data is used in the continual improvement of courses	- Measures of student experience and quality perceptions enhance understanding among administrators/staff and faculty regarding these items - Student experience and quality perception feedback results in course improvements addressing related course components	Faculty	
	Resources	An increased understanding of student perceptions and feedback regarding course resources	- Develop and implement evaluation procedures to gather student perceptions of course resources - Include this data in continual course improvement	To understand student perceptions regarding course resources for the purpose of improving courses to better meet student learning needs	- Develop and implement evaluation procedures regarding student perceptions of course resources - Utilize resulting data to inform continual course improvements	- Evaluation procedures are developed and implemented - Evaluation results are utilized for continual course improvements	- Evaluation processes result in student feedback on perceptions of course resources - Results are integrated into course improvement processes, which reflect inclusion	Administrators/ Staff, Faculty	

			processes				of appropriate modifications based on identified needs		
	Innovation	Provide students with information about innovations in online teaching and learning, and gather student feedback regarding the innovative practices	Provide communications and feedback opportunities to students regarding innovative online teaching and learning practices	To increase student awareness of innovative practices and incorporate their feedback as appropriate in continual improvement and innovation	- Increase student awareness of innovation in online teaching and learning - Develop and implement opportunities for student feedback on the success and development of innovative practices	- Communications regarding innovation are provided to students - Student feedback opportunities are provided	- Student feedback reflects an increased awareness of innovation in online teaching and learning - Student feedback is evaluated and incorporated into decision-making on innovative practices	Students	
Assessment	Assessment Strategies	Clearly identify assessments and identify their purposes and learning outcomes to students	Develop and implement course-level communications to students regarding assessments, their purposes, and the learning outcomes addressed by each	To increase student understanding of assessment practices in order to support successful student learning outcomes	Faculty provide communications to students via various methods (syllabi, email, LMS communications, etc.) identifying assessments, their purposes, and the learning objectives for each	Faculty provide communications to students regarding assessments	- Communications are provided to students regarding assessments - Student evaluations and feedback indicate increased awareness and understanding of assessments, their purposes, and the associated learning outcomes	Faculty, Students	X

	Assessment Processes	Ensure alignment of learning objectives and assessments	Ensure alignment of learning objectives and assessments through quality course review processes	To support successful student learning through alignment of learning objectives and assessments	Include alignment of learning objectives and assessments in quality course reviews	Learning objectives and assessments are aligned	Successful student outcomes increase as a result of effectively aligned learning objectives and assessments	Faculty	X
		- Implement course design best practices regarding assessment, including delivery and placement - Align communications and materials, including criteria, assignments, expectations, and grading rubrics with best practices	Ensure that assessments and related communications in online courses follow best practices	To support successful student learning outcomes through the use of effective course design and communication practices related to assessment	- Align course assessments with effective course design, including delivery and placement - Ensure that criteria, assignments, expectations, and grading rubrics are present and that these elements are clearly communicated to students	- Course assessment delivery and placement follow course design standards - Criteria, assignments, expectations, and grading rubrics are present and communicated to students	- Effective delivery and placement of assessments is evident in quality course reviews - Communications regarding criteria, assignments, expectations, and grading rubrics are provided to students - Student evaluations and feedback reflect presence and understanding of criteria, assignments, expectations, and grading rubrics	Faculty	X

		Feedback provision and methods, timing, and connection to assessments is present and communicated to students	Develop and communicate methods for providing feedback, and set expectations for timing and explanations of how feedback is connected to each assessment	To support successful student learning outcomes by establishing and communicating clear processes and expectation for feedback	- Develop processes and methods of feedback provision for each assessment - Communicate feedback processes and methods, and set expectations including timing and how feedback is connected to assessments, to students	- Feedback processes and methods are developed and implemented - Communication to students regarding feedback processes, methods, connection to assessment, and expectations is provided	- Processes and methods of feedback for assessments are present and implemented - Communication to students regarding feedback is present and implemented - Student evaluations indicate that feedback processes, methods, and provision are implemented, understood, and support learning	Faculty	X
	Assessment Methods	Provide professional development opportunities on the design and delivery of peer- and self-assessment methods for students	Develop and deliver professional development opportunities for faculty on the design and delivery of peer- and self-assessment	To increase the effective use of peer- and self-assessments in courses for the purpose of supporting student learning	Develop and deliver professional development opportunities for faculty on the design and delivery of peer- and self-assessment methods for students	Professional development opportunities are developed and provided to faculty on peer- and self-assessment methods for students	- Faculty participate in professional development opportunities - Faculty develop and implement peer- and/or self-assessment	Faculty	

			methods for students				opportunities for students		
	Assessment Types	Assessments for higher order thinking	Ensure knowledge acquisition	Implement assessments to reflect higher order thinking	Develop assessments (e.g., papers, projects, group activities, etc.) that reflect knowledge acquisition at a higher level	Learners acquire needed knowledge	Courses include assessment activities that fit higher order thinking on Bloom's Taxonomy	Faculty	X
	Innovation	- Encourage the discovery, dissemination, and implementation of innovative assessment strategies, processes, methods, and types - Provide professional development on the design, development, and delivery of innovative assessment	- Explicitly encourage innovative assessment through communications, activities, and professional development - Develop and implement professional development opportunities on innovative assessment	To increase the design, development, and delivery of innovative assessment	- Develop and implement strategies for the discovery and dissemination of innovative assessment techniques - Develop and implement professional development opportunities for faculty on the design, development, and implementation of innovative assessment	- Innovation relevant to assessment is actively encouraged - Professional development opportunities related to innovative assessment are provided	- Clear encouragement of innovative assessment is communicated to faculty - Faculty participate in professional development opportunities related to assessment - Faculty implement and measure innovative assessment practices in their courses	Faculty	

Technology	Centralized Online Education Infrastructure (SSO, LMS, etc.,)	Evaluate technology infrastructure to ensure that it is sufficient to meet demand; create and implement improvement plans as appropriate	- Evaluate technology infrastructure - Utilize evaluation results to create and implement any necessary improvement plans	To ensure that technology infrastructure is sufficient to meet current and anticipated demands, increasing the likelihood of smooth online learning experiences for faculty and students	- Evaluate technology infrastructure - Utilize evaluation results to create and implement improvement plans as needed	- Technology infrastructure is evaluated for ability to meet demand - Results are utilized to create and implement any necessary plans for improvement	- Technology capabilities and capacities are understood and needs identified - Technology infrastructure is improved as needed to support demand - Technology infrastructure adequately meets the needs of faculty and students	Administrators, Staff	X
	Internet Access/Reliability	Flexible options for completing online courses to account for internet reliability and/or student needs	- Develop and implement flexible course participation and completion options - Collaborations between faculty and technology administrators/staff to support flexible course options	To improve the ability of faculty and students to successfully engage in online education	Develop, implement, and support flexible options for course participation and completion	Presence and awareness of flexible course participation and completion options	- Faculty and student use of flexible options to support online learning - Evaluations and feedback indicate efficacy and result in recommendations for potential improvements	Administrators, Staff, Faculty	X

	ITSM Compliance	Faculty development and support materials on the academic technologies supported by IT	Develop and disseminate faculty development and support materials related to academic technologies' use and available support through IT	To ensure awareness and support for academic technologies, including instructional design support and just-in-time technical resources	Develop and disseminate faculty development and support materials related to academic technologies supported by IT	- Faculty development and support materials related to academic technologies are developed - Communications are provided regarding these resources to increase faculty awareness and use of academic technologies and associated support needs	- Faculty development and support materials related to academic technologies are developed, disseminated, and accessed by faculty - Increased use of academic technologies and/or support resources	Faculty	X
	Modality	Understand student experiences, needs, and perceptions regarding synchronous and asynchronous learning, and utilize those findings to inform course design and delivery decisions	- Evaluate student experiences, needs, and perceptions regarding synchronous and asynchronous learning in online courses - Include findings in course design and delivery decision-	To support successful student learning experiences through the evaluation of synchronous and asynchronous experiences, needs, and perceptions and	- Gather student feedback on their experiences, needs, and perceptions regarding synchronous and asynchronous online learning - Evaluate feedback and incorporate findings in decision-making processes for online course design and delivery	- Student feedback is collected - Feedback is evaluated for student needs - Needs are addressed through course design and delivery	- Student feedback regarding experiences, needs, and perceptions of synchronous and asynchronous online learning is regularly collected, evaluated, and incorporated into	Students	

			making	implementation of effective course design and delivery to support student needs			course design and delivery - Student feedback and course outcomes indicate effective course design and delivery		
	Operability/ Security	Regular monitoring of systems	Operable and secure technology to support online learning	To ensure the regular functioning and security of technology to support online learning	Establish protocols for regular review of the learning management system and other technologies to ensure they continue to operate as required and remain secure	Functioning technology to support online learning	- No, or limited, downtime for the learning management system or other technologies - No security breaches with the learning management system or other technologies	Administrators, Staff	X
	Coverage	Regular monitoring	Continuous coverage and access to online learning technology	To ensure that administrators, staff, faculty, and students are able to access technology needed for online courses	Establish programs for review of technologies to make sure access is maintained	Technologies available to administrators, staff, faculty, and students	Coverage and access to online learning technologies maintained	Administrators, Staff, Faculty, Students	X
	Technology Plan	Increase awareness of technology plans and how they connect with and support online education	Develop and implement a communication plan for administrators/staff and faculty regarding technology plans and online education	To increase awareness and understanding of technology plans, particularly as related to online education in order to better support	Develop and implement a communication plan for administrators/staff and faculty regarding technology plans and online education	Communications are provided to administrators/staff and faculty regarding technology plans and online education	Administrators/staff and faculty report increased awareness of technology plans and how they connect with and support online education	Administrators, Staff, Faculty	X

				stakeholder needs					
	Innovation	Include student feedback regarding the use and implementation of innovative technology	Provide opportunities for students to give feedback on implemented tools/practices, and for them to share their thoughts, needs, and ideas on innovation	To increase student awareness of innovative practices and incorporate their feedback as appropriate in continual improvement of technology innovation	Develop and implement opportunities for student feedback on the success and development of innovative practices in technology	Student feedback opportunities are provided	Student feedback is evaluated and incorporated into decision-making on innovative practices	Students	
Student Support	Student Orientation & Support	- Reduce response time to address student problems/complaints - Increased availability of students support services to address the specific needs of students in online learning environments	Ensure technology training, tools/hardware, and resources to support best practices and academic success are available to all faculty and students engaged in online learning	To enrich and support the student and faculty online learning experience to ensure successful student outcomes	- Extend the breadth and depth of orientation topics - Introduce Online Learning Readiness assessment prior to enrollment in online courses - Provide voluntary, interactive training opportunities - Invest in technology/staffing: to scale, streamline student problem/complaint mechanisms and reduce response time; to deliver online resources comparable to those available to on-campus students; and to ensure all faculty and students in	- The technology and teaching and learning requirements for online courses is clearly communicated to faculty and students - The availability of student support resources is clearly communicated to faculty, advisors, and students	- Students' surveys and feedback report prompt responses to problems/complaints - Students' surveys and feedback report the availability and helpfulness of support services	Faculty, Students, Advisors, Information Technology Staff, Instructional Designers	X

					online courses have required technology tools				
		Student support offered to online students	Provide student services to online learners that is equivalent to services provided in-person	To provide services through virtual modality for students unable to access in-person	Review existing student services and provide options for online students to access	Improved service to online students	Online students able to access needed services through virtual modality	Administrators, staff	X
	Equity	- Increase faculty and students' knowledge of technologies and online learning best practices - Increase training for faculty to increase engagement from all students - Instructional designers to assist faculty in developing courses and using tools/apps that increase engagement and limit distractions - Increase technology, including assistive technology access - Provide a seamless process for faculty and students to	Ensure technology training, tools/hardware, and resources to support best practices and academic success are available to all faculty and students engaged in online learning	To enrich and support the student and faculty online learning experience to ensure successful student outcomes	- Extend the breadth and depth of orientation topics - Introduce Online Learning Readiness assessment prior to enrollment in online courses - Provide training opportunities using assistive technologies - Ensure instructional design support provides faculty the tools and best practices that support engagement from diverse student groups - Invest in technology and training to ensure all faculty and students have access to accommodations or assistive technologies to deliver an equitable learning environment including the course content and associated resources	Ensure early communication of the availability of instructional design support, assistive technology, other support services to students and faculty	Students' surveys and feedback report that the necessary tools, training, resources, and assistance was available for them to participate in the online learning environment	Faculty, Students, Advisors, Information Technology Staff, Instructional Designers	X

		request accommodation or other support to create equitable learning opportunities							
	Accessibility	- Investigate student and faculty needs - Monitor legal requirements - Explore assistive and adaptive technology - Establish policies and practices to support course designers and provide accommodations for students and faculty with a disability - Ensure accessibility features and functions are built in from the beginning, rather than approached retroactively	To ensure online learning practices adhere to accessibility laws, policies, and standards	To provide an equitable learning environment for students and faculty that follows best practices for digital learning	Form an Accessibility Task Force composed of IT staff, Faculty, college Administrators/Staff to investigate current technology and capacity for accessibility - Provide recommendations to the appropriate university administrators and the Ministry of Education - Make use of UDL	Laws, policies, and practices are in place to ensure that the technology and resources for online courses is available to faculty and students	The Accessibility Task Force surveys the current online learning environment and submits its findings and recommendations to the appropriate administrators, departments, and divisions of government	Ministry of Education, Administrators, Staff, Information Technology Staff, Instructional Designers, Faculty	X
	Compliance Standards	- Include all stakeholders in the implementation of	Verify that all university personnel and	To provide a secure, trustworthy	- Establish annual review of the institution's compliance goals - Implement compliance training	Implementation of training and annual	- Successful completion of compliance	Administrators, Staff, Information	X

		compliance standards - Provide training about compliance standards and goals - Communicate compliance goals to the university community	staff are aware of and maintaining compliance goals	learning environment for the university community	for administrators/staff, faculty, and students	review of compliance goals	training - Effective communication of compliance goals - Completion of annual review of compliance standards and goals	Technology Staff, Faculty, Educational Technology Vendors	
	Innovation	- Create capacity and scale for online learning - Make use of third-party vendors as appropriate and cost effective - Improve the online learning experience for students - Investigate the delivery of health and well-being check-ins, automated feedback, and technology training through vendors - Make use of shared tools through strategic approach to learning tools adoption	Develop policies and practices to investigate innovative tools and implement an adoption strategy for tools and practices	To provide a secure, engaging learning experience that leads to positive student learning outcomes	- Create a Learning Innovation Taskforce (or new unit) to investigate tools and pedagogy - Develop policies and practices that deliver cost-effective, innovative tools that provide capacity and scale for online learning	Increased capacity for online learning and delivery of student support resources	Students' surveys and feedback report positive interactions with course tools and provide opportunities for timely, engaging faculty and peer interactions	Administrators, Staff, Faculty, Students, Information Technology Staff, Instructional Designers, Educational Technology Vendors	

Training & Support	Technical Assistance	Improve communication and technical assistance mechanisms for students	Create a centralized support space through a website; Resources explicitly shared and stressed by faculty in syllabi and online course, and the institution	To remove barriers for course progress and develop resources for common issues	- Create an advisory team of stakeholders across campus including student members to guide development of needed resources - Create a centralized website with curated resources (e.g., guides, videos, frequently asked questions) and support mechanisms (ex: live chat, chatbot) - Communicate resources through institutional channels, online courses, and syllabi	- Stakeholder expertise and listening to student needs - Centralized website available with curated resources and support mechanisms, and updated to ensure current - Resources shared through institutional channels, online courses, and syllabi	- Website piloted and shared for feedback - Future student technical issues curated to update website - Each syllabus and online course has common support language - Institution shares resources through a variety of channels	Administrators, Staff, Faculty, Students	X
		Improve communication and technical assistance mechanisms for faculty	Create a centralized support space through a website; Resources explicitly shared by staff	To remove barriers for faculty teaching in an online modality	- Create an advisory team of stakeholders across campus including faculty to guide development of needed resources - Create a centralized website with curated resources (e.g., guides, videos, frequently asked questions) and support mechanisms (ex: live chat,	Centralized website available with curated resources and support mechanisms, and updated to ensure current	- Website created - Faculty technical issues curated to update website	Administrators, staff, faculty	X

					chatbot) - Communicate resources through institutional channels				
	Professional Development	Improved communication between stakeholder groups	Create mechanisms for a feedback loop	To improve communication and better understand where pain points exist and how to better address faculty and student needs to improve overall course outcomes	- Create opportunities for stakeholder feedback (e.g., post-event surveys, focus groups, town hall meetings) - Conduct a needs assessment to help illuminate areas of where faculty need more support, resources, etc. - Create a mechanism for students to share their perspectives (e.g., town hall meetings, focus groups, survey)	- Broad faculty participation in needs assessment - Timely creation of feedback loops that are maintained and communicated each semester - Feedback implemented	- Response rate of 50% or greater - Improved faculty satisfaction with professional development and student satisfaction with courses	Administrators, Staff, Faculty	X
		Increase opportunity for faculty to complete professional development and remove barriers for support resources	Transition synchronous training to be more asynchronous and curate resources in a centralized space	To provide greater flexibility and more options to complete professional development and remove barriers for support resources	- Break longer synchronous training sessions into more manageable parts that can be completed over a longer period of time - Create short courses using the resident learning management system (LMS)(ex: Blackboard) around specific training topics to create a space for engagement, practice with tools and features, and share ideas, ask questions, and engage with the content - Curate, post, and communicate resources pertaining to moving teaching online in one space (such as a website for a Center for Teaching and Learning)	- Opportunities for faculty to ask questions in a synchronous format (e.g., weekly live session or virtual office hours) - Modular content that can be completed in shorter chunks of time - Technical support structure for short courses - Advisory group of faculty and staff to provide feedback on curated resources - Faculty are made aware of resources through a variety of channels (e.g., departments, emails, etc.)	- Increased faculty participation in professional development - Improved student outcomes (depending on topic)	Administrators, Staff	X

		Regular access to professional development	Faculty training on course design and teaching online	To provide regular access to professional development specific to online learning	- Identify professional development needs - Provide workshops on specific needs (either in-house or through provider)	Faculty better trained to teach online	Faculty provided with access to quality training	Faculty	X
	Orientation	Improve access to orientations for widespread/common technologies	Develop and share common orientation modules for institutions	To decrease resistance and challenges among faculty for online learning technologies and improve student outcomes	- Identify widespread technologies and determine most critical to develop - Partner with different institutions to develop and pilot orientation modules - Publicly host and share modules with institutions	- Most critical technologies identified - Periodically updated to include new technologies - Piloted with institutions to provide 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	Administrators, Staff, Ministry of Education, National E-Learning Center	X
	Mentoring	Preserve and improve opportunities for peer mentoring	Develop a virtual mentoring program	To provide opportunities for faculty to continue to receive support and guidance during remote teaching and learning, including	- Communicate with faculty to identify mentoring needs - Pair mentors with mentees based on needs - Provide resources and incentives where possible and appropriate	- Needs identified - Faculty volunteers to be mentors and mentees - Means for incentivizing participation, if possible - Feedback loop to improve program	- Number of mentors and mentees - Academic output (e.g., publications, grants, etc.) - Faculty retention - Faculty health	Administrators, Staff, Faculty	X

				maintaining academic momentum		where possible	and wellbeing		
	Innovation	Greater awareness and use of innovative technologies	Develop a faculty learning community program	To build capacity around online learning tools and approaches	- Bottom-up: faculty/staff self-organize into a community (or multiple communities) - Top-down: institution recruits faculty/staff into communities and provides centralized way to coordinate the groups	- Bottom-up: Groups set expectations, regular meetings, participants share resources and ideas - Top-down: Clear expectations for program, regular meetings, a point person to coordinate the group and ensure all needs and outcomes met, incentives for participation (stipends, resources, awards/recognition, etc.), recruitment from all departments to	- Number of groups - Participation in groups - Diffusion of knowledge and skills	Administrators, Staff, Faculty	X

						grow champions			
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	- Courses and programs are evaluated in alignment with established processes, procedures, and policies - Course and program processes, procedures, and policies are reviewed and updated as appropriate on a regular schedule	Faculty	
		Increased communication, transparency, and involvement of faculty with regard to analytics used	- Communications to faculty regarding the analytics included in programmatic	To increase faculty awareness, participation, and buy-in of	- Communicate with faculty regarding analytics used for programmatic decision-making - Include faculty, when possible, in programmatic decision-	- Communications are provided to faculty regarding programmatic decision-making - Faculty are	- Faculty indicate awareness of analytics used for programmatic decision-making - Faculty	Faculty	

		for programmatic decision-making	decision-making - Inclusion of faculty in programmatic analytics and decision-making when possible and appropriate	programmatic decision-making	making	included in programmatic decision-making	participate in programmatic decision-making processes		
		Develop and implement practices and expectations regarding faculty peer evaluation, including processes and procedures as well as professional development on development, implementation, and use	Implement faculty peer evaluation, and provide related professional development	To increase the use of effective peer evaluation for faculty in order to support continued evaluation and development of effective teaching and learning practices	- Develop and implement practices and expectations regarding faculty peer evaluation - Provide professional development on peer evaluation to faculty	- Clear practices and expectations for faculty peer evaluation are in place - Professional development opportunities on peer evaluation are available to faculty	- Faculty peer evaluation is effectively employed - Faculty participate in professional development opportunities related to peer evaluation	Faculty	
	Faculty Satisfaction	Communications to faculty regarding evaluation opportunities, their purpose, and how feedback is incorporated into course and	Create a communication plan for faculty regarding evaluation opportunities, purposes, and uses	To increase awareness and opportunities for faculty evaluations	Develop and implement a communication plan regarding evaluation opportunities, purposes, and uses for faculty	Communications are provided to faculty regarding evaluation opportunities, purposes, and uses	Faculty participate in evaluation opportunities	Faculty	X

		program improvements							
	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	Communications are provided to staff regarding evaluation opportunities, purposes, and uses	Staff participate in evaluation opportunities	Staff	X
	Student Satisfaction	Communications to students regarding evaluation opportunities, their purpose, and how feedback is incorporated into course and program improvements	Create a communication plan for students regarding evaluation opportunities, purposes, and uses	To increase awareness and opportunities for student evaluations	Develop and implement a communication plan regarding evaluation opportunities, purposes, and uses for students	Communications are provided to students regarding evaluation opportunities, purposes, and uses	Students participate in evaluation opportunities	Students	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	-Review quality standards (rubrics, scorecards, research, etc.) shared by online learning experts -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, faculty	

Appendix V: 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	2020 CHLOE Report The Changing Landscape of Online Education (CHLOE): Navigating the Mainstream	Quality Matters
	Access and Accessibility in Online Learning: Issues in Higher Education and K-12 Contexts	Online Learning Consortium
	Global quality in online, open, flexible and technology enhanced education: An analysis of strengths, weaknesses, opportunities and threats	International Council for Open and Distance Education
	Emergency Preparedness and Continuity Planning for Administrators	Online Learning Consortium
	APLU COVID-19 Resources	Association of Public & Land-Grant Universities
	Institute for Emerging Leadership in Online Learning (IELOL)	Online Learning Consortium
	OLC Leadership in Online Learning Mastery Series	Online Learning Consortium
Curriculum Design & Planning	Guidance on Open Educational Practices during School Closures	UNESCO IITE
	OLC OSCQR Course Design Review	Online Learning Consortium
	QM Rubric for Course Review	Quality Matters
	OLC Instructional Designer Programs - Master Series, Certificate, and Courses	Online Learning Consortium
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
	QM Teaching Online Certificate	Quality Matters
	QM New to Online Teaching Series	Quality Matters
Assessment	Creating Effective Assessments workshop	Online Learning Consortium
Technology	QM Gauging Your Technology Skills workshop	Quality Matters
Student Support	OLC Online Student Support scorecard	Online Learning Consortium
Training & Support	OLC Institute for Professional Development	Online Learning Consortium
	QM Professional Development	Quality Matters
Evaluation & Continuous Improvement	OLC Quality Scorecard for the Administration of Online Learning	Online Learning Consortium
	QM Program Certification • Online Program Design • Online Teaching Support • Online Learner Support • Online Learner Success	Quality Matters

Appendix VI: Literature Review

Literature Review

Introduction

Online education has rapidly increased worldwide in the past two decades. Burgeoning demands for higher education as well as resource and capacity constraints and the pressures of a global knowledge economy have been met with the advent of increasingly more online courses and programs. 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. Enrollments have grown along with availability, and these trends have given rise to significant research about effective strategy and pedagogy for online teaching and learning.

Online in Saudi Arabia

Beginning with governmental development plans in 1970, education across all sectors has grown rapidly, and there are currently 29 public and 56 private universities in Saudi Arabia, as well as hundreds of community, women's, and vocational colleges. Along with the number of higher education institutions, demand has continuously grown, and institutions have struggled with a lack of capacity to meet total demand (Allahmorad & Zreik, 2020).

The Saudi Ministry of Higher Education recognized these challenges early on, and has taken clear steps to develop solutions, primarily based in online education and technology. Online education has steadily increased in Saudi Arabia from the early 2000s on, with a focus on solving two primary challenges: bridging the gap between the college-age population/number of high school graduates and the capacity of higher education institutions, and providing higher education opportunities to students in rural or otherwise underresourced areas (Alturki, 2014; Hamdan, 2014). 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 Higher Education has consistently supported the exploration and development of online education opportunities through workshops and research, in addition to traditional institutions' efforts to deliver online courses and programs and the development of online-only institutions (Hamdan, 2014).

These efforts (both traditional and online) are reflected in higher education enrollments, which reached approximately 1.7 million in 2016, up from fewer than 650,000 in in 2006 (ICEF, 2018). Despite these

figures, demand continues to outpace capacity and estimates place the 18-24 year old population topping four million by 2025 (currently just over three million) (ICEF, 2018; UNESCO, 2020).

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 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 faculty 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 faculty 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 higher 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 faculty 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, and provides a foundation for both faculty 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 accommodations 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, faculty 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 faculty 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 faculty 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 faculty 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 faculty communication and awareness of indicators of student needs are the most important considerations (O'Keefe, Rafferty, Gunder, & Vignare, 2020).

Faculty Support

In addition to student support, faculty support is essential for successful experiences in both online teaching and learning as well as ERT (Serianni, 2020). The faculty 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 faculty 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 faculty not have the time to engage in support services prior to teaching in the online environment, but 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, faculty should attend to recommendations noted previously regarding course design, content, assessment, technology, and support.

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Appendix VII: Survey Protocols

Higher Education 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. Please note that participants must be 18 years of age or older.

* What best describes your role at your institution?

- ◯ Administrator
- ◯ Staff
- ◯ Faculty
- ◯ Student

Higher Education Survey

Part I - Leadership - Administrators/Staff

In this section, questions are designed to understand the perceptions and experiences of administrators and/or staff with regard to leadership as related to online education. Please respond to these items as they relate to your role as an administrator and/or staff member, and select 'N/A' for any items that do not apply to your role or experience.

The institution has a governance structure to enable clear, effective, and comprehensive decision making related to online education.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

The institution has a governance structure to enable systematic and continuous improvement related to the administration of online education.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has a governance structure in which decisions related to online learning can be reviewed by faculty.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has formed a council that includes a diverse group of stakeholders including faculty, program administrators, and support service administrators to support online programs.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has policies that encourage the development of online courses and programs (e.g., a policy for intellectual property of course materials).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has developed and articulated an institutional strategy for online learning while aligning with existing university- and program-level plans (e.g., university strategic plans, university and program technology plans, and academic program plans).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution provides leadership and vision for the institutional direction regarding the role of online learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has a senior level position to lead online learning in academic affairs (e.g., Associate Provost).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institutional structure provides centralized support for online program development, faculty within online programs, and students enrolled in online programs.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has established training and development or faculty development programming to provide faculty with the knowledge, skills, and abilities to design and teach online courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Leadership, Continued - Administrators/Staff

The institution provides support for faculty, including pedagogical support and instructional training as well as technical support, training, and/or production.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution provides centralized and dedicated instructional design support organized under an academic reporting structure.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has organized the instructional designers with positional parity to faculty through faculty status or degrees required.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has a process for planning and allocating resources for online learning, including financial resources, in accordance with strategic planning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution demonstrates sufficient resource allocation, including financial resources, in order to effectively support the mission of online education.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has planned for projected resource needs to scale online learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Incentives and/or financial compensation are provided to faculty for professional development and course design activities.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

The institution provides financial incentives and support resources to advance pedagogical and technological innovation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Institutions include the aspect of innovation in teaching and learning as part of an award system and/or as part of the evaluation and promotion policies (e.g., award for innovation in teaching and learning; promotion review includes measure of innovation in teaching).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Higher Education Survey

Part I - Curriculum Design and Planning - Administrators/Staff

In this section, questions are designed to understand the perceptions and experiences of administrators and/or staff with regard to curriculum design and planning as related to online education. Please respond to these items as they relate to your role as an administrator and/or staff member, and select 'N/A' for any items that do not apply to your role or experience

Curriculum development is a core responsibility for faculty and program administration (i.e., faculty should be involved in either the development or the decision-making for the online curriculum choices).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Guidelines regarding standards for course development, and instructional design and delivery of online courses (such as course syllabus elements, course materials, assessment strategies, faculty feedback) are used.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

The instructional design of courses is supported by faculty, instructional designers, technical experts, and peer evaluators.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

A course development process is followed that ensures courses are designed so that students develop the necessary knowledge and skills to meet measurable learning outcomes at the course and program level.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

The instructional design focuses on active learning and is student-centered, creating opportunities for students to interact with each other and the instructor.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

The instructional design includes a consistent course structure, manageable units, and organization across courses for coherency of student experience.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Instructional materials are accessible to all students, easy to use, and accessible on any Internet-ready device.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Online courses are designed based on accessibility guidelines with consideration for usability, including ease of navigation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Online courses include a syllabus outlining course objectives, learning outcomes, assessment methods, and descriptions of learning activities, including course content.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution supports and seeks use of pedagogical and technological innovation methods to improve student outcomes, ensure student success, and enhance access and equity through curricular redesign programming.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Online Teaching and Learning - Administrators/Staff

In this section, questions are designed to understand the perceptions and experiences of administrators and/or staff with regard to online teaching and learning as related to online education. Please respond to these items as they relate to your role as an administrator and/or staff member, and select 'N/A' for any items that do not apply to your role or experience.

Faculty are expected to hold virtual office hours and frequently communicate with their students via email, course news and announcements, online discussions, and assignment feedback.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Course design promotes student engagement, including academic challenge and social involvement with each other and the instructor.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses have comparable outcomes to onsite courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Student-to-student and faculty-to-student interaction are essential characteristics and are encouraged and facilitated.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty and instructors provide timely and detailed feedback on assessments and student inquiries.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The courses resources provide richness in learning materials and activities, support and instruction, instructor interactions, and tools and media.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty and instructors are encouraged to innovate in their online teaching and in approaches to student learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Assessment - Administrators/Staff

In this section, questions are designed to understand the perceptions and experiences of administrators and/or staff with regard to assessment as related to online education. Please respond to these items as they relate to your role as an administrator and/or staff member, and select 'N/A' for any items that do not apply to your role or experience.

Online courses have multiple timely and appropriate activities to assess student readiness for course content and mode of delivery.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Frequent and substantial feedback from the instructor is provided to students through assessments.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students are not assessed solely on tests/quizzes but are provided ample opportunity to demonstrate proficiency in different ways.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty and instructors pilot assessment strategies that incorporate digital literacies and other pertinent literacies (e.g.,blogging, visual communication).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Technology - Administrators/Staff

In this section, questions are designed to understand the perceptions and experiences of administrators and/or staff with regard to technology as related to online education. Please respond to these items as they relate to your role as an administrator and/or staff member, and select 'N/A' for any items that do not apply to your role or experience.n...

A documented technology strategic plan is in place to ensure quality standards in online learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

A documented technology operational plan is in place to ensure quality standards in online learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution provides adequate resources and support to ensure core learning technology systems are in reliably functioning condition and meet operational requirements.

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.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The Learning Management System has an interoperability protocol established for applications to be embedded within the system for seamless experience.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Course embedded technology actively supports the achievement of learning outcomes and delivery of course content, and superfluous use of technology is minimized.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

The learning management system enables online courses to be delivered asynchronously (over time) and synchronously (real-time). dependent on the learning objectives.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Blended courses are delivered integrating a combination of face-to-face, online, synchronous, and asynchronous components.

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.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

IT service management (ITSM) to design, plan, deliver, operate and control information technology support the development and delivery of online courses and programs.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

The institution provides reliable access to wireless internet (WiFi) that is available across the campus, including outdoor spaces.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

New and innovative technologies are piloted, supported, and encouraged in online courses on a timely basis at the institution.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

A process is followed for evaluating the effectiveness of current and emerging technologies to support the achievement of learning outcomes and delivery of course content.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Student Support - Administrators/Staff

In this section, questions are designed to understand the perceptions and experiences of administrators and/or staff with regard to student support as related to online education. Please respond to these items as they relate to your role as an administrator and/or staff member, and select 'N/A' for any items that do not apply to your role or experience.

Students are provided orientations to their online courses, the course design, and the technologies used in the courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students are provided information on university technology and academic support resources.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students have access to appropriate support personnel to address student technical and academic questions, problem reporting, and complaints.

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, course materials, support help).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Policy, processes, and resources are in place to support students with disabilities.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses demonstrate compliance with accessibility standards.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students are being supported in innovative ways, such as relevant communication modes or through AI communication tools.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Training and Support - Administrators/Staff

In this section, questions are designed to understand the perceptions and experiences of administrators and/or staff with regard to training and support as related to online education. Please respond to these items as they relate to your role as an administrator and/or staff member, and select 'N/A' for any items that do not apply to your role or experience.

Technical assistance is provided for faculty during online course development and online teaching.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution ensures faculty receive training, assistance, and support to prepare for course development and teaching online.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty are provided ongoing professional development related to online teaching and learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution provides adequate time for faculty to engage in professional development.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Clear standards are established for faculty engagement and expectations concerning online teaching (e.g. response time, contact information, etc.).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty are provided an orientation to technology and instructional design used in the development of online courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

There are peer mentoring resources available to faculty members teaching online courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty are informed about emerging technologies and the selection and use of new tools.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

المركز الوطني للتعليم الإلكتروني National eLearning Center ONLINE LEARNING CONSORTIUM

Higher Education Survey

Part 1 - Evaluation of Course Outcomes and Program Quality - Administrators and Staff

In this section, questions are designed to understand the perceptions and experiences of administrators and/or staff with regard to evaluation of course outcomes and program quality as related to online education. Please respond to these items as they relate to your role as an administrator and/or staff member, and select 'N/A' for any items that do not apply to your role or experience.

The institution has developed a procedure and/or policy for evaluating and improving courses and programs on a timely basis.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online programs are assessed through an evaluation process that applies specific established standards.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Intended learning outcomes at the course and program level are reviewed regularly to ensure alignment, clarity, utility, appropriateness, and effectiveness.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

A process is in place and followed for the assessment of student retention in online courses and programs.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

A variety of data (academic and administrative information) are used to regularly and frequently evaluate program effectiveness and to guide changes toward continual improvement.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

A process is in place and followed for the assessment of support services for faculty and students.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

A process is in place and followed for the institutional assessment of faculty online teaching performance.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

A process is in place and followed for the assessment of stakeholder (e.g., learners, faculty, staff) satisfaction with the online courses and programs.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution uses innovative developments in analytics to guide course and programmatic decisions about online teaching and learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Leadership - Faculty

In this section, questions are designed to understand the perceptions and experiences of faculty with regard to leadership as related to online education. Please respond to these items as they relate to your role as a faculty member, and select 'N/A' for any items that do not apply to your role or experience.

The institution has a governance structure to enable clear, effective, and comprehensive decision making related to online education.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has a governance structure to enable systematic and continuous improvement related to the administration of online education.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has a governance structure in which decisions related to online learning can be reviewed by faculty.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has formed a council that includes a diverse group of stakeholders including faculty, program administrators, and support service administrators to support online programs.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has policies that encourage the development of online courses and programs (e.g., a policy for intellectual property of course materials).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has developed and articulated an institutional strategy for online learning while aligning with existing university- and program-level plans (e.g., university strategic plans, university and program technology plans, and academic program plans).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution provides leadership and vision for the institutional direction regarding the role of online learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has a senior level position to lead online learning in academic affairs (e.g., Associate Provost).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institutional structure provides centralized support for online program development, faculty within online programs, and students enrolled in online programs.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has established training and development or faculty development programming to provide faculty with the knowledge, skills, and abilities to design and teach online courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Leadership, Continued - Faculty

The institution provides support for faculty, including pedagogical support and instructional training as well as technical support, training, and/or production.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution provides centralized and dedicated instructional design support organized under an academic reporting structure.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has organized the instructional designers with positional parity to faculty through faculty status or degrees required.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has a process for planning and allocating resources for online learning, including financial resources, in accordance with strategic planning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution demonstrates sufficient resource allocation, including financial resources, in order to effectively support the mission of online education.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has planned for projected resource needs to scale online learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Incentives and/or financial compensation are provided to faculty for professional development and course design activities.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution has a governance structure to enable systematic and continuous improvement related to the administration of online education.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution provides financial incentives and support resources to advance pedagogical and technological innovation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Institutions include the aspect of innovation in teaching and learning as part of an award system and/or as part of the evaluation and promotion policies (e.g., award for innovation in teaching and learning; promotion review includes measure of innovation in teaching).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Curriculum Design and Planning - Faculty

In this section, questions are designed to understand the perceptions and experiences of faculty with regard to curriculum design and planning as related to online education. Please respond to these items as they relate to your role as a faculty member, and select 'N/A' for any items that do not apply to your role or experience.

Curriculum development is a core responsibility for faculty and program administration (i.e., faculty should be involved in either the development or the decision-making for the online curriculum choices).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Guidelines regarding standards for course development, and instructional design and delivery of online courses (such as course syllabus elements, course materials, assessment strategies, faculty feedback) are used.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The instructional design of courses is supported by faculty, instructional designers, technical experts, and peer evaluators.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

A course development process is followed that ensures courses are designed so that students develop the necessary knowledge and skills to meet measurable learning outcomes at the course and program level.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses are designed with specific measurable learning objectives and aligned with assessments and learning activities.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Instructional materials are accessible to all students, easy to use, and accessible on any Internet-ready device.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The instructional design focuses on active learning and is student-centered, creating opportunities for students to interact with each other and the instructor.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The instructional design includes a consistent course structure, manageable units, and organization across courses for coherency of student experience.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses are designed based on accessibility guidelines with consideration for usability, including ease of navigation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses contain orientation materials, including course policies, directions and expectations, and instructions for technical and academic support.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Curriculum Design and Planning, Continued - Faculty

Online courses include a syllabus outlining course objectives, learning outcomes, assessment methods, and descriptions of learning activities, including course content.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses contain clear, concise, and useful assignment instructions.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Content, including reading assignments and lectures, aligns with course assessment and learning outcomes.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Course content used includes materials that are accessible and interactive, such as Open Education Resource (OER).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Courses include content that is current, rich, and sufficient in breadth and depth.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Courses include content that supports dialogue and critical reflection and analysis.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Content is related to real-word applications.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

There is consistency in course development for student retention and quality.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty provides substantial context to content provided to students.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution supports and seeks use of pedagogical and technological innovation methods to improve student outcomes, ensure student success, and enhance access and equity through curricular redesign programming.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Online Teaching and Learning - Faculty

In this section, questions are designed to understand the perceptions and experiences of faculty with regard to teaching and learning as related to online education. Please respond to these items as they relate to your role as a faculty member, and select 'N/A' for any items that do not apply to your role or experience.

Faculty are expected to hold virtual office hours and frequently communicate with their students via email, course news and announcements, online discussions, and assignment feedback.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Course design promotes student engagement, including academic challenge and social involvement with each other and the instructor.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Expectations for student assignment completion, including course schedule with deadlines, grading scheme and associated policies, and faculty feedback are provided in the course syllabus.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Barriers to learning are reduced in the courses by including clear expectations of student activity (participation and performance).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses have comparable outcomes to onsite courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Student-to-student and faculty-to-student interaction are essential characteristics and are encouraged and facilitated.

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.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students participate in meaningful work groups promoting collaboration among students.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Peer interaction facilitates active learning through frequent and ongoing peer-involvement.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Feedback on student assignments and questions is constructive and provided in a timely manner.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty provides timely and detailed feedback on assessments and student inquiries.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The course resources provide richness in learning materials and activities, support and instruction, instructor interactions, and tools and media.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty are encouraged to innovate in their online teaching and in approaches to student learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Assessment - Faculty

In this section, questions are designed to understand the perceptions and experiences of faculty with regard to assessment as related to online education. Please respond to these items as they relate to

your role as a faculty member, and select 'N/A' for any items that do not apply to your role or experience.

Online courses have multiple timely and appropriate activities to assess student readiness for course content and mode of delivery.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Ongoing multiple assessment strategies (formative assessment) are used to measure content knowledge, skills, and abilities while providing students feedback on what they have learned.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students' self-assessments and peer review and feedback opportunities exist throughout the course.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Learning objectives and assessment activities are closely aligned.

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.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Frequent and substantial feedback from the instructor is provided to students through assessments.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Assessment criteria are clearly described when the assignment is issued with grading rubrics and samples of assignments illustrating instructor's expectations are provided.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students are not assessed solely on tests/quizzes but are provided ample opportunity to demonstrate proficiency in different ways.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty pilot assessment strategies that incorporate digital literacies and other pertinent literacies (e.g.,blogging, visual communication).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Technology - Faculty

In this section, questions are designed to understand the perceptions and experiences of faculty with regard to technology as related to online education. Please respond to these items as they relate to your role as a faculty member, and select 'N/A' for any items that do not apply to your role or experience.

Core learning technology systems reliably functioning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

There is a centralized system (e.g., Learning Management System) with a single login.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Course embedded technology actively supports the achievement of learning outcomes and delivery of course content, and superfluous use of technology is minimized.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses are delivered asynchronously (over time) and synchronously (real-time) dependent on the learning objectives.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Blended courses are delivered integrating a combination of face-to-face, online, synchronous, and asynchronous components.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution provides reliable access to wireless internet (WiFi) that is available across the campus, including outdoor spaces.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

New and innovative technologies are piloted, supported, and encouraged in online courses on a timely basis at the institution.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

A process is followed for evaluating the effectiveness of current and emerging technologies to support the achievement of learning outcomes and delivery of course content.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

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Higher Education Survey

Part I - Student Support - Faculty

In this section, questions are designed to understand the perceptions and experiences of faculty with regard to student support as related to online education. Please respond to these items as they relate to your role as a faculty member, and select 'N/A' for any items that do not apply to your role or experience.

Students are provided orientations to their online courses, the course design, and the technologies used in the courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students are provided information on university technology and academic support resources.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students have access to appropriate support personnel to address student technical and academic questions, problem reporting, and complaints.

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, course materials, support help).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Policy, processes, and resources are in place to support students with disabilities.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses demonstrate compliance with accessibility standards.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students are being supported in innovative ways, such as relevant communication modes or through AI communication tools.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Training and Support - Faculty

In this section, questions are designed to understand the perceptions and experiences of faculty with regard to training and support as related to online education. Please respond to these items as they relate to your role as a faculty member, and select 'N/A' for any items that do not apply to your role or experience.

Technical assistance is provided for faculty during online course development and online teaching.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution ensures faculty receive training, assistance, and support to prepare for course development and teaching online.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty are provided ongoing professional development related to online teaching and learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution provides adequate time for faculty to engage in professional development.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Clear standards are established for faculty engagement and expectations concerning online teaching (e.g. response time, contact information, etc.).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty are provided an orientation to technology and instructional design used in the development of online courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

There are peer mentoring resources available to faculty members teaching online courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty are informed about emerging technologies and the selection and use of new tools.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

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Higher Education Survey

Part 1 - Evaluation of Course Outcomes and Program Quality - Faculty

In this section, questions are designed to understand the perceptions and experiences of faculty with regard to evaluation of course outcomes and program quality as related to online education. Please respond to these items as they relate to your role as a faculty member, and select 'N/A' for any items that do not apply to your role or experience.

Online programs are assessed through an evaluation process that applies specific established standards.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Intended learning outcomes at the course and program level are reviewed regularly to ensure alignment, clarity, utility, appropriateness, and effectiveness.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Instructional materials and course syllabi are reviewed periodically to ensure they meet online course and program learning outcomes.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Course assignments and activities are reviewed periodically to ensure they meet online course and program learning outcomes.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty are expected to participate in peer evaluation of their online courses as well as the courses of others.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Course evaluations collect feedback on the effectiveness of instruction and quality of online course materials.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution uses innovative developments in analytics to guide course and programmatic decisions about online teaching and learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Curriculum Design and Planning - Students

In this section, questions are designed to understand the perceptions and experiences of students with regard to curriculum design and planning as related to online education. Please respond to these items as they relate to your role as a student, and select 'N/A' for any items that do not apply to your role or experience. Please respond to the questions in this section based on your Spring 2020 term.

I was able to develop the necessary knowledge and skills to meet learning outcomes.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Courses focused on active learning and were student-centered, creating opportunities for students to interact with each other and the instructor.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Courses had consistent course structure, manageable units, and organization across courses for coherency of student experience.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Instructional materials were accessible to all students, easy to use, and accessible on any Internet-ready device.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses were designed based on accessibility guidelines with consideration for usability, including ease of navigation.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses included a syllabus outlining course objectives, learning outcomes, assessment methods, and descriptions of learning activities, including course content.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Instructors helped students understand the importance of course topics and how they are related to learning outcomes.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Learning activities facilitated and supported learning that was active, encouraging frequent and ongoing engagement with other students.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Curriculum Design and Planning, Continued - Students

Syllabi were easily located and include objectives, expected outcomes, and completion requirements.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Expectations of student participation (frequency and quality) were included in the syllabi or online.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Instructional materials had sufficient breadth, depth, and currency for me to learn the subject.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The materials included current online materials (online articles, webpages, links, and/or videos).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The class was organized within the learning management system in a way that was easy to navigate.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The class was accessible.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The design of the course reflected innovative thought about teaching and learning in an online environment.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses included innovative teaching methods and technologies to promote student equity, learning, and academic achievement.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Online Teaching and Learning - Students

In this section, questions are designed to understand the perceptions and experiences of students with regard to online teaching and learning as related to online education. Please respond to these items as they relate to your role as a student, and select 'N/A' for any items that do not apply to your role or experience. Please respond to the questions in this section based on your Spring 2020 term.

Faculty held virtual office hours and frequently communicated with students via email, course news and announcements, online discussions, and assignment feedback.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students communicated with other classmates through online discussions.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty provided ongoing and meaningful communication in a timely, effective, and appropriate manner.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students were academically challenged and interacted with each other and the faculty.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Course learning outcomes were clearly defined and linked with activities and assessments.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Instructions on how to meet the expected outcomes were adequate and stated clearly.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses had comparable outcomes to onsite courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Expectations for student assignment completion, including course schedule with deadlines, grading scheme and associated policies, and faculty feedback were provided.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Courses clearly defined student activity expectations (participation and performance) to reduce barriers related to online learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Online Teaching and Learning, Continued - Students

Student-to-student and faculty-to-student interactions were encouraged and facilitated in online courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Peer interaction facilitated active learning through frequent and ongoing peer-involvement.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students meaningfully interacted with course content beyond course lectures through groups, online discussions, activities, and assessments.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty and instructors provided ongoing, meaningful, and constructive feedback in a timely, effective, and appropriate manner.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty and instructors provided timely and detailed feedback on assessments and student inquiries.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Course resources provided richness in learning materials and activities, support and instruction, instructor interactions, and tools and media.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students had access to resources necessary to succeed in an online course.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Faculty and instructors regularly innovate their online teaching.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

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Higher Education Survey

Part I - Assessment - Students

In this section, questions are designed to understand the perceptions and experiences of students with regard to assessment as related to online education. Please respond to these items as they relate to your role as a student, and select 'N/A' for any items that do not apply to your role or experience. Please respond to the questions in this section based on your Spring 2020 term.

Students are assessed on their readiness for online learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Assessment criteria were clearly described when the assignment is issued with grading rubrics and samples of assignments illustrating instructor's expectations.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses had multiple timely and appropriate activities to assess student learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

A variety of assessments were provided to enable different learners opportunities to demonstrate skills.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Course assessments were provided in different formats (quizzes, exams, short response papers)

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Frequent and substantial feedback from the instructor was provided to students through assessments.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students were not assessed solely on tests and quizzes but are provided ample opportunity to demonstrate proficiency in different ways.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students had regular opportunities to self-assess their course progress, identify opportunities for improvement, and set goals for personal and professional growth.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students had opportunities to learn from their peers through peer evaluation of one another's work and other activities.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

My overall course grade was not based solely on exams and quizzes.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

New assessment methods are regularly introduced to measure content knowledge, skills, and abilities in online learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Courses include assessment strategies that incorporate digital literacies and other pertinent literacies (e.g., blogging, visual communication).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

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Higher Education Survey

Part I - Technology - Students

In this section, questions are designed to understand the perceptions and experiences of students with regard to technology as related to online education. Please respond to these items as they relate to your role as a student, and select 'N/A' for any items that do not apply to your role or experience. Please respond to the questions in this section based on your Spring 2020 term.

I have a computer or laptop.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

I have internet in my home or in my dormitory.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

The institution provided reliable access to wireless internet (WiFi) that is available across the campus, including outdoor spaces.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

I have internet available anytime to work online.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

It was easy for me to log-in to my courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

The learning technologies for my courses were reliable and available when I needed to use them.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

I was able to access the Learning Management System (LMS) with a single sign-on.

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.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Online courses were delivered asynchronously (over time) and synchronously (real-time) dependent on the learning objectives.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

Blended courses are delivered integrating a combination of face-to-face, online, synchronous, and asynchronous components.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

The course sites included embedded technologies and functionality that supported learning.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
◯	◯	◯	◯	◯	◯

I feel that my information in my courses was secure.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

My course included new and innovative technologies.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part I - Student Support - Students

In this section, questions are designed to understand the perceptions and experiences of students with regard to student support as related to online education. Please respond to these items as they relate to your role as a student, and select 'N/A' for any items that do not apply to your role or experience. Please respond to the questions in this section based on your Spring 2020 term.

Students were provided orientations to their online courses, the course design, and the technologies used in the courses.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students were provided information on university technology and academic support resources.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students have access to appropriate support personnel to address student technical and academic questions, problem reporting, and complaints.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Resources were in place to ensure all students, including underrepresented students, have an equitable experience (e.g., technology, course materials, support help).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Resources were in place to support students with disabilities.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Online courses demonstrate compliance with accessibility standards.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Students are being supported in innovative ways, such as relevant communication modes or through AI communication tools.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

How frequently did you receive support from the following and how helpful was that support you received?

	How frequently did you receive support?	How helpful was the support?
Campus Tutoring		
Program Tutoring		
Campus Library		
Campus Tech Help Desk		
Program Tech Help		
Third-Party Technology Companies		
Advisor		
Classmates		
Friends		
Family		
Course Faculty		
Other Faculty		

Other (please specify)

Higher Education Survey

Part 1 - Evaluation of Course Outcomes and Program Quality - Students

In this section, questions are designed to understand the perceptions and experiences of students with regard to evaluation of course outcomes and program quality as related to online education. Please respond to these items as they relate to your role as a student, and select 'N/A' for any items that do not apply to your role or experience. Please respond to the questions in this section based on your Spring 2020 term.

Students were provided an opportunity to give feedback on opportunities for course improvement(s) during or after the class was completed.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Course evaluations were conducted to collect feedback on the effectiveness of instruction and quality of online course materials.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
○	○	○	○	○	○

Higher Education Survey

Part II - Leadership

Institutions have gone through tremendous amounts of change. In order to better understand the impact of change on different functions of the instruction to support online learning, please rate 1.) your satisfaction with each of the institutional functions (e.g., leadership) prior to COVID-19 and 2.) your satisfaction with each of the institutional functions *after* COVID-19 influenced the state of online learning.

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 satisfaction with each of the institutional functions **prior to COVID-19**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Governance	○	○	○	○	○	○
Strategies	○	○	○	○	○	○
Policies	○	○	○	○	○	○
Processes	○	○	○	○	○	○
Resource Allocation	○	○	○	○	○	○
Period Review and Updating	○	○	○	○	○	○
Innovation	○	○	○	○	○	○

Please rate your satisfaction with each of the institutional functions **after COVID-19 influenced the state of learning**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Governance	○	○	○	○	○	○
Strategies	○	○	○	○	○	○
Policies	○	○	○	○	○	○
Processes	○	○	○	○	○	○
Resource Allocation	○	○	○	○	○	○
Period Review and Updating	○	○	○	○	○	○
Innovation	○	○	○	○	○	○

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Higher Education Survey

Part II - Curriculum Design & Planning

A quality online course and/or program 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 satisfaction with each of the institutional functions **prior to COVID-19**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Instructional Design Methods & Universal Design for Learning (UDL)	○	○	○	○	○	○
Alignment with Standards	○	○	○	○	○	○
Course Syllabi	○	○	○	○	○	○
Course Materials & Content	○	○	○	○	○	○
Innovation	○	○	○	○	○	○

Please rate your satisfaction with each of the institutional functions **after COVID-19 influenced the state of learning**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Instructional Design Methods & Universal Design for Learning (UDL)	○	○	○	○	○	○
Alignment with Standards	○	○	○	○	○	○
Course Syllabi	○	○	○	○	○	○
Course Materials & Content	○	○	○	○	○	○
Innovation	○	○	○	○	○	○

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Higher Education Survey

Part II - Online Teaching and Learning

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

Please rate your satisfaction with each of the institutional functions **prior to COVID-19**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Communication	○	○	○	○	○	○
Engagement	○	○	○	○	○	○
Expectation Setting	○	○	○	○	○	○
Outcomes	○	○	○	○	○	○
Course Interaction	○	○	○	○	○	○
Feedback	○	○	○	○	○	○
Resources	○	○	○	○	○	○
Innovation	○	○	○	○	○	○

Please rate your satisfaction with each of the institutional functions **after COVID-19 influenced the state of learning**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Communication	○	○	○	○	○	○
Engagement	○	○	○	○	○	○
Expectation Setting	○	○	○	○	○	○
Outcomes	○	○	○	○	○	○
Course Interaction	○	○	○	○	○	○
Feedback	○	○	○	○	○	○
Resources	○	○	○	○	○	○
Innovation	○	○	○	○	○	○

Higher Education Survey

Part II - Assessment

Online instructors create and/or implement assessments in online learning environments in ways that ensure the validity and reliability of the instruments and procedures. Instructors 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 satisfaction with each of the institutional functions **prior to COVID-19**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Assessment Strategies	◯	◯	◯	◯	◯	◯
Assessment Processes	◯	◯	◯	◯	◯	◯
Assessment Methodology	◯	◯	◯	◯	◯	◯
Assessment Types	◯	◯	◯	◯	◯	◯
Innovation	◯	◯	◯	◯	◯	◯

Please rate your satisfaction with each of the institutional functions **after COVID-19 influenced the state of learning**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Assessment Strategies	◯	◯	◯	◯	◯	◯
Assessment Processes	◯	◯	◯	◯	◯	◯
Assessment Methodology	◯	◯	◯	◯	◯	◯
Assessment Types	◯	◯	◯	◯	◯	◯
Innovation	◯	◯	◯	◯	◯	◯

Higher Education Survey

Part II - Technology

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

Please rate your satisfaction with each of the institutional functions **prior to COVID-19**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Operability	○	○	○	○	○	○
Centralized Online Education Infrastructure	○	○	○	○	○	○
Modality	○	○	○	○	○	○
Security	○	○	○	○	○	○
IT Service Management Compliance	○	○	○	○	○	○
Internet Access	○	○	○	○	○	○
Reliability	○	○	○	○	○	○
Coverage	○	○	○	○	○	○
Innovation	○	○	○	○	○	○

Please rate your satisfaction with each of the institutional functions **after COVID-19 influenced the state of learning**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Operability	○	○	○	○	○	○
Centralized Online Education Infrastructure	○	○	○	○	○	○
Modality	○	○	○	○	○	○
Security	○	○	○	○	○	○
IT Service Management Compliance	○	○	○	○	○	○
Internet Access	○	○	○	○	○	○
Reliability	○	○	○	○	○	○
Coverage	○	○	○	○	○	○
Innovation	○	○	○	○	○	○

Higher Education Survey

Part II - Student Support

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 satisfaction with each of the institutional functions **prior to COVID-19**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Student Orientation and Support	◯	◯	◯	◯	◯	◯
Equity	◯	◯	◯	◯	◯	◯
Accessibility	◯	◯	◯	◯	◯	◯
Compliance Standards	◯	◯	◯	◯	◯	◯
Innovation	◯	◯	◯	◯	◯	◯

Please rate your satisfaction with each of the institutional functions **after COVID-19 influenced the state of learning**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Student Orientation and Support	◯	◯	◯	◯	◯	◯
Equity	◯	◯	◯	◯	◯	◯
Accessibility	◯	◯	◯	◯	◯	◯
Compliance Standards	◯	◯	◯	◯	◯	◯
Innovation	◯	◯	◯	◯	◯	◯

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Higher Education Survey

Part II - Training and Support

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

Please rate your satisfaction with each of the institutional functions **prior to COVID-19**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Technical Assistance	◯	◯	◯	◯	◯	◯
Professional Development	◯	◯	◯	◯	◯	◯
Orientation	◯	◯	◯	◯	◯	◯
Mentoring	◯	◯	◯	◯	◯	◯
Innovation	◯	◯	◯	◯	◯	◯

Please rate your satisfaction with each of the institutional functions **after COVID-19 influenced the state of learning**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Technical Assistance	◯	◯	◯	◯	◯	◯
Professional Development	◯	◯	◯	◯	◯	◯
Orientation	◯	◯	◯	◯	◯	◯
Mentoring	◯	◯	◯	◯	◯	◯
Innovation	◯	◯	◯	◯	◯	◯

Higher Education Survey

Part II - Evaluation and Continuous Improvement

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 satisfaction with each of the institutional functions **prior to COVID-19**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Student Satisfaction	○	○	○	○	○	○
Faculty Satisfaction	○	○	○	○	○	○
Staff Satisfaction	○	○	○	○	○	○
Evaluation of Course Outcomes and Program Quality	○	○	○	○	○	○
Innovation	○	○	○	○	○	○

Please rate your satisfaction with each of the institutional functions **after COVID-19 influenced the state of learning**.

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	N/A
Student Satisfaction	○	○	○	○	○	○
Faculty Satisfaction	○	○	○	○	○	○
Staff Satisfaction	○	○	○	○	○	○
Evaluation of Course Outcomes and Program Quality	○	○	○	○	○	○
Innovation	○	○	○	○	○	○

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Higher Education Survey

Part III - Challenges

In this section, please select each potential challenge item as you have perceived or experienced it as related to online learning.

What are the most pressing challenges associated with online teaching and learning at your institution? ***Check all that apply***.

- [ ] Quality of Online Courses
- [ ] Availability of Professional Development Funding
- [ ] Time Management
- [ ] Student Online Readiness
- [ ] Flexibility of Student Academic Support Services
- [ ] Decision-Making Processes
- [ ] Area-Specific Leadership
- [ ] Familiarity with Online Learning
- [ ] Online Work Skills Knowledge (e.g., Microsoft Word)
- [ ] Technological Infrastructure
- [ ] Course Variety
- [ ] Time to Completion
- [ ] Instructional Technology Support
- [ ] Access to Hardware
- [ ] Access to Software
- [ ] Access to Internet
- [ ] Spaces for Learning
- [ ] Innovative Thought Leadership
- [ ] Communication with Faculty
- [ ] Cost of Course Materials
- [ ] Student Engagement with Course
- [ ] Faculty-Student Engagement
- [ ] Peer-Peer Engagement
- [ ] Pedagogical Innovation/Knowledge
- [ ] Accessibility/Universal Design Resources
- [ ] Shared Governance Policies/Processes
- [ ] Opportunities for Peer Learning
- [ ] Extra-Curricular Group and Campus Engagement

Higher Education Survey

Part III - Opportunities for Improvement

In this section, please rank each potential opportunity for additional resource investment as you have perceived or experienced it as related to online learning.

Where would you recommend an investment of resources related to online teaching and learning? Rank in order of importance with the top being the highest.

Leadership

Institutional Policies

Faculty/Instructor Training

Student Academic Support Services

Student Online Readiness

Instructional Design

Technological Infrastructure

Student Technology Resources

Faculty Technology Resources

Online Work Skills (e.g., Microsoft Word knowledge)

Mental Health Services

Physical Health Services

Open Education Resources

Communication

Innovative Thought Leadership

Student Engagement with Course

Accessibility and Universal Design Resources

Governance Policies and Processes

Opportunities for Peer Learning

Higher Education Survey

Part IV - Demographics - Administrators/Staff

What is your gender?

- ◯ Male
- ◯ Female

What is the name of your institution?

What branch (if applicable)?

What type is your institution?

- ◯ Public
- ◯ Private

Position

- ◯ President
- ◯ Vice President
- ◯ Dean
- ◯ Vice Dean
- ◯ Staff
- ◯ Other (please specify)

Do you hold the position of dean of e-learning in your institution or its equivalent?

- ◯ Yes
- ◯ No

How many years have you been in your current position? (e.g., "5")

Higher Education Survey

Part IV - Demographics - Faculty

What is your gender?

- ◯ Male
- ◯ Female

Nationality

- ◯ Saudi
- ◯ Non-Saudi

What is the name of your institution?

What branch (if applicable)?

What type is your institution?

- ◯ Public
- ◯ Private

Position

- ◯ Professor
- ◯ Associate Professor
- ◯ Assistant Professor
- ◯ Lecturer
- ◯ Teaching Assistant
- ◯ Other (please specify)

Specialization

- ◯ Human Sciences
- ◯ Natural Sciences and Engineering
- ◯ Information and Computer Sciences
- ◯ Medical and Health Science
- ◯ Other (please specify)

Years of Experience

- ◯ 5 years or less
- ◯ More than 5 years to 10 years
- ◯ More than 10 years to 15 years
- ◯ More than 15 years

How many years have you been in your current institution? (e.g., "10")

How many years of experience do you have in e-learning? (e.g., "5")

Higher Education Survey

Part IV - Demographics - Students

What is your gender?

- ◯ Male
- ◯ Female

Age

- ◯ 18-22
- ◯ 23-27
- ◯ 28-32
- ◯ 32-36
- ◯ 36+

Region

City

What is the name of your institution?

What branch (if applicable)?

What type is your institution?

- ◯ Public
- ◯ Private

Degree

- ◯ Diploma
- ◯ Bachelors
- ◯ Higher Diploma
- ◯ Masters
- ◯ Doctoral

Specialization

- ◯ Human Sciences
- ◯ Natural Sciences and Engineering
- ◯ Information and Computer Sciences
- ◯ Medical and Health Science
- ◯ Other (please specify)

Level

- ◯ Orientation
- ◯ Level 1
- ◯ Level 2
- ◯ Level 3
- ◯ Level 4
- ◯ Level 5
- ◯ Level 6
- ◯ Level 7
- ◯ Level 8
- ◯ Level 9
- ◯ Level 10

Have you taken an online course before COVID-19?

- ◯ Yes
- ◯ No

Appendix VIII: 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 online learning within the Kingdom of Saudi Arabia pre-COVID-19 and during COVID-19. A survey has also been sent out to higher education administrators, staff, faculty 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):

Institution:

Does your role currently have oversight for any online learning at your institution? Yes / No

If yes, please describe the extent of that oversight (e.g., institution-wide, department level, course-level, course design, etc.)

How long have you been in your present position?

...at this institution?

What is your highest degree earned?

What was your field of study?

Did your institution offer online courses or full programs online prior to COVID?

Dimension I: Leadership

Is online learning currently included in your institutional strategic plan?

If yes...
1a. Please describe your strategy for online learning.
1b. Do you feel that your institution'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 institution 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 post-COVID?

Dimension II: Curriculum Design and Planning

What methods did your institution use pre-COVID to determine course quality?

3a. If your institution 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. What methods do you think your institution will need to use post-covid to determine the quality of online courses?

Pre-COVID did your institution 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 institution to encourage the implementation of innovative pedagogical and technological methods?

Dimension V: Technology

Pre-COVID did your institution have a technology plan?

If yes...
8a. Was the technology plan sufficient to support the needs of your institution during the transition to remote learning? Why or why not?
8b. What changes do you believe will need to be made to it to better support your institution post-COVID?

If no…
8c. Does your institution have plans to develop a technology plan post-COVID?
8d. 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 institution?

During the transition to remote learning, what changes were made by your institution to provide students with adequate access to support services?

What changes does your institution anticipate making post-COVID to ensure all students are able to access support services regardless of the modality (in-person, online, blended) of their program?

Dimension VII: Training and Support

Please describe the professional development options provided to faculty pre-COVID.

9a. Did your institution provide training on how to develop quality online courses?
9b. Did your institution provide training on how to teach quality online courses?

What professional development did your institution provide to faculty during the transition to remote learning?

What changes does your institution anticipate making post-COVID to prepare faculty to teaching quality online courses?

Dimension VIII: Evaluation of Course Outcomes & Program Quality

Pre-COVID what data did your institution evaluate to determine the overall quality of a program?

What additional data did you review to determine quality during the transition to remote learning?

What changes does your institution anticipate making post-COVID in determining the process needed to assess program quality?

Faculty 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 online learning within the Kingdom of Saudi Arabia pre-COVID-19 and during COVID-19. A survey has also been sent out to higher education administrators, staff, faculty 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):

Institution:

Does your role currently have oversight for any online learning at your institution? Yes / No
If yes, please describe the extent of that oversight (e.g., institution-wide, department level, course-level, course design, etc.)

How long have you been in your present position?
...at this institution?

What is your highest degree earned?

What was your field of study?

Did your institution offer online courses or full programs online prior to COVID?

Dimension I: Leadership

Is online learning currently included in your institutional 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 institution'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 institution 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 post-COVID?

Dimension II: Curriculum Design and Planning

What methods did your institution use pre-COVID to determine course quality?

3a. If your institution 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. What methods do you think your institution will need to use post-covid to determine the quality of online courses?

What is 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 faculty teaching in this environment? Why?

Pre-COVID did your institution 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 institution to encourage the implementation of innovative pedagogical and technological methods?

Dimension III: Online Teaching and Learning

If your institution 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?

What methods do you believe need to be implemented post-COVID 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?

Post-COVID 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 faculty pre-COVID?

11a. Did your institution provide training on how to develop quality online courses?

11b. Did your institution provide training on how to teach quality online courses?

11c. Did your institution provide adequate support (SMEs, IDs, Developers, etc.) to help faculty design a quality online course?

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 faculty to teach quality online courses?

Student 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 online learning within the Kingdom of Saudi Arabia pre-COVID-19 and during COVID-19. A survey has also been sent out to higher education administrators, staff, faculty 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):

Institution:

Classification: Freshman, Sophomore, Junior, Senior, Graduate Masters / Doctoral

How long have you been at your institution?

Did you transfer from another institution? Y / N

What is your major?

Did your institution offer online courses or full programs online prior to COVID?

Dimension I: Leadership

Do you think that your institution provides online learning in a planned and/or strategic way?

If yes...
1a. Do you feel that your institution's response to the pandemic was aligned with the online learning strategy?
1b. Do you feel that your institution's online strategy provided a smooth transition during COVID-19?

If no…
1c. Do you feel that your institution's response to COVID-19 will result in an online learning strategy?

All
1d. What are the challenges in online learning at your institution pre-COVID-19? During Covid-19? What is your anticipation for the future?

Do you believe that your institution has sufficient resources (financial, technology, personnel, etc.) to support online learning? Why or why not?

2a. How did this change due to COVID-19?
2b. What resources do you believe will be needed to support online learning in Fall 2020?
2c. What resources do you believe will be needed to support online learning long-term, after Fall 2020?

Are the processes for the following effective?

3a. Finding and enrolling in online courses
3b. Accessing online courses
3c. Accessing technical assistance for online courses
3d. Accessing academic resources for online courses
3e. Accessing other support resources for online students
3f. Communication from your institution about online learning related to COVID-19

What innovations has your institution implemented in online learning?

What innovations would you like for your institution to implement in the future?

Appendix IX: Pressing Challenges

Challenges	Percentage
Quality of Online Courses	50.20%
Availability of Professional Development Funding	34.50%
Time Management	34.60%
Student Online Readiness	61.90%
Flexibility of Student Academic Support Services	31.50%
Decision-Making Processes	25.00%
Area-Specific Leadership	16.50%
Familiarity with Online Learning	43.20%
Online Work Skills Knowledge	27.70%
Technological Infrastructure	38.10%
Course Variety	25.70%
Time to Completion	26.70%
Instructional Technology Support	27.70%
Access to Hardware	27.40%
Access to Software	26.70%
Access to Internet	44.40%
Spaces for Learning	18.40%
Innovative Thought Leadership	23.70%
Communication with Faculty	25.70%
Cost of Course Materials	15.20%
Student Engagement with Course	37.30%
Faculty-Student Engagement	34.40%
Peer-Peer Engagement	27.00%
Pedagogical Innovation/Knowledge	25.20%
Accessibility/Universal Design Resources	20.50%
Shared Governance Policies/Processes	19.10%
Opportunities for Peer Learning	26.50%
Extra-Curricular Group and Campus Engagement	33.40%

Appendix X: Student Support

	Frequency					Helpfulness				
Individual & Group Support	**Never**	**Rarely**	**Sometimes**	**Often**	**Always**	**Not at All**	**Slightly**	**Moderately**	**Very**	**Extremely**
Campus Tutoring	36.10%	14.50%	23.50%	11.80%	14.10%	32.60%	20.10%	22.60%	12.80%	11.80%
Program Tutoring	36.60%	14.80%	21.30%	12.20%	15.10%	33.40%	19.20%	23.10%	12.40%	11.90%
Campus Library	39.70%	15.80%	19.30%	10.10%	15.10%	38.00%	19.20%	18.90%	11.40%	12.50%
Campus Technology Help Desk	33.60%	17.00%	20.90%	11.80%	16.70%	31.80%	20.20%	20.20%	12.80%	15.00%
Program Technology Help Desk	32.90%	15.60%	21.80%	12.50%	17.20%	30.20%	21.20%	21.70%	12.10%	14.80%
Third-Party Technology Companies	57.70%	10.80%	13.50%	7.30%	10.70%	54.50%	14.00%	14.60%	7.20%	9.70%
Advisor	51.90%	12.10%	15.80%	8.20%	12.00%	49.10%	14.80%	15.30%	9.20%	11.50%
Classmates	8.30%	9.60%	23.90%	22.20%	35.90%	8.20%	15.40%	24.90%	21.90%	29.50%
Friends	11.00%	9.10%	20.20%	17.30%	42.40%	10.60%	13.90%	20.50%	20.00%	35.00%
Family	16.40%	11.20%	16.50%	12.20%	43.70%	14.30%	13.90%	16.80%	15.10%	39.90%
Course Faculty	11.00%	13.80%	26.80%	19.80%	28.60%	10.60%	20.20%	26.20%	18.50%	24.40%
Other Faculty	31.10%	18.70%	21.30%	11.90%	16.90%	29.40%	21.00%	21.80%	11.80%	16.10%

Appendix XI: List of Figures

Dimension I: Leadership

Dimension II: Curriculum Design & Planning

Dimension III: Online Teaching & Learning

Dimension IV: Assessment

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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.

Contributors

Dr. Jennifer Mathes
Chief Executive Officer,
Online Learning Consortium

Dr. Lynette O'Keefe
Director of Research & Innovation,
Online Learning Consortium

Angela Gunder
Chief Academic Officer & VP of Learning,
Online Learning Consortium

Dr. Justin T. Dellinger
Associate Director, LINK Research Lab,
University of Texas at Arlington

T. Lisa Berry
Director, LINK Research Lab,
University of Texas at Arlington

Dr. Jessica Knott
Michigan State University

Dr. Rob Kadel
University of Colorado, Denver

Dr. Karen Vignare
Executive Director,
Personalized Learning Consortium, APLU

Dr. Megan Tesene
Associate Director,
Personalized Learning Consortium, APLU

Dr. Natalia Amelina
Senior National Project Officer,
UNESCO IITE

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