Fall Experience Survey Report

McMaster University

November 2020
Executive Summary

In response to the shift to remote teaching and learning resulting from the COVID-19 pandemic, campus stakeholders collaborated on a Fall Experiences Survey that solicited feedback on students’ and educators’ experiences in the beginning of the Fall term. The survey, which ran from October 1 to October 12, 2020, generated 3180 responses. This report presents a high-level analysis of major themes.

Methodology
The collaboratively constructed survey consisted of one version for students and one version for educators. Each participant received nine institutional questions and up to three Faculty-specific questions, with a mix of rating and Likert-style questions and open-ended questions. Quantitative analysis was completed in Excel and GraphPad Prism 8. Preliminary qualitative analysis was done in MAXQDA and then by a group of coders from the MacPherson Institute. Initial coding activities were verified, and themes were identified from the most prevalent codes.

Major Findings

Overall Experience: Responses to the question asking respondents to rate their overall experience reflect a normal distribution. Approximately a third of respondents rated their experiences as excellent or good, a third as fair or neutral, and a third as poor or very poor. Some groups within the total respondent population tended to report more positive experiences, such as students who did not have technical barriers compared to those with multiple technical barriers. Instructors were more likely to report a positive experience of the Fall term than students.

Instructor Technology Use: Most instructors reported using 1-4 technologies in their courses. The most common tools were Avenue to Learn (71.9%), Zoom (63.5%), Microsoft Teams (48.2%), or MacVideo (26.8%).

Key Themes
Connections between and among students and instructional staff contribute to positive teaching and learning experiences. Many students and instructors spoke positively about their ability to form these relationships in a remote context but many also lamented the loss of in-person contact and expressed sadness for being limited to virtual interactions.

Students value thoughtfully designed courses that offer flexible, varied options for engagement and assessment. Courses that employ principles and methods of universal design (e.g., multiple means of representation, engagement, and expression) contribute to accessible learning experiences and can potentially reduce the number of individual accommodations needed within a course.

Students and instructors shared feelings of being overwhelmed by the number and types of platforms available and/or in use. Students shared that it is frustrating and confusing to have to consult different platforms within and between courses, and faculty described struggling with how to determine which platforms are most appropriate for their courses.

Many students reported feeling overwhelmed by the amount of work it takes to complete many small assignments with different deadlines across courses. Students shared feelings of burnout, depression, and anxiety. Instructors also expressed exhaustion and frustration at the amount of work it takes to develop quality remote learning experiences. Faculty are anxious about their research productivity and prospects for tenure and promotion.
Some students and instructors are struggling with choosing and using platforms, knowing where to find support, and understanding the implications of decisions around data management, copyright, privacy, and security (including but not limited to remote proctoring). These concerns transcend individual courses or Faculties and refer to complex legal and ethical questions.

In addition to these key themes, other feedback highlighted the need for better coordination between campus support units, the importance of developing an efficient way to implement student accommodations in virtual and online courses, and the necessity of embedding accessibility and equity in all teaching and learning contexts.

Next Steps
While much of the survey data point to the need for ongoing or refined support, the findings in this report indicate that it is important to carefully consider expectations around the capacity and wellbeing of members of our campus community. While striving for perfection during a global pandemic is neither realistic nor sustainable, small adjustments may address some of the concerns raised in this survey. Short-term recommendations may be best limited in scope and refrain from requiring students and instructors to make significant changes before Winter 2021. Longer-term recommendations should engage scholarly literature on teaching and learning in virtual and online environments in addition to experience data that has been collected during the pandemic.
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Introductory Context and Background

In response to the COVID-19 pandemic, all teaching and learning at McMaster University is occurring remotely. Students, instructors, teaching assistants, and staff moved to remote studying and working in March 2020 and will continue to teach and learn online/virtually through the Fall and Winter semesters of the 2020-21 academic year.

The Fall Experience Survey launched as a collaborative effort between campus stakeholders to collect feedback from students and instructors about their early experiences with remote teaching and learning and to identify opportunities for supports that foster positive learning and teaching experiences in virtual spaces.

The idea of the survey initially stemmed from conversations between the MacPherson Institute and associate deans about the value of collecting student and instructor feedback for each Faculty. It soon grew into an institution-wide survey connected to and endorsed by the Fall 2020 Virtual Learning Experience Task Force co-chaired by Deans Jeremiah Hurley and Ishwar Puri. This collaborative effort also involved but was not limited to:

- Kim Dej, acting Vice-Provost (Faculty)
- Sue McCracken, Steve Hranilovic, Alan Neville, Sean Corner, Mic Farquharson, Tracy Prowse, Jean Wilson, Lorraine Carter and many others from the Associate Deans Group
- Lori Goff, Elliot Storm, Greg van Gastel, Celeste Suart, Michelle Ogrodnik, Lisa Dyce and many others from the MacPherson Institute

The survey launched October 1, 2020, and closed October 12, 2020. After it closed, a team from the MacPherson Institute collected and analyzed the survey data. This report provides a high-level summary of the 3180 complete responses shared by students and instructional staff.
Methodology

Constructing the Fall Experience Survey
In collaboration with the Faculties, the Arts & Science Program, and Continuing Education, the MacPherson Institute designed nine institutional-level questions at both the student (i.e., undergraduate, graduate, and continuing education student) and educator (i.e., faculty, sessional instructor, contractually limited appointment, instructional staff, and teaching assistant) levels.

Each group received nine institutional-level questions. The additional six questions were asked via open-ended response options. For both students and instructors, three questions were asked via closed-ended select options. However, the final question for instructors included both a closed-ended and open-ended option, for a total of six open-ended questions for students and seven questions for educators. A full copy of institutional questions can be found in Appendix A.

Academic associate deans and directors provided up to six additional survey questions (three per student and instructor group) specific to their units. These questions were open-ended, closed-ended or a combination, depending on the unit. These individuals reviewed the survey questions and tested the survey tool before launch.

Due to the unique position of the Arts & Science Program, which consists of instructors from across the University, a parallel survey with identical questions ran for Arts & Science instructors. This offered instructors the chance to comment separately on teaching in different units. These responses were added to the institutional dataset.

Administration of the Survey
The survey launched on Thursday, October 1, 2020, and remained open until 11:59 p.m. on Monday, October 12, 2020. It was administered via McMaster’s survey service, LimeSurvey.

On launch date, the survey was promoted through the following channels:
- Deans were asked to distribute the survey to chairs and directors
- Chairs and directors were asked to distribute the invitation to all course instructors currently teaching (including faculty, contractually limited appointments, sessional instructors, and teaching assistants) along with any staff involved in supporting instructional activities
- Associate deans (academic) were asked to distribute to all undergraduate students enrolled in one or more courses
- Faculty communications representatives were contacted and asked to distribute to students and instructors
- The School of Graduate Studies was asked to distribute to all graduate students currently taking one or more courses
- The Daily News, MacPherson Memo, and social media outlets like Twitter

On October 7, 2020, the Director of the MacPherson Institute suggested that the above individuals share a reminder about the survey, either by email reminder or through social media or both.
Participation in the Survey
In total, 3180 responses were included in the analysis: 2796 student responses and 384 instructor responses.

Table 1. Respondent Numbers by Faculty

<table>
<thead>
<tr>
<th>Faculty or Program</th>
<th>All Respondents</th>
<th>Students</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>108 (3%)</td>
<td>93 (3%)</td>
<td>15 (4%)</td>
</tr>
<tr>
<td>Engineering</td>
<td>719 (23%)</td>
<td>615 (22%)</td>
<td>104 (27%)</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>317 (10%)</td>
<td>267 (10%)</td>
<td>50 (13%)</td>
</tr>
<tr>
<td>Humanities</td>
<td>249 (8%)</td>
<td>202 (7%)</td>
<td>47 (12%)</td>
</tr>
<tr>
<td>Science</td>
<td>1090 (34%)</td>
<td>1002 (36%)</td>
<td>88 (23%)</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>423 (13%)</td>
<td>366 (13%)</td>
<td>57 (15%)</td>
</tr>
<tr>
<td>Arts &amp; Science</td>
<td>78 (2%)</td>
<td>73 (3%)</td>
<td>5 (1%)</td>
</tr>
<tr>
<td>Other Program</td>
<td>40 (1%)</td>
<td>40 (1%)</td>
<td>7 (2%)</td>
</tr>
<tr>
<td>Central Support Unit</td>
<td>7 (0.2%)</td>
<td></td>
<td>7 (2%)</td>
</tr>
<tr>
<td>Continuing Education</td>
<td>149 (5%)</td>
<td>138 (5%)</td>
<td>11 (3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3180 (100%)</strong></td>
<td><strong>2796 (100%)</strong></td>
<td><strong>384 (100%)</strong></td>
</tr>
</tbody>
</table>

Notes:
- All values are represented by total number of respondents, followed by percentage.
- Grey shaded cells indicate when a Faculty or program option was not available to a specific respondent type.
- “Students” include Undergraduate, Masters, PhD, and Continuing Education Students.
- “Instructors” include Teaching Assistants, Faculty, Staff involved in instructional activities, Sessional Instructors, Contractually Limited Appointments, and Continuing Education Instructors.

Figure 1. Respondent Numbers by Faculty and Role
Proportion of respondents by Faculty (top) clustered into all students (see breakdown by type of student in bottom left) and all instructors (see breakdown by type of instructor in bottom right). See Appendix B1 for specific counts by Faculty and Role.
Analysis of the Survey
As the survey was comprised of both quantitative and qualitative questions, two approaches were used for the analysis.

Quantitative Analysis
In both student and instructor surveys, preliminary quantitative data analysis relied on three questions in which respondents identified their role, affiliation, and overall experience. Initial data screening was completed in Microsoft Excel. Instructors who elected “Other” as their role were recategorized into the most applicable role category based on information provided in their responses (12 respondents). One response was removed from the dataset as it was completed by the parent of a student and therefore outside the scope of inquiry.

Descriptive analysis including total respondent rates, averages, and population breakdowns were completed in Microsoft Excel. Percentage values were transferred into GraphPad Prism 8 for graph creation.

For statistical analyses, respondent ratings were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. An assumption was made that Likert Scale responses were categorical in nature. A two-sided Fisher's exact test was calculated with GraphPad Prism 8. P values and Odds ratio with 95% confidence interval are displayed for significant values. For not significant values, P values are displayed.

Qualitative Analysis
The qualitative analysis strategy aimed to balance 1) a quick turnaround in order to share findings with campus stakeholders well in advance of the Winter 2021 semester with 2) respecting the rich, detailed responses provided by participants.

Of the 3180 responses, 12,780 unique text answers to 11 institutional questions were included in the final analysis (5 student, 6 instructor). An inductive coding approach was taken first by three members of the analysis team to generate a codebook. Each of the three coders independently reviewed approximately 100-200 unique responses for each institutional question.
(across different roles and Faculties) to identify common themes. Once completed, the three members met to discuss the identified comments and agreed upon general codes for each question. A codebook was then generated via MAXQDA to share with the broader coding team as a resource.

Once the survey had closed qualitative responses the institutional questions were split into separate Excel sheets by question, respondent type (i.e., student or instructor), and Faculty or Program. Given the volume of data, 22 Educational Development Fellows and MI staff contributed to the final analysis.

A “Getting Started” guide was created to ensure all coders were comfortable with qualitative analysis process and using the codebook. All coders were also invited to attend (or view a recording of) a coding orientation session, which included a walk-through of coding examples and a short application activity. This provided an opportunity for coders to discuss and learn how the codebook should be interpreted and applied to their data. Coding teams (organized by question and respondent type) then received their respective data and a copy of the codebook.

The coding teams completed their analysis from October 14 to October 20, 2020. The coding teams took a hybrid approach. Using the codebook, they used deductive analysis to apply pre-established codes via line-by-line coding in Excel. However, coders had the flexibility to identify codes that may have not been captured by the codebook, so long as they were discussed and applied consistently across their question coding team. Chat spaces via Microsoft Teams were created for each question coding team to facilitate discussion throughout the analysis process. One of the project leads held three drop-in sessions to make space for coders to ask questions, share feedback, or debrief.

Once all question team members had completed their respective analyses, one member went through all participant responses and recorded codes to help ensure consistency across coders. Frequencies of codes were tallied, and up to five general themes per question were pulled along with representative quotes. Themes and quotes are included in this report.

**Analysis Limitations**

It is important to acknowledge limitations in the analysis process. First, participants self-selected to complete this survey. While it is important to maintain participant autonomy, only those participants who were available and interested in sharing feedback completed the survey. Thus, this dataset represents a small proportion of the McMaster community and other perspectives may not be included.

A second limitation is that participants provided answers via self-report. Information about Faculty, program, or level were not tracked via student or employment number. IP addresses from participant responses were not recorded either. Though this may have helped participants feel more comfortable to answer honestly, it is possible that participants may have responded multiple times from the same perspective. While individuals who hold multiple roles within the university (e.g., teaching assistant and student) were encouraged to complete the survey from both perspectives, there were no mechanisms to ensure someone did not complete the survey from the same role perspective multiple times.

An additional limitation inherent with self-identification is that individuals can describe their roles inaccurately or ambiguously. For example, one respondent indicated they are a Masters student in the strictly undergraduate Arts & Science Program. Others identified as Continuing Education
students and affiliated with a Faculty. In these cases, it was not clear whether respondents are simultaneously enrolled in Continuing Education and Faculty degree programs or whether they are enrolled only in Continuing Education. As responses were sorted first by Faculty and then by role, these answers have been counted among Faculty numbers.

The amount of data collected created a limitation for reporting on results in a timely manner for the Task Force. While there are many interesting ways to look at the data, analysis was limited to identifying high-level themes represented by the highest proportion of respondents. A more detailed analysis using other lenses or perspectives would elucidate other interesting and more nuanced findings.

A final limitation is that given the volume of the data, multiple coders were required to contribute to the qualitative analysis. Though steps described above were taken to improve reliability, having multiple coders introduces variance into this process.
Results

Results in this report are organized by question. Because most questions were asked to both students and instructors, student response data and instructor response data for each question are presented individually, instructor data following student data. A summary section is provided for each question at the end of each section.

OVERALL EXPERIENCE RATINGS

Students were asked:
Overall, how would you rate your online learning experience so far this term?

Instructors were asked:
Overall, how would you rate your online teaching experience so far this term?

Both groups were provided with the following answer options: 1 (very poor), 2 (poor), 3 (fair), 4 (good), 5 (excellent) and No Response. This section uses this overall experience rating question to present differences and similarities between groups of respondents.

Findings: Instructor respondents were more likely to report a positive experience of the fall term compared to student respondents. (P<0.0001, OR=0.1676 (95%CI 0.1177-0.2390). See Appendix B2 for specific counts and statistical analyses.
**Findings:** Graduate student respondents were more likely to report a positive experience of the fall term compared to undergraduate student respondents. \((P<0.0001, \text{OR}=0.3225 \ (95\%CI 0.2420-0.4294)).\) See Appendix B3 for specific counts and statistical analyses.

**Findings:** See Appendix B4 for specific counts and statistical analysis.
Findings: There were no significant differences between how teaching assistants rated their experiences this fall compared to other instructors. See Appendix B5 for specific counts and statistical analyses.

Findings: Approximately 35% of respondents rate their experience as good or excellent overall, though this varies from about 26% to 75% depending on Faculty or area. See Appendix B6 for specific counts.
Factors Impacting Students’ Online Learning Experience

Students were asked to select any of the following that applied to them:
- I have shared access to my hardware (e.g., computer, tablet, phone) with a friend, family member, or through a public computer
- I have my own personal hardware (e.g., computer, tablet, phone)
- I have consistent access to secure, stable internet
- I have a dedicated workspace in which to study
- I have caregiving responsibilities for others
- I have employment responsibilities
- I am in a different time-zone (greater than 1-hour difference than Eastern Time Zone)
- I identify as a student with a disability

Figure 7: Student Access to Technology and Dedicated Study Space

Findings: 97.2% of student respondents have access to computer hardware, 67.8% have access to secure stable internet, and 68.5% have a dedicated workspace in which to study. This suggests that 2.8% percent do not have access to hardware (personal or shared), 32.2% do not have access to secure or stable internet and 31.5% do not have access to a dedicated workspace. Considering each of these factors as a potential barrier to learning, the data also
suggests that 52.5% of students do not have any of these barriers, while 30.5% have one of these barriers, 15.7% have two, and 1.6% have all three barriers. **Students experiencing one or more of these barriers are more likely to report negative experiences of the fall term.** (P<0.0001, OR=2.916 (95%CI 2.410-3.523)). See Appendix B7 for specific counts and statistical analyses.

**Figure 8: Students with Other Responsibilities (Employment and Caregiving)**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>24%</td>
<td>of students have <strong>caregiving responsibilities</strong></td>
</tr>
<tr>
<td>41%</td>
<td>of students have <strong>employment responsibilities</strong></td>
</tr>
<tr>
<td>14%</td>
<td>of students have both <strong>caregiving and employment responsibilities</strong></td>
</tr>
</tbody>
</table>

**Findings:** 24% of student respondents have indicated they have caregiving responsibilities, 41% have employment responsibilities, and 14% have both caregiving and employment responsibilities. Interestingly, neither having caregiving responsibilities (P=0.5873) nor employment responsibilities (P=0.1660), or both employment and caregiving responsibilities (P=0.8420) is significantly related to students’ likelihood of rating their overall experience as better or worse than students who don’t have these responsibilities. See Appendix B8 for detailed counts and statistical analyses.
Figure 9: Students Learning from a Different Time Zone

9.2% of students (or 258 students) stated they were learning from a different time zone with more than a one-hour time difference.

Findings: Surprisingly, students with a time-zone difference of 1 hour or more were slightly more likely to report a positive experience of the fall term. (P=0.0108, OR=0.6603 (95%CI 0.4780-0.9097). This finding is not intuitive, does not match anecdotal commentary from students, and does not align well with the qualitative findings. Further investigation would be suggested. See Appendix B9 for specific counts and statistical analyses.

Figure 10: Students Identifying with a Disability

9.1% of students (or 255 students) identified with a disability.

Findings: Students with disabilities were more likely to report negative experiences of the fall term (P=0.0005, OR=1.830 (95%CI 1.305-2.558). See Appendix B10 for specific counts and statistical analyses.
Summary: Overall Experience Ratings

- Students reported poorer experiences than instructors, with undergraduates reporting poorer experiences than graduate students.
- Students experiencing one or more barrier (limited access to individual hardware, stable internet or a dedicated workspace) were more likely to report negative experiences.
- Students with a time-zone difference of 1 hour or more were marginally more likely to report a positive experience, which was surprising—though this was incongruent with responses in the qualitative data.
- While students with disabilities were more likely to have a negative experience, there were no statistical differences for students with caregiving or employment responsibilities.
WHAT HAS BEEN WORKING WELL?

This section provides analysis of the open-ended qualitative question for students and instructors about what has been working well in their online learning or teaching this fall term. A summary of the top themes emerging from the qualitative data is presented for students and then instructors. This is followed by more detailed descriptions of the themes, separately for students and instructors with accompanying verbatim quotations that have not been edited. A summary for this question is included at the end of the section.

Table 2. Top themes emerging from students and instructors on what is working well

<table>
<thead>
<tr>
<th>Students</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor and TA engagement (34%)</td>
<td>Tools and platforms (64%)</td>
</tr>
<tr>
<td>Availability of recordings (30%)</td>
<td>Synchronous options (41%)</td>
</tr>
<tr>
<td>Flexibility and accessibility (26%)</td>
<td>Student engagement (39%)</td>
</tr>
<tr>
<td>Synchronous options (17%)</td>
<td>Asynchronous options (30%)</td>
</tr>
<tr>
<td>Organization, structure, and communication (16%)</td>
<td>Flexibility and accessibility (19%)</td>
</tr>
</tbody>
</table>

The Student Perspective

Students were asked: From your perspective, what has been working well in your online courses that help promote a positive learning experience? In total, there were 2381 responses to this question.

The most significant themes that emerged from the data are 1) instructor and TA engagement and support (34%); 2) availability of recordings (30%); 3) flexibility and accessibility (26%); 4) synchronous engagement (17%); and 5) organization, structure, and communication (16%). Several additional less prevalent themes were also captured in the analysis:

- Social interaction (14%)
- Small group work (12%)
- Nothing (7%)

Theme 1: Instructor and TA Engagement

Approximately 34% of respondents indicated that their relationships with instructors and TAs have been a highlight of Fall 2020. This theme includes availability to answer questions in class, office hours, and through chats and emails. They also spoke favourably about educators’ expressions of compassion, kindness, and understanding during this challenging period.

Selective quotes:

“All of the professors are very kind and approachable. They make a strong effort to find different methods of engagement and are graciously answer questions during lectures and beyond the classroom. The profs give us breaks and are always encouraging.”
- Interdisciplinary Masters student

“Professors that are actively asking for feedback and are explaining how they are accommodating to the online school. Professors that make themself available for office
hours and show true empathy for the difficulties of not only online school but also school during a pandemic.”
- Level 5+ Engineering student

“I appreciate the professor I have who holds a weekly office hour that students can drop into on MS Teams when they wish. It can be difficult to organize individual office hour appointments, especially if you'd like to ask questions every week. Making themselves available each week for an open virtual office hour shows me that they care about my learning and actually want to get to know me as a student.”
- Level 3 Science student

**Theme 2: Availability of Recordings**

Approximately 30% of respondents indicated that they value recordings of asynchronous lectures and synchronous lectures, tutorials, and drop-in sessions. Students shared that the ability to watch recordings allows them to manage their time efficiently, review confusing or complex content, and facilitates more effective studying.

Selective quotes:

“I really like that most classes are either recorded or posted asynchronously. I find that I can learn much more effectively and use my time more efficiently when I decide when I want to watch a lecture. It is also extremely helpful to be able to pause, go back, and rewatch lecture while taking notes and reviewing.”
- Level 3 Arts & Science student

“Many professors have been recording their lectures and posting them so that they can be watched any time at a student’s convenience. I find that with the fact that school is online that has helped students to be able to manage their time better.”
- Level 1 Humanities student

“I like when the live lectures are recorded so that in case I miss them, I don’t need to stress and can just watch it at a later time. Or sometimes, even if I was there, I like to go back and rewatch them to catch some stuff that I may have missed. This really helps because I can spend the live session listening and understanding, then later I can watch the recording and make notes.”
- Level 1 Health Sciences student

**Theme 3: Flexibility and Accessibility**

Approximately 26% of respondents commented that the flexibility of remote learning has contributed to a positive experience this term. While this sentiment is related to students’ access to recordings, this particular theme includes responses about not having to commute to campus, the benefits of having autonomy over when and where they learn, and the ability to accommodate non-academic responsibilities in their personal lives.

Selective quotes:

“Personally, I have found that the professors and TAs are still very accessible online and majority of the professors are willing to make things as accessible as possible, as well as make accommodations for their students.”
- Level 1 Science student
“Professors giving a time frame to finish lectures and assignments so that it can work around different time zones and whatnot. It makes it much less stressful when I know I have a time frame to complete something rather than having to watch every lecture in real time.”
- Level 1 Humanities student

“Recorded lectures and tutorials have given me the freedom to learn on a schedule that is best suited for me and my life. In a way, it beautifully conforms to the fact that not everyone leads the same life, and sometimes, things happen. And when things out of your control happen, you should never be academically punished for that.”
- Level 3 Engineering student

**Theme 4: Synchronous Options**
Approximately 17% of respondents shared that opportunities for synchronous engagement help create a sense of a supportive and engaging learning community. Students enjoy the structure provided by regular synchronous courses lectures and tutorials. They also value optional opportunities for live engagement in formally asynchronous courses.

Selective quotes:

“I would say small classes like tutorials and labs work well online. It is easier to interact with everyone and feels the most like ‘normal’ school.”
- Level 1 Engineering student

“Synchronous classes help promote a positive learning experience as it feels like you’re actually in class, not just teaching yourself from a computer.”
- Level 1 Health Sciences student

“Having live streamed (in person, virtual) lectures and labs through zoom, and having the TAs and instructors interact with us. This helps me stay on track. Its makes it feel like I am back in an actual classroom where there is actual human interaction and forces me to attend my lectures.”
- Level 5 Social Sciences student

**Theme 5: Organization, Structure, and Communication**
Approximately 16% of respondents shared that they appreciate the efforts instructors are putting into the organization of their courses. This includes clear, regular communication around participation and assignment expectations (e.g., due dates, Avenue checklists, where to upload assignments) and appreciation for organizational similarities across platforms (e.g., Avenue shells that are organized similarly). Students shared that well-organized courses reduce feelings of being overwhelmed and allow them to focus on the academic tasks at hand.

Selective quotes:

“posting all content early before due dates, having all information regarding class policies, assignment instructions, weekly content, etc. well organized in one place that makes sense, not scattered across different platforms or tabs on avenue”
- Level 3 Social Sciences student
“It's good that the readings and expectations are all provided well in advance so there is
time to prepare during this pandemic situation. Especially when there are a lot of
changes in our personal lives, it's good to have ample time to manage the changes from
the school environment as well.”
- Business Masters student

“Great content layout, very easy to navigate the A2L system overall. Content is
presented in a very digestible and not overwhelming way. It makes me feel like I'm
accomplishing something every week, and the weekly exercises are nicely aligned with
each module to ensure application and retention.”
- Continuing Education student

The Instructor Perspective

Instructors were asked: From your perspective, what has been working well in your online
teaching and your students’ learning? In total there were 349 responses.

The most prevalent themes for this question are 1) tools and platforms (64%), 2) synchronous
options (41%), 3) student engagement (39%), 4) asynchronous options (30%), and 5) flexibility
and accessibility (19%).

While themes of synchronous and asynchronous teaching figured prominently, the proportions
represented below should not be taken to indicate preference; many instructors commented that
combining elements of both in a hybrid approach contributes to positive teaching and learning
experiences.

Theme 1: Tools and Platforms

Approximately 64% of educators pointed to good experiences using specific tools and
platforms. This number can be further broken down by comments made about Zoom (17%),
Teams (16%), Other (including MacVideo, Echo360, and WebEx at 16%), and Avenue (14%).
Further information about these platforms is discussed later in this report.

Selective quotes:

“How smoothly the technology has been working. Without the organization and
infrastructure behind the scenes I wouldn’t have been able to focus on doing my best
work for the students.”
- Health Sciences sessional instructor

“Echo360 has been great for recording lectures; it’s fairly easy to use (now that I have
the hang of it) and I can check the analytics to see how many students are watching the
recordings. The Discussion board on Avenue and one-on-one Zoom meetings with
students have helped to make the asynchronous delivery a little more interactive.”
- Social Sciences faculty

“We’ve been able to engage with the clients in the capstone more meaningfully; they are
able to interact with students via video-conferencing, and it feels more natural. The
students are more familiar with the tools available to them, particularly MS Teams -
whereas in previous years they were more likely to use open-security collaboration tools
such as Facebook Messenger.”
- Engineering sessional instructor
Theme 2: Synchronous Options
Approximately 41% of respondents referred to synchronous teaching methods including virtual lectures and tutorials, office hours, and activities. Educators mentioned good attendance and students’ readiness to ask questions (often in chats). They also spoke favourably about breakout rooms, noting that students who usually keep their cameras off during lecture sometimes turn them on as soon as they break into such small groups.

Selective quotes:

“I have excellent student engagement in the synchronous virtual classes. They are highly active on chat and are turning on microphones during class time within 2-3 meetings. The level of engagement with the chat is higher than in F2F instruction.”
- Science faculty

“I have found that being clear with expectations and me being present in a synchronous class setting has been helpful to students. Many of my students have expressed their surprise at preferring a synchronous meeting in which we interact more and they can interrupt with questions.”
- Humanities faculty

Theme 3: Student Engagement
Approximately 39% of respondents shared that student engagement is generally good. This theme includes attendance and participation in synchronous lectures or tutorials, attendance at office hours, and asynchronous engagement in discussion boards and through other avenues.

Selective quotes:

“There is a lot of breakout room conversations, activities, games to get our bodies moving, and applying the concepts and tools delivered via asynchronous lectures and readings. The students really love the active learning aspect of being online. It’s fun to engage them in real time with polls, responses in chats, etc. I’m also finding it engaging with them in in small group conversations where they get opportunities to practice interviewing guests, and I provide them coaching in the chat while they do the interview, and host small dBrief conversations afterwards that help them see where they did well and what they need to work on.”
- Health Sciences faculty

“impressed by student engagement: 80%+ are still signing in for every lecture and there’s a wonderful critical mass of students with engaged comments in the chat (classes of 100+)”
- Engineering faculty

“I have found it positive to encourage (though not require) students to have their cameras on. I think it makes for a slightly more collegial experience and less awkward for all involved. Given that everyone has been so isolated, it is nice to see peoples faces rather than black screens. I try to encourage them that I understand there is a lot going on in their lives and things might be loud and chaotic where they are but we’re all experiencing the same thing. Having some sort of solidarity in the struggles of online learning is positive for students and TA's alike”
- Social Sciences teaching assistant

**Theme 4: Asynchronous Options**

Approximately 30% of responses referred to asynchronous teaching methods including pre-recording videos and distributing material in advance. This does not necessarily refer to fully asynchronous courses but rather different options for students to engage on their own terms.

Selective quotes:

“The class I am teaching is using pre-recorded lecture videos. Most students seem to like being able to work through lecture content at their own pace. Making videos allows me to edit the videos to fix mistakes. I can make extra videos illustrating examples or exercises that I don’t have time to cover in the main lectures.”
- Science contractually limited appointment

“Students indicate that they learn better from having video lectures. And, they say that they like the video lectures better since they can play the recordings over and learn the details. The videos are supported by associated PowerPoint decks and R Markdown documents. I started doing this for last winter term. Students marks have been better than with traditional means.”
- Business faculty

**Theme 5: Flexibility and Accessibility**

Approximately 19% of respondents shared that their remote teaching experiences, and students’ learning experiences, are enhanced by flexibility and accessibility. This theme overlaps with asynchronous course delivery but refers to additional factors such as not having to commute, the logistical ease of inviting guest speakers, general accessibility considerations, and graciousness and patience extended to and from instructors and students.

“The format of my undergraduate courses lends itself well to virtual lectures and virtual labs (synchronous). Even though lectures are virtual, I record them and the students can download them or stream them, so it is very helpful to SAS students, the student who miss a class for whatever reason, or the students in different time zones. The virtual labs need to be synchronous as the major labs are marked. However, the virtual nature of the labs allowed me to create special lab sections for students in different time zone, and for SAS students allowing them longer time.”
- Engineering faculty

“I believe strongly that I am a better teacher because of being forced to teach online. The stress has been significant and burnout is close at hand, but I now teach more accessibly and because I have integrated more regular assessment asynchronously, within A2L, combined with synchronous sessions that give me space to respond to and take up problem Areas for students, I am confident that I am doing a better job of meeting students where they are rather than imagining where they are and then finding myself puzzled or surprised when they have difficulties later.”
- Humanities faculty

“Willingness of the vast majority of students to be flexible in their expectations, and supportive of efforts to make the best of a bad situation.”
- Science faculty
Summary: What is Working Well

- Students shared that their relationships with instructors and TAs have supported their learning experiences, and highlighted instructors’ compassion and understanding as strengths.
- Students and instructors both highlighted that asynchronous teaching and learning activities (e.g., recorded lectures) are valuable as they allow students the flexibility to engage with content on their own terms and at their own pace.
- Students and instructors also both described synchronous teaching and learning activities (e.g., virtual office hours, virtual lectures) as meaningful for creating a supportive learning environment and facilitating student-student and instructor-student interactions.
- Students reported that clear, regular communication and well-organized course materials help them focus on their learning.
- Instructors identified educational tools and platforms as useful for organizing course content and activities and facilitating student engagement, including Avenue to Learn, Zoom, and Microsoft Teams.
WHAT HAVE THE BIGGEST IMPEDIMENTS BEEN?

This section provides analysis of the open-ended qualitative question for students and instructors about what the biggest impediments have been in learning or teaching this fall term. A summary of the top themes emerging from the qualitative data is presented for students and then instructors. This is followed by more detailed descriptions of the themes, separately for students and instructors with accompanying verbatim quotations that have not been edited. A summary for this question is included at the end of the section.

Table 3. Top themes emerging from students and instructors on biggest impediments

<table>
<thead>
<tr>
<th>Students</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulties connecting with instructors and/or peers (32%)</td>
<td>Difficulties connecting with students (46%)</td>
</tr>
<tr>
<td>Technical problems and too many platforms (32%)</td>
<td>Technical problems and challenges with platforms (29%)</td>
</tr>
<tr>
<td>Increased workload (28%)</td>
<td>Lack of visual feedback from students (23%)</td>
</tr>
<tr>
<td>Mental and physical strain (19%)</td>
<td>Increased workload and fatigue (22%)</td>
</tr>
<tr>
<td>Unclear communication or course structure (17%)</td>
<td>unreliable internet access (16%)</td>
</tr>
</tbody>
</table>

The Student Perspective

Students were asked: What have the biggest impediments been in your online courses? There were 2433 responses to this question.

Student respondents identified the main impediments to their learning as 1) difficulties connecting with instructors and/or peers (32%); 2) technical problems and too many platforms (32%); 3) increased workload (28%); 4) mental and physical strain (19%), and 5) unclear communication or course structure (17%).

In addition to the above themes, several others emerged:
- Feelings that students are teaching themselves (7%)
- Distracting home study environments (6%)
- Feeling like lab work/hands-on learning opportunities are inferior online (4%)
- Challenges encountered with time differences or lack of access to resources abroad (4%)
- Concerns around proctored tests (4%)
- Nothing (3%)
- Issues around lack of accessibility and accommodations (3%)

Theme 1: Difficulties Connecting with Instructors and/or Peers

Approximately 32% of students identified that they lack a sense of community or connectedness with their peers, instructors, or teaching assistants. Students shared that they experience more difficulty meeting or connecting with classmates, lack interactions with others in the learning environment, and miss opportunities to ask their instructor or teaching assistant clarification questions in real-time. Some students identified that they felt alone, isolated, or disconnected from their studies or did not have anyone to go to for help with their coursework. Some also shared that coordinating group work is more challenging in the online environment.
Selected quotes:

“The isolation. Not knowing where you stand with your peers, because it is hard to create connections. This makes work harder because you don’t if you are just struggling or if everyone is.”
- Level 1 Science student

“Pre-recorded lectures (an example of reduced quality) - the student-instructor relationship has been reduced to email exchanges; no space for questions/clarifications during lecture.”
- Level 3 Humanities student

“One barricade to learning has been not knowing any of my classmates. There isn’t time to have small talk in between lectures to get to know everybody, so it feels like you’re alone.”
- Level 5 Social Sciences student

**Theme 2: Technical Problems and Too Many Platforms**

Approximately 32% of students indicated that technical problems impeded their learning in online or virtual classes and/or that there were too many platforms in use within and across courses. They share that their instructors struggle to incorporate technology into courses or that respondents themselves did not know how to use required technologies. Some respondents mentioned that they did not have access to the technologies they needed to complete their course work, such as specific software, personal laptops, or webcams. Respondents also commonly shared that they experienced general technical difficulties using technology, including poor internet connection and preferences for specific platforms.

Selective quotes:

“The only impediment of my online courses is honestly the latency on teams when doing group work in the program itself. For example, in my design studio group we have to cooperate on our weekly milestone together to make sure it's done, however, the refresh rate on Microsoft word on teams is very low so its hard to double-check each other's work and coordinate what is being done.”
- Level 1 Engineering student

“Just being thrown into using new technologies. I had literally never even thought about using Zoom or Microsoft Teams before the term began and then I felt as if I was just thrown into it, without really knowing what I was doing.”
- Humanities, Masters Student

“MULTIPLE PLATFORMS. LIKE JUST PICK ONE. SO FAR I AM USING WEBEX, ECHO360, MICROSOFT TEAMS, AVENUE TO LEARN, CHILDSMATH AND MORE. I am using like 6 different platforms to access the material. It is exhausting and confusing and took me AGES to figure out where to find everything I need to succeed. Simplifying the platforms would be sooooooo much better.”
- Level 1 Health Sciences student
“Not all profs use the same tools (ie. Echo 360, zoom, discussion boards) which makes it frustrating to learn how to use a bunch of different platforms for the same thing. Not to mention, keeping track of which work I have to submit on which platform is a pain.”
- Level 1 Business student

**Theme 3: Increased Workload**

Approximately 28% of students felt that there is an overwhelming amount of work in their online/virtual courses. Students most commonly shared that they felt there was more content to review and/or assignments to complete to compensate for the move online. Respondents reported that they felt overwhelmed, behind in their work, and like they could not keep track of all the work they had to complete. Some respondents also commented on the length of their synchronous or pre-recorded sessions, saying that these lessons tended to go over scheduled class time. Finally, some students shared that they felt they had more challenging testing experiences, including less time to complete assessments and an inability to move backward or forward through questions at their own pace.

Selective quotes:

“I have found that the work load of almost all of my courses has gone up dramatically. I am constantly struggling to meet deadlines and also stay on track with watching all of my lectures...”
- Level 2 Science student

“… I am pretty good at getting things done ahead of time and I'm actually ahead most of the time but it feels like I’m so behind and I could spend 24 hours working and still feel like I'm behind.”
- Level 1 Engineering student

“The drastic amount of work that has been assigned since COVID started. Almost all my classes have multiple things due each week that is too stressful for someone to complete.”
- Level 2 Social Sciences student

**Theme 4: Mental and Physical Strain**

Approximately 19% of student respondents identified poor mental and/or physical health as impeding their online/virtual learning experience. Common responses include increased feelings of stress, burnout, and mental fatigue, such as a lack of motivation or focus. Some respondents mentioned impacts on their physical health, including eyestrain, headaches, exhaustion, skipping meals, and spending extended periods sitting. Some also shared that they felt hopeless, depressed, or anxious, or that their mental health had worsened due to current circumstances.

Selective quotes:

“I find the feeling of constantly feeling disembodied has made my body dysmorphia much, much worse. I'm not a social persona generally, but never seeing anybody physically has made it difficult for me to treat my body with respect.”
- Humanities PhD student
“I am getting less than 4 hours of sleep per night... all of my weekend mornings and nights have been spent meeting with groups and I have been unable to spend any time with friends or family which is negatively impacting my mental health.”
- Business Masters student

“I don’t seem to have enough time in the day to do all of it. I am trading in working out and even proper meals just to be at the desk all day (and night).”
- Level 1 Science student

**Theme 5: Unclear Communication or Course Structure**

Approximately 17% of students identified that their online or virtual courses lacked clear communication or structure. Students commonly described a lack of structure and organization in course materials, including confusing or ambiguous instructions and expectations, disorganized Avenue course shells, and inconsistencies across different means of communication. Some respondents mentioned that information or content was shared later than expected or that course expectations were continuously changing and challenging to keep up with.

Selective quotes:

“last minute release of information (midterm details released only a few days or day before in advance); miscommunication in courses about expectations on assessments”
- Level 3 Health Sciences student

“Another big impediment in my online courses has been that in one course the professor is not clear on his expectations and consistently changes the course outline during the semester... The unpredictability of this course and constant changes has left me stressed out.”
- Level 4 Engineering student

“Design of Avenue to Learn sites course sites. There is not consistency between them. Some look very sloppy and it's difficult to find information - in one of my courses I couldn't locate the course outline and syllabus.”
- Level 2 Humanities student

**The Instructor Perspective**

Instructors were asked: What have your biggest impediments been to your teaching and to your students’ learning experiences? There were 351 responses.

The five most prevalent themes for this question are 1) difficulties connecting with students (46%), 2) technical problems and challenges with platforms (29%), 3) the lack of visual feedback from students (23%), 4) increased workload and fatigue (22%), and 5) unreliable internet access (16%).

In addition to these themes, several other trends emerged:

- Concern about student stress and lack of focus (14%)
- The need for additional support (11%)
- Challenges with assessment, including academic integrity (5%)
- Challenges creating positive learning experiences for students in different time zones (5%)
- Dissatisfaction with virtual labs (4%)
Theme 1: Difficulties Connecting with Students
Approximately 46% of respondents shared that they are struggling to connect with their students pedagogically and/or interpersonally. This encompasses class participation and attendance but also extends to mentorship of graduate students and the connections that develop organically through frequent social interaction. Instructors also acknowledged that students are missing peer engagement.

Selective quotes:

“No personal communications, no direct interaction. Everybody is alone in a non learning environment, detached from each other and having to follow classes on a computer. The students are much less motivated and much less interacting. When recording the lectures, nobody asks any questions, but once the recording is over, then they ask questions. They are fearful of being recorded and do not want to be seen or heard.”
- Science faculty

“The actual personal connection with people one doesn’t know is really hard to achieve - if not impossible. It is hard to let go. I really enjoy getting to know them through our classes and I am not sure the online teaching is going to do it.”
- Health Sciences faculty

“Thus far, there has been less uptake than usual of my office hours. Inability to interact with students (in this case, graduate students) through more informal occasions in our departmental offices, which is where much mentoring and learning takes place.”
- Social Sciences faculty

Theme 2: Technical Problems and Challenges with Platforms
Approximately 29% of educators report experiencing frustrations with McMaster’s remote teaching and learning tools. Common challenges include glitches with specific platforms, confusing or incorrect institutional communication around platform features (e.g., the availability of breakout rooms on Teams), feeling overwhelmed by the learning curve and the number of available tools, and concerns with privacy and data management.

Selective quotes:

“The number of problems and errors with technological systems (e.g., email going down, emails being lost, Microsoft sign in problems, etc., as well as the late delivery of some information (e.g., about FIPPA requirements) has been HUGELY problematic and very disappointing. While I understand that some issues (e.g., power outages) could not be foreseen/controlled, others seem entirely preventable.”
- Humanities and Arts & Science faculty

“Platform overload/confusion. Having multiple different platforms that are being used to facilitate courses. Many courses are using WebEx/Zoom/MS Teams in combination with other services, and it requires a lot of organization to ensure that students are going to the correct place to receive the information.”
- Science sessional instructor
“Poorly integrated online learning environments - participation should be taken automatically through the online video conferencing software, it should be easier to convene a video conference within A2L or Teams should be expanded to include A2L's functionalities. Having both in parallel is confusing for everyone.”
- Humanities faculty

Theme 3: Lack of Visual Feedback from Students
Approximately 23% of respondents indicated that they find it challenging to teach when students do not turn on their cameras. Though connected to Theme 1, the prevalence of specific references to the lack of visual feedback as an impediment to making pedagogical decisions warranted isolating this as a distinct point of consideration.

Selective quotes:

“I miss seeing my students' faces and being able to see that they are understanding or not understanding. The in-class interactions provide the instructor a lot of visual feedback based on body and facial expressions that is missed in a large virtual class.”
- Business faculty

“I use the Socratic method of teaching. Essentially all students choose to have their video off during zoom lectures. My inability to see my students facial expression responses to the course materials during my live virtual lectures makes it essentially impossible to gauge the uptake of difficult concepts. I normally use that class interaction impression as an indicator of the need to reiterate subject matter and the rate of progress through the material. That is lost with the inability to see the students.”
- Science faculty

“No non-verbal feedback. Seeing faces, getting blank looks, seeing bored students, getting a laugh here and there... These are all things that help make an engaging class. I have zero ability to know if students are awake, interested, entertained, etc.”
- Engineering faculty

Theme 4: Increased Workload and Fatigue
Approximately 22% of respondents shared that teaching remotely takes much more time and effort than teaching on campus and that, as of the survey administration period in early- to mid-October, they were already exhausted. While some responses referred to the amount of time it took to initially learn the tools they are now using, most focused on the recurring demands of additional preparation and instruction. Several instructors pointed specifically to the time-consuming nature of making accommodations in a remote teaching environment.

Selective quotes:

“I have found that the amount of preparation for classes is so much greater. I'm required to plan far in advance in order to post material in a timely fashion. It takes more time to record lectures and then it takes time to develop activities for the synchronous class to integrate the learning from the reading and lecture material.”
- Social Sciences sessional instructor
“Administration requirements for SAS accommodations. Nightmare and time consuming both the ‘programming’ in Avenue and the managing of everything around assessment.”
- Engineering faculty

“From an instructor perspective, the volume of time required to prep an interactive, hands-on virtual class is enormous compared to doing the same in-person - we’ve been teaching online for 6.5 months now and I've worked no less than 60 hours every single week during this time. If it ends up that we need to do this for another year, it will be much better because we’ll just be tweaking what we’ve developed this year, but right now the workload is EXTREME in our attempts to offer the same calibre of education the students would have in-person.”
- Health Sciences faculty

Theme 5: Unreliable Internet Access
Approximately 16% of educators indicated that they or their students are struggling with reliable internet access. Many of these responses focused on students dropping from calls in synchronous courses.

Selective quotes:

“The other problem is low quality of internet for some students and some instructors. I live in Dundas and I upgraded my Internet package to commercial in anticipation of the remote teaching. Despite the price, the Internet connection is lousy -- I found better connection in the jungle of Vietnam than in Dundas. Similarly some of my students complain about the Internet connection.”
- Engineering faculty

“Internet connectivity issues have come up. Some students are worried about losing participation marks if their internet cuts out. We’ve been accommodating to students.”
- Humanities sessional instructor

Summary: Biggest Impediments

- Students and instructors are feeling disconnected from one another and indicated that they miss real-time opportunities to ask questions, discuss course content, and provide formative feedback on their understanding.
- Students and instructors are feeling overwhelmed by the volume of work; students identified both an increase in the amount of content to review and the number assignments they need to complete, whereas instructors identified increased time for preparing to teach online/virtually.
- Both students and instructors reported higher levels of student stress and concerns around students’ mental health.
- While technology has been used to organize courses and facilitate interactions, it also presents as a barrier. Internet issues, lack of needed hardware, technology glitches, and student/instructor unfamiliarity with using tools were all identified as barriers by both students and instructors.
WHAT STRATEGIES, SERVICES, AND RESOURCES HAVE YOU USED?

This section provides analysis of the open-ended qualitative question for students and instructors about what strategies, services and resources students and instructors have been using. A summary of the top themes emerging from the qualitative data is presented for students and then instructors. This is followed by more detailed descriptions of the themes, separately for students and instructors with accompanying verbatim quotations that have not been edited. A summary for this question is included at the end of the section.

Table 4. Top themes emerging from students and instructors on most used strategies, services and resources

<table>
<thead>
<tr>
<th>Students</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time management and organization strategies (29%)</td>
<td>McMaster-supported technology platforms (51%)</td>
</tr>
<tr>
<td>McMaster-supported technology platforms (21%)</td>
<td>Changes to teaching style or approach (38%)</td>
</tr>
<tr>
<td>Peer communications and connections (14%)</td>
<td>Support from colleagues, peers, and department support staff (24%)</td>
</tr>
<tr>
<td>Nothing (13%)</td>
<td>Support from the MacPherson Institute (22%)</td>
</tr>
<tr>
<td>General study skills (12%)</td>
<td>Webinars, resources and training (21%)</td>
</tr>
</tbody>
</table>

The Student Perspective

Students were asked: What strategies, services, and resources have you used this term to help support your learning? In total, there were 2134 responses to this question.

The top themes for this question are time management and organization strategies (29%), McMaster-supported technological resources (21%), peer communication (14%), nothing (13%), and general study skills (12%).

Other strategies, services and resources mentioned included:
- Office hours or support from drop-in centres (11%)
- Externally available technology resources, such as YouTube, Khan Academy and external services (9%)
- Email communication with instructors or TAs (8%)
- Library Services (4%)
- Student Accessibility Services (4%)
- Mentorship programs and opportunities (4%)
- Home office set-up or upgrades (3%)
- Counselling and wellness services (2%)
- Academic advising (2%)

Theme 1: Time Management and Organization Strategies

Approximately 29% of student respondents indicated that they are using their own time management and organizational strategies to support their learning. They mention that they are developing and maintaining a daily and weekly schedule, scheduling all due dates into a
calendar, managing time effectively, and keeping an organized agenda. In some cases, students report already having these skills and those skills being beneficial for this term. In other cases, students indicate that they have had to learn these skills just to be able to keep up.

Selective quotes:

“"I use a google calendar to put sort all of my synchronous lectures and tutorials and I have tried scheduling in advance when I will watch pre-recorded lectures and modules. I also input all of my upcoming tests, quizzes, and assignments...””
- Level 1 Health Sciences student

“I have created my own daily class schedule and allotted times for when I want to get lectures done. I use Google Calendar for everything and find it extremely helpful to visualize timelines and events.”
- Level 3 Arts & Science student

“Organizing and managing my time. Carving out a few hours per week on dedicated days to complete the readings/assignments.”
- Continuing Education student

“I have to write down everything in multiple places such as an agenda, reminders, a calendar, etc., in order to keep track of a schedule of everything needed to do. Have to take lots of breaks to get away from the screen that I have to constantly be on.”
- Level 4 Social Sciences student

Theme 2: McMaster-Supported Technology Platforms
Approximately 21% of responses mentioned McMaster-supported platforms and tools, including Avenue to Learn, MS Teams, Zoom, Echo360 and the VPN as resources that have been used during the fall term.

Selective quotes:

“The free VPN gave me a great help to connect the learning website... and... AVENUE TO LEARN is very convenient for me to submit assignments....”
- Level 1 Engineering student

“Checklists on Avenue have been quite helpful in ensuring I haven’t missed any of my weekly assignments.”
- Level 5+ Humanities student

“I appreciate the Zoom license and Microsoft Teams platform. It has helped students keep in touch.”
- Business Masters student

Theme 3: Peer Communications and Connections
Approximately 14% of student responses indicated that peer communications have been a helpful strategy and that connections with their peers are a valuable resource. This includes comments about communicating about the course with classmates and peers, engaging in peer-based study, and staying connected with friends, social networks, and clubs.
Selective quotes:

“I try to use the chat rooms available on Teams to ask questions and contact other students in hopes that we can attempt to form study groups and discuss course content together.”
- Level 1 Engineering student

“My classmates and I have a number of group chats we are using to discuss course materials and to discuss in general. This has helped build a sense of community.”
- Health Sciences Masters student

“I have been joining more clubs in the McMaster community so that I would meet new people and maintain my social life. By doing this, I am able to meet new people from upper years who would give me advice for the courses that I am taking as well as going into co-op”
- Level 3 Science student

Theme 4: Nothing
Surprisingly, approximately 13% of student responses indicated that they have not used any strategies, services or resources or that they were unsure of what was available to them. Many of these responses were simple one-word responses such as “nothing” or “none.”

Selective quotes:

“I still haven’t figured out any strategies, I feel very lost”
- Level 4 Science student

“None really, I honestly can’t find any of these resources as easily as I should be”
- Level 1 Social Sciences student

Theme 5: General Study Skills
Approximately 12% of responses addressed study skills beyond time management and organization. These included asking for clarification, employing note-taking skills, doing the readings, and independently consulting other sources of information to clarify understanding.

Selective quotes:

“Reading and writing workshops and reaching out to profs and mentors”
- Level 3 Social Sciences student

“Read the material provided by the instructor and listen to videos whenever required. Ask the instructor questions by email if faced with any problem.”
- Business PhD student

“I tried to follow our instructor, read all the class readings and started working on assignments beforehand to save me from trouble in future. I use PubMed and any additional resources shared by peers and instructors to increase my knowledge related to my field.”
- Health Sciences Masters student
The Instructor Perspective

Instructors were asked: What strategies, services, and resources have you used this term to help support your teaching and your students’ learning? In total, there were 331 responses to this question.

Instructor respondents identified several strategies, services and resources they have been using this fall term to support their teaching and their students’ learning. The four most common themes are McMaster-supported technological resources (51%), changes to teaching style or approach (38%), support from colleagues, peers and staff in their area (24%) and support from the MacPherson Institute (22%) and various webinars, website resources or other training to support online teaching (21%).

Other strategies, services and resources mentioned included:

- Technology hardware purchases or upgrades (13%)
- Other technology tools or platforms (13%)
- IT or UTS support (9%)
- TA support (7%)
- Support from other campus services including Student Accessibility Services, Office of Community Engagement, Library (2%)

Theme 1. McMaster-Supported Technology Platforms

Approximately 51% of instructors mentioned that they find McMaster’s supported technology platforms helpful. These include Avenue, Teams, Zoom, WebEx, Echo360, MacVideo, Camtasia, and others. There are few quotes that describe the use of these tools. Instead, many responses simply list the technological platforms that instructors are using.

Selective quotes:

“We’ve used Avenue to Learn, Microsoft Teams, Cisco Webex, and Zoom. We ensure redundancies in our communications to the students so they have multiple ways to access materials or ways of posting materials.”
- Health Sciences faculty

“I am trying to do all my teaching synchronously on Zoom. I am using AVENUE as a repository for handout materials and weekly class announcements. It was important for me to have good technology.”
- Business faculty

“Camtasia for recorded lectures A2L for quizzes, assignment submissions TurnItIn.com for project and lab report submissions MS Teams for content delivery, tutorials, and discussion groups microphones, webcams, extended screens for all experiments in the lab course”
- Engineering faculty

Theme 2. Changes to Teaching Style or Approach

Approximately 38% of instructors discussed the changes they have made to their teaching as helpful strategies in supporting their teaching and their students’ learning. Here they may have mentioned the use of their preparatory time or ways in which they are adapting to supporting students in the virtual teaching and learning space.
Selective quotes:

“Lots of prep time (at least twice as much as usual). Development of new pedagogical strategies to facilitate discussion, information retention.”
- Social Sciences faculty

“I took the opportunity of the need of adjustment to redesign my class somewhat and introduce a greater level of organization and predictability. This will serve me well even after I can teach in person again.”
- Health Sciences faculty

“Compassion for the students’ learning experience is important; meeting them where they are (emotionally, day/time, platform) is required, and being understanding and reasonable about attendance, time management, etc is very helpful.”
- Central Support Unit staff member involved in instructional activities

Theme 3. Support from Colleagues, Peers and Department Support Staff
Approximately 24% of the responses indicated that instructors are finding support from their peers in their departments. This includes support from and connection with other instructors and staff.

Selective quotes:

“I am grateful for my colleagues who decided early on to practice platforms together and make joint decisions about how we would approach things in our program. This has been my greatest support.”
- Humanities faculty

“The single biggest difference between me at Mac and my colleagues at other Canadian and US universities is that although we have all faced upheavals of unprecedented magnitude, I have ALWAYS felt that Mac as a whole is doing its best and is supporting me - even when I’ve felt unequal to the task. Other places have clearly NOT given their people a sense of ‘we will do OK, we’re with you, what you are doing is good enough.”
- Science faculty

“I asked a colleague - a staff member - to be my ‘zoom buddy’. She is there on my classes and reassures me that my slides, polls etc. are visible, tells me when I’m sharing wrong things, when chats open up etc. This is incredibly helpful and reassuring to know that I have her there.”
- Health Sciences faculty

Theme 4. Support from the MacPherson Institute
Approximately 22% of responses indicated that they are finding the support from the MacPherson Institute to be helpful.

Selective quotes:

“I have referred repeatedly to the MacPherson resources ... the instructional videos have been very helpful in developing the Avenue course shell. I have utilized personal
support/consultation of MacPherson staff person who reviewed my course shell and gave me feedback and suggestions.”
- Social Science faculty

“We’ve been using the MacPherson staff for quick consults to solve problems”
- Health Sciences faculty

“Relied on expert advice from MacPherson”
- Engineering faculty

“The McPherson Institute has provided a great deal of tech assistance. Staff have been answering questions pretty quickly and that's helped me deal with the various issues that have cropped up. This support has made an important difference in my ability to manage the transition to online teaching.”
- Humanities faculty

Theme 5. Webinars, Resources and Training
Approximately 21% of responses mentioned that they are finding a variety of webinars, resources and training materials to be helpful, sometimes some more than others. In some cases, this is also mentioned with a concern about not having enough time to engage or with a sense of overwhelm around how many resources are available.

Selective quotes:

“In the summer I practically took almost every webinar that was offered - just to decrease the level of anxiety I felt about the fall class.”
- Health Sciences faculty

“I have to say that I have no shortage of resources to consult--I've received dozens and dozens of emails (more likely hundreds) since we switched to online teaching with tips, resources, etc., but to be frank it is overwhelming. I just don't have a lot of time.”
- Humanities faculty

“Class Teams and MacPherson resources for technical issues. We have a cluster of faculty that have met to work through issues around teaching. Help guides created by staff and Associate Chair UG in my department.”
- Science faculty

“I have attended all the Technology support sessions offered by my department.”
- Social Sciences faculty

Summary: Helpful Strategies, Services and Resources

- Students reported that they are most commonly using their time management skills and organizational tools to stay on top of their learning.
- Students and instructors cited McMaster’s institutionally-supported tools as helpful for their teaching and learning.
- Students and instructors also reported peer support as important resources.
- Some student respondents indicated that they had not used or found any strategies, services, or resources helpful for their learning and academic success.
- Instructors commonly reported that they had made changes to their teaching and learning approaches in response to the remote context, including additional prep time or curriculum redesign.
- Instructors also reported accessing MacPherson Institute supports and other training webinars or resources to support their online/virtual teaching and use of educational technologies.
WHAT CHANGES WILL YOU MAKE NEXT TERM?

This section provides analysis of the open-ended qualitative question for students and instructors about what changes students or instructors might make next term. A summary of the top themes emerging from the qualitative data is presented for students and then instructors. This is followed by more detailed descriptions of the themes, separately for students and instructors with accompanying verbatim quotations that have not been edited. A summary for this question is included at the end of the section.

Table 5. Top themes emerging from students and instructors on what changes students or instructors might make next term

<table>
<thead>
<tr>
<th>Students</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing, not sure, or the same (24%)</td>
<td>No changes, unsure, or not applicable (43%)</td>
</tr>
<tr>
<td>Implement time management strategies (21%)</td>
<td>Enhance engagement and community (31%)</td>
</tr>
<tr>
<td>Implement new study habits (20%)</td>
<td>Use new tools, stop using tools, or improve technical skills (15%)</td>
</tr>
<tr>
<td>Access additional support (9%)</td>
<td>Adjust content and assessments (14%)</td>
</tr>
<tr>
<td>Increase social engagement (7%)</td>
<td>Enhance course organization and clarity (13%)</td>
</tr>
</tbody>
</table>

The Student Perspective

Students were asked: What changes will you make next term to improve your learning experience and academic success? There were 1994 responses submitted for this question.

In addition to the five major themes listed below, several other relevant themes emerge from the student responses to this question:

- Prioritizing health and wellness (6%)
- Reducing workload or changing program status (6%)
- Changing location (4%)
- Improving study space setup or technology (4%)
- Strategically choosing courses based on format or instructor (3%)

Theme 1: Nothing, Not Sure, or the Same

Approximately 24% of students responded that they do not plan to make any changes. Many of these responses were one-word answers that did not provide additional context. Others encompass sentiment ranging from “nothing, because everything is working well” to “nothing, because there is nothing I can control.” Responses of “N/A” are also included in this count.

Selective quotes:

“I cannot make any changes that would help. Students are doing their best with what they have right now, and university support has been minimal.”
- Level 1 Health Sciences student

“I think I’m doing fine with online schooling. I thrive in this environment. As someone with a disability (and a diagnosed severe anxiety disorder) I’ve learned how to manage time and be productive when learning solely online.”
- Level 3 Science student

“There are no changes that I, as an individual learner, can make that aren’t intimately linked to the structure of the university. Increased wages, fewer bureaucratic demands, and an extra year of funding would ‘improve my learning experience and academic success.’”
- Humanities PhD student

**Theme 2: Implement Time Management Strategies**

Approximately 21% of respondents shared that they would work on improving their time management skills. This includes self-imposing more structure in asynchronous courses, starting work earlier than normal, and using digital and print agendas, schedules, and calendars. This theme also captures several responses from international students about difficulties navigating time zone differences, although these answers are not explicitly highlighted here.

Selective quotes:

“Put everything due in my calendar on the first day of class. Keep a spreadsheet of all my course times, tutorial times, office hours.”
- Level 2 Health Sciences student

“Bettering my time management. Being at home really messes with my head and makes me feel like I can just relax all day. It’s hard to get into ‘work-mode’ when you’re stuck in the room you associate with sleep and relaxation. I really have to work on creating a better schedule for myself so I can get more work done every day.”
- Level 2 Humanities student

“I will impose more structure to my schedule than I would strictly have to given the online learning format. I have been doing this recently and I think it is a factor in helping me learn more recently.”
- Social Sciences Masters student

**Theme 3: Implement New Study Habits**

Approximately 20% of students wrote about trying to improve their general study habits. While there is some overlap with time management strategies, this theme extends to comments about taking regular breaks, reading (and rereading) the syllabus, forming study groups, and changing notetaking methods.

Selective quotes:

“To save on screen time, I might invest in audio versions of course novels/readings!”
- Level 2 Arts & Science student

“Next term I will keep on top of my school work so that when busy periods (such as midterms) roll around I am not scrambling to find time to catch up and study. This way I can better juggle classwork and additional study. I will also be going outside more for frequent fresh air to clear my head and improve performance.”
- Level 1 Science student
“I have found that with everything being online writing things by hand helps me grasp the content better and gives me a break from staring at my screen.”
- Level 2 Engineering student

Theme 4: Access Additional Support
Approximately 9% of respondents indicated they will seek additional academic and student supports. Answers encompass reaching out to professors and teaching assistants, attending office hours, seeking academic counselling, and accessing campus resources like Student Accessibility Services.

Selective quotes:

“I will contact the MSWC (Student Wellness Centre) more frequently for my mental health (arrange a consultation and appointments).”
- Level 2 Humanities student

“go to office hours on avenue chat and make office hour zoom appointments with professors.”
- Level 1 Social Sciences student

“Hopefully setting in a routine of speaking to a counselor or similar to control school stresses, etc.”
- Level 3 Engineering student

Theme 5: Increase Social Engagement
Approximately 7% of students shared that they intend to pursue more social opportunities within and beyond their courses or programs. This theme encompasses comments about making greater efforts to interact with instructors and peers, engaging with friends and family, and exploring opportunities for social engagement within McMaster clubs and organizations.

Selective quotes:

“I'm going to try to get more involved in the McMaster community! Despite being extremely involved in my university community during my undergraduate studies, I hesitated this semester due to work commitments, the additional screen time, and not yet being familiar with McMaster. I feel that getting to know my peers better will definitely improve my learning experience and lead to a better school/life balance.”
- Health Sciences Masters student

“Next term I hope to take greater advantage of the online extra curricular McMaster has put in place. I've spent the better part of the last month adjusting to the new normal in online classes that I haven’t given myself the time to even take a look at what’s available.”
- Level 3 Engineering student

“I will try to find more peers to work with, this is one thing I’ve found really difficult about online learning. In high school I would always study with my friends, as one way that I practiced my skills was teaching them to my peers. It would be nice if some kind of service was created to help us find other peers who are looking for “study buddies”. Potentially a quiz could be created to help match like-minded students.”
The Instructor Perspective

Instructors were asked: What changes will you make next term to improve your teaching and course design? There were 313 responses submitted for this question.

The top themes for this question are 1) No changes, unsure, or not applicable (43%); 2) enhance engagement and community (31%); use new tools, stop using tools, or improve technical skills (15%); adjust content and assessments (14%), and enhance course organization and clarity (13%).

Theme 1: No Changes, Unsure, or Not Applicable
Approximately 43% of educators shared that they cannot, will not, or are not yet sure how to make changes to their teaching and course design plans for Winter 2021. This theme includes responses that they are already doing the best that they can, that their teaching is going well, that they are too busy or tired to think about next term, and that they are not teaching in Winter 2021.

Selective quotes:

"Things are working fine for now. I don't anticipate changing anything."
- Business faculty

"Oof. I don’t know. I have a new course that I’m weeks behind in preparing. I don’t think I’ll have time for much reflexivity, to be perfectly honest. (We are a month in and I’m exhausted). I may shift to teach on youtube live, so that I can take advantage of the OBS software."
- Social Sciences faculty

"I have no time to think about the winter semester. I fully expect winter to be awful with worse online teaching materials. (In fall, by comparison, we had the whole summer to plan. But now we are teaching in fall, which requires a lot more time than face-to-face, leaving no time left to plan for winter. This gives me major anxiety just thinking about it. So I don’t.)"
- Science faculty

Theme 2: Enhance Engagement and Community
Approximately 31% of respondents shared that they would continue to emphasize, or emphasize to a greater degree, building community in their courses. Generally, these responses focus on establishing more opportunities for synchronous engagement with groups or individuals (e.g., optional drop-in sessions, planning more opportunities for peer engagement). This does not necessarily mean that instructors intend to move from asynchronous to synchronous courses, but that they recognize a need to create more points of live engagement.

Selective quotes:

"I recently took the ADOD training and am now trying to explore ways to reach and engage learners who might feel isolated or be impacted negatively by our move to virtual learning. I have reached out to my SAS students several times to check on how they are
doing and am thinking beyond assignments and activities to how I can create a welcoming and close knit community of learners despite distance.”
- Humanities faculty

“I may not prerecord lectures as this is taking a lot of time to prepare and the students don’t seem to watch them but rather wait for the synchronous component to work through examples. As the theory is important, I would want them to watch that too, hence think about only offering a synchronous component. I hope to get students more involved. I do so currently with Poll questions on zoom but there must be more options.”
- Science contractually limited appointment

“I would like to hold extra time for discussions with the students every week or so. Whether that means presentations from students, or round table discussions. But this requires a lot of commitment from the students, and more time and resources needed for the teaching staff. And, it doesn't seem like the pay and hours will be able to reflect that.”
- Engineering sessional instructor

**Theme 3: Use New Tools, Stop Using Tools, or Improve Technical Skills**

Approximately 15% of respondents indicated that they intend to change how they engage with technology. These answers encompass instructors who want to switch tools because the nature of their Winter 2021 classes will be different (e.g., shifting from large to small classes or vice versa), curiosity about other tools, and enhancing proficiency with the platforms already in use. Some responses refer to acquiring additional hardware or software.

Selective quotes:

“Since I will go from a group of 27 students in the fall to about 150 students in winter, I will use A2L quizzes tool a lot more in the winter.”
- Social Sciences faculty

“Probably try to incorporate a second camera so that I can show my face while using the document camera to write on paper. Not sure how this will work, but I’ll try.”
- Science faculty

“I may be melding Zoom with Microsoft Teams -from the outset- in the event of any technology failures.”
- Health Sciences sessional instructor

**Theme 4: Adjust Content and Assessments**

Approximately 14% of respondents shared that they would change the amount and/or complexity of content and that they will alter the number and/or format of assessments. This includes shifting to multiple choice questions, reducing how much content they teach and assess, and changing expectations about how assignments are completed.

Selective quotes:

“I continue to adjust the amount of material and will follow the "less is more" view of teaching.” - Science faculty
“The lab project will have to be simplified as group work is not possible.”
- Engineering faculty

“In-class participation grading does not really work in a bigger class. I will just reward signing in as a mechanical record of presence.”
- Humanities faculty

Theme 5: Enhance Course Organization and Clarity
Approximately 13% of respondents indicated that they intend to put additional effort into enhancing the clarity and organization of their courses to improve the student learning experience and reduce the number of questions they receive. Strategies include providing students with checklists, creating explanatory resources in different formats (e.g., documents and videos), and providing more examples to help clarify concepts.

Selective quotes:

“I will try to ensure my slides are extremely organized because student attention span online is lower than in person. Also, it seems more necessary to schedule frequent breaks to ensure students do not suffer screen fatigue and can organize their thoughts between lectures.”
- Engineering contractually limited appointment

“Providing more structure at first glance to the students, like using the Avenue to Learn check list function. I think using more shared resources within my department online is helpful.”
- Science teaching assistant

“I will have more scripting and additional materials ready - walkthroughs of assignments recorded, lists of links and references for the students to check out, etc.”
- Humanities instructor

Summary of changes
- Students and instructors most reported that they will not make any changes to their approaches or are unsure of changes that would be helpful to make.
- Student respondents indicated that they would incorporate new time management and study strategies. They also reported they intend to increase engagement with faculty and peers.
- Instructors reported that they will augment their efforts to build community in their online/virtual classes and that some of them will change the way they choose and use digital tools.
- Instructors also described changes to content, assessments, course engagement, and clarity of communication as potentially useful for student learning.
WHAT ADDITIONAL SUPPORTS ARE NEEDED?

This section provides analysis of the open-ended qualitative question for students and instructors about what additional supports might be needed next term. A summary of the top themes emerging from the qualitative data is presented for students and then instructors. This is followed by more detailed descriptions of the themes, separately for students and instructors with accompanying verbatim quotations that have not been edited. A summary for this question is included at the end of the section.

Table 5. Top themes emerging from students and instructors on what additional supports are needed next term

<table>
<thead>
<tr>
<th>Students</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>More help from and interaction with instructors and TAs (20%)</td>
<td>Access to technical support and tools (24%)</td>
</tr>
<tr>
<td>Course design and delivery improvements (12%)</td>
<td>Nothing, not sure, or not applicable (23%)</td>
</tr>
<tr>
<td>A different balance between asynchronous and synchronous and in-person learning (11%)</td>
<td>Course development support (19%)</td>
</tr>
<tr>
<td>Relief additional workload and expenses (15%)</td>
<td></td>
</tr>
<tr>
<td>Pedagogical training and support (15%)</td>
<td></td>
</tr>
</tbody>
</table>

The Student Perspective

Students were asked: What additional supports would you want or need to draw on to ensure a positive learning experience next term? There were 1791 responses submitted for this question.

While 18% of students indicated that there were no additional supports needed, many other students identified several additional supports that would help ensure a positive learning experience next term. First, students are looking for more help and interaction with their instructors and TAs (20%). They have suggested course design improvements that would foster better learning in an online or virtual space (12%). Several also request a different balance between synchronous, asynchronous, and in-person learning than what they currently have been experiencing (11%).

Other supports requested by students include:
- More opportunities for student connections, both in class and outside of class (9%)
- More understanding and flexibility from instructors (7%)
- Improved consistency across platforms and courses (7%)
- Fewer expectations, less workload, or more time to complete current work and assessments (6%)
- Additional funding or lower tuition to offset the added costs of learning from home (6%)
- Access to resources and spaces on campus (e.g., library, studio space, study space) (5%)
- Mental health support, resources and strategies (4%)
• Training for instructors and TAs to develop better online teaching skills or training for students to support better virtual learning (3%)
• Accessibility and accommodation support (2%)
• Support for students in different time zones or studying from international locations (2%)
• Technical support or other non-academic resources (1%)

Theme 1: More Help from and Interaction with Instructors and TAs
Approximately 20% of students indicated that they would find it helpful to have more access to people who can help support their learning. This includes pleas from students for more access to their instructors through office hours; more access to their TAs so that their questions can be answered; more drop-in support services (e.g., math drop-in centre, writing centres, and more access to other people (e.g., academic advisors, technical and administrative support people) that would support their education.

Selective quotes:

“More office hours, more writing advisors. Basically, make everyone more available because i want it to feel more like a walk-in service rather than a book 3 weeks in advance service to get some help.”
- Business Masters student

“I would like to see TA's who are actually sure of what we need to do for assignments and can actually help us clear up what we need to do. There have been many times where my friends and I have requested help from a TA, were told they would get back to us on a question, and we hear nothing back.”
- Level 1 Engineering student

“Something like a math centre for every course that you can do a video chat with the TAs every day, I would appreciate that, thank you”
- Level 2 Science student

“Someone to answer the phone in literally any department of the university. A real human being to speak to when I have a question or a problem would be a huge positive addition to the online learning at this university.”
- Level 2 Humanities student

“I hope that academic advisors and the mental health advisors at McMaster are more readily available, because most of us can't find them that easily. With the school year as busy as it is (partially due to it being online), I think that students will need mental health help more than ever next semester.”
- Level 1 Social Sciences Student

Theme 2: Course Design and Delivery Improvements
Approximately 12% of students had some suggestions, related to course design and instruction, that they felt would help support their learning in the future. They suggested some of the following improvements including clearer or earlier expectations about the course; clarity around due dates with clear schedules, calendars, or checklists of what to do when; different forms of assessments with options, and additional learning resources.
Selective quotes:

“More information in advanced and clearer course instructions. The weekly checklists are really helpful.”
- Level 3 Social Sciences student

“Have profs send weekly updates/outlines, keep communication open and frequent to make sure things don’t get forgotten.”
- Level 4 Arts and Science student

“Offer options between group projects and individual assignments, more clarity regarding assignments”
- Continuing Education Business student

“An alternative form of examination would be better suited to our current environment. This semester, professors are relying on examinations they would have used for in-person courses - the only thing changed is the addition of a proctoring feature. However, I don’t believe this form of examination is the best to use at this time. Many students are concerned that due to proctoring, they will be accused of cheating if they look around, look down to think, or do anything out of view of their webcam. This puts added pressure on students to conduct themselves in a very regimented way, putting more stress on an already stressful situation. Some students have suggested examinations that focus on problem solving, analysis, or even just several projects spaced out over the semester, instead of the standard, formal, multiple-choice evaluation.”
- Level 4 Science student, Level 4

“Have all the contents posted instead of releasing it by the week will allow me to work ahead if I know upcoming weeks will be heavy on other content...”
- Level 3 Health Sciences student

Theme 3: A Different Balance between Asynchronous, Synchronous, and In-Person Learning
Approximately 11% of students made mention of wanting a different ratio or balance of synchronous and asynchronous learning. Some students are asking for more live lectures, while others are asking for fewer synchronous and more pre-recorded lectures. Several students state that they prefer all of one type or the other. There are also several that express strong preference for at least some in-person learning and others that are grateful and recognize the need to be virtual for now. From those that raised points about balance, there may be tendency to prefer live, synchronous classes as it provides the ability to connect with instructors, TAs and peers. Asynchronous and pre-recorded are preferred by some and are cited as beneficial for flexibility, accommodations, ability for self-paced learning and review, and connectivity issues due to internet stability or time zone differences.

Selective quotes:

“Have more live lectures!!! more interaction with students! first year is hard and not being able to have live lectures really sucks. also let students know about assignments when u post them.”
- Level 1 Humanities student
“I need lectures to be pre-recorded than live lectures. Live lectures are a hassle as internet connection is usually bad.”
- Level 3 Science student

“I would like the option for everything to be asynchronous or synchronous.”
- Level 1 Social Science student

“Limited in person labs or project work.”
- Level 3 Engineering student

The Instructor Perspective

Instructors were asked: What additional supports would you want or need to draw on to ensure a positive teaching experience next term? There were 291 responses submitted for this question.

The most common themes for this question are 1) technical support and continued access to tools (24%); 2) nothing, not sure, or not applicable (23%); 3) course development support (19%), 4) recognition of additional workload and expenses (15%), and 5) pedagogical training and support (15%).

Theme 1: Access to Technical Support and Tools

Approximately 24% of respondents shared that they would need to draw upon existing technical support and tools or, in some cases, new tools to facilitate a positive teaching experience. These answers included reference to human support as well as additional software, hardware, and internet access.

Selective quotes:

“TA access to scheduling in Teams and support for TAs in how to use these and other Microsoft resources will be absolutely key to McMaster’s success. Professors can support their TAs but not if the TAs do not have access to the technology and troubleshooting support for it. I also believe that while allowing faculty members some latitude in terms of which webconferencing tools they are using was a wise decision for the Fall, since otherwise faculty could likely not have made the shift to online teaching, ultimately this smorgasboard approach has meant that UTS and McPherson are spread too thin and that the situation is unsustainable. I would like to see the university develop a more robust and focused set of supports.”
- Humanities faculty

“More IT people! A long time ago, I’ve started another fully online course for the Continuing Education. In that time, an IT person has been involved to structure the course (quizzes, discussions) and I recorded the lectures and made a content for quizzes. It took me 4 months to make a nice and clean lectures and quizzes for a new course. The lectures are still in, and every term I am adding just the tutorials. Many software’s have changed since then. NOW, I AM ALMOST COMPLETELY ALONE.”
- Engineering faculty
Theme 2: Nothing, Not Sure, or Not Applicable
Approximately 23% of instructional staff indicated that they do not plan to draw on additional resources. Reasons include that their teaching is going well and they do not need support, that they do not have time to consult additional support, or that they are not teaching in Winter 2021.

Selective quotes:

“Other than better central IT support I don't think anymore can be done. Already you have stepped up the Soc/Sci tech support and the McPearson people are good too so that is working, I think you are doing all you can.”
- Social Sciences instructor

“I think the supports were most useful during the planning phase. Now that it's started, I don't have time to consult additional supports - I'll make the best of the situation that I got myself into when I planned in the summer, and look next summer at how to improve.”
- Engineering faculty

Theme 3: Course Development Support
Approximately 19% of respondents shared that they would like to access additional support from teaching assistants, instructional assistants, or course developers to help with tasks related to course design and development. These responses are not generally about learning new skills but instead focus on help with tasks such as setting up course shells and editing videos.

Selective quotes:

“It would be nice to be able to hire TAs and sessionals not a few days before start. In particular TAs if they could come onboard a few weeks or a month ahead of term would facilitate development tremendously. It is hard to understand why this cannot be.”
- Science faculty

“I need more support “doing” things than “learning how”. Time is the issue. I would love to send my tasks (quiz questions being put into the library) to someone else so I can focus on content, pace, lecture, video taping, answering emails….there really is too much.”
- Engineering faculty

“To have a dedicated faculty for each program that is trained in developing on-line content and or aiding others to develop it. Dedicated time and faculty to develop video libraries for clinical skills – avenue for participation in these videos from HHS clinicians and other partners so students can see actual clinicians at work with clients/patients. This could then be used to support skills but also clinical reasoning with discussion.”
- Health Sciences faculty
Theme 4: Relief from Additional Workload and Expenses

Approximately 15% of instructors identified the need for the University to address the effects of the shift to remote teaching and learning on other aspects of their jobs and lives. Respondents shared concerns about tenure and promotion, research productivity, out of pocket costs, and the overall sustainability of current workloads on their professional and personal wellbeing. Responses to this question were very direct.

Selective quotes:

"More time allotted for teaching e.g. if 40% then add another 5% - inherent in this is relief from the pressure of research and administrative duties while preparing and teaching - the lack of support around this has caused the workload to be overwhelming to say the least as now having to work 24/7 and that is not enough."
- Health Sciences faculty

"Honestly, this is all taking 3 times longer than my normal teaching. I think temporarily reducing the entire faculty’s load by 3 or 6 units would be very helpful. Otherwise, no one is going to get any research or writing done during COVID-19."
- Humanities faculty

"University to issue IT equipment (ie laptops etc) to use programs available such as WebEx, Echo360. Loaner laptops can be issued. Sessional lectures are invited to teach at MAC because of their specific expertise so placing the onus on them to buy new IT equipment isn’t reasonable for 1 semester."
- Engineering sessional instructor

Theme 5: Pedagogical Training and Support

Approximately 15% of respondents indicated that they would benefit from pedagogical training and support. While there is some overlap with Theme 1, this theme encompasses comments specifically about how to teach effectively in virtual and online courses.

Selective quotes:

"Resources and consultations regarding teaching strategies, experiential learning and community engagement"
- Central support unit staff involved in instructional activities

"I'd like more training on how to group students within different modules of my course in Avenue to Learn. I have taken some training but of course it's difficult to do this when you don't have actual active students to train with. The prior coordinator used to always set this up for me, so I was at a loss when she left. I was able to find someone to do this for me, however it wasn't the same way as it was done in prior terms so I had to make do with it and use a few work-arounds with it."
- Health Sciences faculty

"The amount of information we've received via university websites and emails had been overwhelming. […] I wish there was a wizard that would help narrow down choices instead of needing to go so many different places to get information. E.g., rather than..."
using the tech comparison chart on the MacPherson site - which is excellent - the wizard would ask some key questions about why I needed the information.” 
- Health Sciences faculty

Summary of additional supports needed

- Student respondents most expressed a need for more support from and interaction with instructors and teaching assistants.
- Students also provided suggestions for improving course design and delivery from their perspectives. They also described wanting a different balance between synchronous and asynchronous learning, with preferences for synchronous learning opportunities to facilitate student-student and student-instructor interactions and desires for asynchronous (e.g., recorded) lessons to engage with at their own pace.
- Instructors most reported wanting additional technical support and continued access to educational technologies to deliver online/virtual courses.
- Some instructors were unsure of what additional supports are needed, while others asked for additional course development support and recognition of additional workload and expenses as useful.
WHAT TECHNOLOGY PLATFORMS ARE YOU USING IN YOUR TEACHING?

Only instructors were asked this question. There were 272 responses.

Respondents were asked to first select the tools they are using from a multi-select list that included Zoom, Microsoft Teams, WebEx, Avenue, Echo360, MacVideo, Microsoft Stream, YouTube, other.

**Figure 11: Technologies Used by Instructors in their Fall 2020 Courses**

Note: The “Other” category includes multiple platforms, including Camtasia, polling software such as Mentimeter, and Faculty or department specific technology such as ChildsMath. While an instructor may have used multiple “other” technologies, it is represented as only one technology in the figure on the right. See Appendix B11 for specific counts.

Instructors were also asked to comment on the strengths and weaknesses of each technology they were using, as well as their general preferences. Due to the nature of responses, the second part of this question was analyzed without keyword counts and instead by the interpretation of one coder. It is important to note that the summaries below focus only on answers to this specific question; commentary on various technologies is interspersed across responses to almost all of the survey questions.

**Avenue to Learn**

Avenue was consistently described by educators as a **useful tool for content management, administering quizzes, and grading.** One instructor in Humanities shared that “the strength of A2L is that it is very familiar tool to students and it is easy to turn it into a hub for the whole class - the syllabus, the lectures (PowerPoints and videos) could be easily uploaded, the assignments and discussions are easily managed and distributed. A2L is an excellent tool!” Respondents point to the value of randomly generated questions with the **Question Library** to prevent cheating and note the importance of the **Class Progress** tool to see how students are moving
through the course. With some exceptions, Avenue is perceived as reliable, familiar, and an essential tool for remote teaching.

Critiques of Avenue include its lack of a videoconferencing feature, the limitations of Quizzes for math questions where answers are functions, “clunky” discussion boards, and the time-consuming nature of making student accommodations. For example, one instructor from Science shared that “we need more support for entering accommodated test/quiz times however as we have close to 100 students in our course with accommodations.” Similarly, a teaching assistant from Social Sciences indicated that “A2L needs work on adding student accommodations as the interface is tricky when adding students. After clicking add student the portal should direct you to preferences for that student instead of having to scroll down and click the edit icon to access the student. It took me 2 hours to add 10 students.” Several respondents also shared that they would like more Avenue resources in the form of human support and the opportunity to practice using features with mock students. One faculty member from Humanities suggested renaming “Quizzes” to “Tests” or something more representative of the range of assignments administered using this feature.

**Zoom**

Respondents using Zoom discussed it as a straightforward, user friendly, and reliable tool for synchronous teaching. Its breakout room feature was highly praised, and the chat was identified as a useful way for students to participate even when they have their cameras and microphones off. Instructors appreciate the ability to see students or responses while presenting. One respondent also highlighted the way that Zoom allows individuals to change their display names and include pronouns. An instructor from Science summarizes much of this feedback by saying that “Zoom is the easiest to learn and the settings to keep things safe and controlled are easiest to find. The training videos helped me find these settings. The recent increased security measures (only mcmaster.ca addresses able to access) are great. Students have had no trouble figuring out how to join and participate and that's key for me.”

While the feedback about Zoom was predominately positive, respondents identified several limitations including the inability to store or easily share documents, the lack of persistent chats, the lack of an automatic attendance feature, and the lack of captions. Users also noted that they wish they could broadcast their screen in breakout rooms, that preassigning people in breakout rooms works inconsistently, and that that they would like to be able to have more than 50 breakout rooms. Several respondents shared concerns about Zoom’s privacy and security settings, with one teaching assistant from Science noting that “I have to use a VPN and permanently disabled my mic/camera on the computer I use Zoom on, just so I can attend class on Zoom.”

**Microsoft Teams**

Educators using Teams discussed it as a useful tool for synchronous engagement and sharing documents. Educators value the chat function for connecting with students outside of class hours, the live captioning, the collaborative options it offers students (including private channels), and the ability to book meetings. Like Avenue, many users perceive it as a hub that grounds their course(s). One instructor from Engineering shared that “I feel that MS Teams is more like a virtual classroom. Instead of posting the link to join the meeting, I encourage students to come to the meeting room as they come to the classroom. It is approachable to students anytime.” Some respondents also mentioned Live Events positively in the context of lectures that do not involve interaction.
Critiques of Teams generally focus on two areas: Teams’ **reliability** and **feature limitations**. First, survey respondents describe it as “**buggy**” and “**glitchy**” with respect to sound, video, screen sharing, and the whiteboard. Several faculty indicated that while they like teaching with Teams they are anxious about its reliability and that they have been disappointed by delays in releasing promised features (e.g., meetings for 1,000 students). Several educators also noted that Teams is **hard on their CPU** and uses lots of RAM. Second, respondents identified a number of frustrations with different platform features. These include limits on the length of comments that can be added on assignments; the **inability to see students or raised hands when in presenter mode**; the **ability of students to record**, share screens, and end the meeting in the General channel; the **alphabetical organization of students by first initial**; and the **inability to scroll through students’ cameras, block students’ videos, and mute all participants**. Several sessional instructors and teaching assistants also commented on their inability to access features like bookings due to their lack of Outlook access.

**MacVideo**
Respondents describe MacVideo as a good streaming platform that is **simple to use and has a useful captioning function**. They appreciate the ability to **create playlists and to integrate videos in Avenue**. One instructor from Science shared that “it's great that I can record both slides and the camera. I like the automatic captioning and I really like that the viewer can decide which image to make large as they watch the lecture. I have samples that I show students as I teach and I use my hands almost constantly when I lecture, so I think it's useful for them to be able to see a larger image of me if they want. They can also make me disappear and just watch the images/video clips that I show during the lecture.”

Respondents identified several challenges with MacVideo and/or Kaltura Capture. **Several commenters describe slow processing times and intensive bandwidth use**. Some educators shared negative experiences with Kaltura Capture relating to difficulties editing videos, locating files on their hard drives, and glitches when trying to start recording. One Humanities instructor, for example, shared that “I was an hour and a half into a lecture recording this week, when I noticed that KalturaCaption had stopped, simply stopped at 45 minutes into my talk,” forcing them to re-record half of their lecture.

**Other Technology Platforms**
Camtasia, Echo360, Microsoft Stream, WebEx and YouTube were all identified as platforms being used by some instructors, but there were fewer responses to draw upon to elucidate trends in strengths, weaknesses and preferences.

**Camtasia** was not extensively discussed in survey responses. Some commenters described it as intuitive and a great product. One instructor from Health Sciences reported that they “looked into quiz feature in Camtasia but found out that it created a different type of file and not sure if that type is compatible with MacVideo. I can record live videos with my Mac and Camtasia but have to have a PC to use the PowerPoint add-in feature. I'm lucky that I have a work Mac and my own PC so that I can use both systems, although unfortunate that I have to have 2.”

**Echo360** is described by respondents as easy and reliable lecture capture software. A faculty member from Science summarized it as a “**great live lecture platform with stable connections, closed-captioning, I can show my face with my slides, interactive slides, and default of posting anonymously, which I think allows students to comment freely**.” It was also praised for its Avenue integration. Respondents noted limitations around the lack of interactive polls in recorded lectures, some trouble with editing, and the fact that the only way to interact with
students is through the chat. One instructor from Social Sciences shared that “there are limits to being able to restrict access to files. You can restrict access to a future (pre-recorded) lecture in Avenue, but once the student gets into Echo360 (from the external link) then they can see all of the content that is there. You can make the lecture "unavailable" in Echo360, but you cannot restrict their ability to see it (which for pedagogical and administrative reasons is something I want to do).”

**Microsoft Stream** was not described much in the survey. The few responses that mentioned using Stream appreciate its integration with Teams and the general accuracy of its captions. However, respondents reported it difficult to edit captions and that the process of accessing the recordings is not intuitive. An instructor from Science shared that “Streams works well not that I know how to use it but like the rest of Teams is not intuitive. I needed to add it to a channel tab (I assumed if I recorded in a channel it would save to that channel), then go online to Streams and change settings so it can be posted to the Tab in that channel. I also needed to make my account so my recordings were not public to everyone in McMaster.” This concern with default visibility settings was echoed in at least one other comment.

Comments on **WebEx** were minimal. Some positive attributes include the breakout room feature, its ability to accommodate up to 1000 people, and the way that users can share specific windows or programs rather than the entire desktop. One respondent from Science described WebEx as having a “steeper learning curve than Zoom” but sufficient for their large class. Perceived downsides to WebEx include that direct messages and messages to the whole call go in the same chat window, making it difficult to keep track of who has said what, and that the breakout rooms are “limited and challenging to use.”

YouTube appeared occasionally in the survey data and when mentioned was mentioned as a superior alternative to MacVideo and Microsoft Stream. Educators value its ease of use and report that they plan to continue uploading unlisted videos for their courses.

**Summary of Technology Platforms**

- Of the 269 responses, most instructors were using 1-4 technologies in their courses.
- Instructors most reported using Avenue to Learn (71.9%), Zoom (63.5%), MS Teams (48.2%), or MacVideo and Kaltura capture (26.8%).
- Avenue was noted to be useful tool for content management, administering quizzes, and grading. Limitations include the lack of a videoconferencing feature, limited math options for quizzes, and “clunky” discussion boards.
- Zoom is favourably viewed as an intuitive and reliable tool for synchronous teaching. Limitations include lack of captions and privacy/security settings.
- Microsoft Teams was discussed as a useful tool for synchronous engagement and collaboration. Critiques include concerns about reliability, the demand on computer processing power, and feature limitations (e.g., the lack of breakout rooms).
- MacVideo was discussed as a straightforward platform with a useful captioning function that easily integrates into Avenue. Slow processing times, intensive bandwidth use and negative experiences with Kaltura Capture were noted as drawbacks.
Conclusion

This report provides an overview of the major trends and themes that emerged through qualitative and quantitative analysis of 3180 complete responses to the Fall Experience Survey administered October 1-12, 2020. Participants’ candid responses provide rich insight into students’ and instructors’ remote teaching and learning experiences in the first month of the Fall 2020 term. While these responses ranged from highly enthusiastic to deeply critical, the findings presented here fundamentally underscore the depth and breadth of the McMaster community’s commitment to student-centred teaching and learning even in the extraordinary circumstances of a global pandemic.

The findings in this report caution against generalizing about the superiority of specific pedagogical approaches, instructional methods, or digital platforms. Respondents’ comments highlight how McMaster’s diversity of teaching methods and learning outcomes require contextually specific pedagogical techniques. The data show no clear preference for strictly synchronous or asynchronous instruction, nor do any of the institutionally supported tools emerge as overwhelmingly preferred or effective. Nevertheless, some key conclusions can be drawn from the statistical trends and qualitative themes.

Key Conclusions

1. When asked about their overall experience of this fall, respondents roughly responded a third negative, a third neutral, and a third positive. Some groups within the total respondent population tended to report more positive experiences, such students who did not have technical barriers compared to those with multiple technical barriers. Instructors were more likely to report a positive experience of the fall term than students.

2. Establishing and maintaining interpersonal connections between and among students and instructional staff contributes to positive teaching and learning experiences. Many students and instructors spoke positively about their ability to form these relationships in a remote context but many also lamented the loss of in-person contact and expressed sadness as being limited to virtual interactions.

3. Regardless of mode of delivery, the most impactful teaching and learning experiences seem to emerge from thoughtfully designed courses that offer flexible, varied options for engagement and assessment. In effect, courses that employ principles and methods of universal design (e.g., multiple means of representation, engagement, and expression) are viewed positively by students and have the added potential benefit of reducing the number of individual accommodations needed within a course.

4. While flexibility is repeatedly identified in the data as a positive aspect of the Fall 2020 experience, students and instructors shared feelings of being overwhelmed by the number and types of platforms available and/or in use. Students shared that it is frustrating and confusing to have to consult different platforms within and between courses, and faculty described struggling with how to determine which platforms are most appropriate for their courses.

5. Similarly, many students reported feeling overwhelmed by the amount of work it takes to complete many small assignments with different deadlines across courses. Students
shared feelings of burnout, depression, and anxiety. Instructors also expressed exhaustion and frustration at the amount of work it takes to develop quality remote learning experiences. Faculty are anxious about their research productivity and prospects for tenure and promotion. Students and faculty alike are concerned for their wellbeing.

6. Many students and faculty have successfully adapted to teaching and learning online, but many others are still struggling with choosing and using platforms, knowing where to find support, and understanding the implications of decisions around data management, copyright, privacy, and security (including but not limited to remote proctoring). These concerns transcend individual courses or Faculties and refer to complex legal and ethical questions.

In addition to these overarching themes, several less prevalent, but nevertheless significant, insights emerged from the qualitative data. Several responses explicitly highlighted the need for more coordination between Campus Classroom Technologies, University Technology Services, and the MacPherson Institute. Additionally, student and instructor feedback emphasize the critical role of Student Accessibility Services in partnering with educators to ensure that accommodations are efficiently implemented in remotely delivered courses. More generally, respondents highlight the need for continuous attention to accessibility and equity in all teaching and learning environments. This feedback offers valuable perspective in the context of considering how to provide valuable supports and services.

This rich feedback from students and educators clearly points to an ongoing need for individual support within courses and at broader departmental, Faculty, and institutional levels. At the same time, it is important to strike a balance between supporting people as they request and require, and carefully considering expectations around capacity and wellbeing. The vibrancy of our teaching and learning communities depend upon the health of the people within them and striving for perfection during a global pandemic is neither realistic nor sustainable. Short-term recommendations may be most impactful if they are limited in scope and do not require students and instructors to make significant changes before Winter 2021; staying the course may be the best option in many cases. Longer-term recommendations should engage scholarly literature on teaching and learning in virtual and online environments.

The transition to remote teaching has radically expanded the use of educational technologies in a way that will likely have lasting transformative effects on teaching and learning even when we return to campus. There are certainly many opportunities to consider how technology-enhanced teaching can make McMaster’s classrooms more equitable, accessible, and innovative. At the same time, the responses shared in this survey indicate a widespread longing to return to familiar teaching and learning environments. To this end, it seems only fitting to conclude this report with the words of an instructor respondent from the Faculty of Science: “I miss teaching students, interacting with colleagues and walking thought [sic] our beautiful campus. While we must all stay home as much as possible given the challenges we face with the pandemic, I can’t wait to be able to see this pandemic end so we can return to our amazing campus with our fantastic students.”
### Appendix A: The Fall Experience Survey Questions

#### Institution-wide Questions

<table>
<thead>
<tr>
<th>Student / Learning</th>
<th>Instructor / Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. What is your role at McMaster?</strong></td>
<td><strong>1. What is your role at McMaster?</strong></td>
</tr>
<tr>
<td>[ ] Undergraduate Student</td>
<td>[ ] Staff (involved in instructional activities)</td>
</tr>
<tr>
<td>- <em>If undergraduate, select from:</em></td>
<td>- <em>Teaching Assistant</em></td>
</tr>
<tr>
<td>- Level 1, 2, 3, 4, 5+</td>
<td>- Faculty</td>
</tr>
<tr>
<td>[ ] Masters Student</td>
<td>- Sessional Instructor</td>
</tr>
<tr>
<td>[ ] PhD Student</td>
<td>- Contractually Limited Appointment</td>
</tr>
<tr>
<td>- Continuing Education Instructor</td>
<td>- Continuing Education Instructor</td>
</tr>
<tr>
<td>- Other (e.g. graduate student fellow, non-instructional staff)</td>
<td><strong>2. In what Faculty is your program situated?</strong></td>
</tr>
<tr>
<td>[ ] Business</td>
<td>[ ] Business</td>
</tr>
<tr>
<td>[ ] Engineering</td>
<td>[ ] Engineering</td>
</tr>
<tr>
<td>[ ] Health Sciences</td>
<td>[ ] Health Sciences</td>
</tr>
<tr>
<td>[ ] Humanities</td>
<td>[ ] Humanities</td>
</tr>
<tr>
<td>[ ] Science</td>
<td>[ ] Science</td>
</tr>
<tr>
<td>[ ] Social Sciences</td>
<td>[ ] Social Sciences</td>
</tr>
<tr>
<td>[ ] Arts &amp; Science Program</td>
<td>[ ] Central support unit (e.g. Library, UTS, etc.)</td>
</tr>
<tr>
<td>[ ] Other (e.g. Interdisciplinary program)</td>
<td>[ ] Continuing Education</td>
</tr>
<tr>
<td>[ ] Continuing Education</td>
<td><strong>3. From your perspective, what has been working well in your online courses that help promote a positive learning experience?</strong></td>
</tr>
<tr>
<td>[ ] Open answer</td>
<td>[ ] From your perspective, what has been working well in your online teaching and your students’ learning?</td>
</tr>
<tr>
<td>[ ] Open answer</td>
<td>[ ] Open answer</td>
</tr>
<tr>
<td><strong>4. What have the biggest impediments been in your online courses?</strong></td>
<td><strong>4. What have your biggest impediments been to your teaching and to your students’ learning experiences?</strong></td>
</tr>
<tr>
<td>[ ] Open answer</td>
<td>[ ] Open answer</td>
</tr>
<tr>
<td><strong>5. What strategies, services, and resources have you used this term to help support your learning?</strong></td>
<td><strong>5. What strategies, services, and resources have you used this term to help support your teaching?</strong></td>
</tr>
<tr>
<td>[ ] Open answer</td>
<td>[ ] Open answer</td>
</tr>
<tr>
<td><strong>6. What changes will you make next term to improve your learning experience and academic success?</strong></td>
<td><strong>6. What changes will you make next term to improve your teaching and course design?</strong></td>
</tr>
<tr>
<td>[ ] Open answer</td>
<td>[ ] Open answer</td>
</tr>
<tr>
<td><strong>7. What additional supports would you want or need to draw on to ensure a positive learning experience next term?</strong></td>
<td><strong>7. What additional supports would you want or need to draw on to ensure a positive teaching experience next term?</strong></td>
</tr>
<tr>
<td>[ ] Open answer</td>
<td>[ ] Open answer</td>
</tr>
<tr>
<td>Question</td>
<td>Response</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>8. Overall, how would you rate your online learning experience so far this term? [Use rating scale: 1 for ‘very poor’ to 5 for ‘excellent’, include N/A option]</td>
<td>8. Overall, how would you rate your online teaching experience so far this term? [Use rating scale: 1 for ‘very poor’ to 5 for ‘excellent’, include N/A option]</td>
</tr>
<tr>
<td>9. Please select any of the following that apply: [Multi-select from:]</td>
<td>9. Which of the following content-delivery technology platforms are you using in your classes? [Multi-select: Zoom, Microsoft Teams, WebEx, Avenue, Echo360, MacVideo, Microsoft Stream, YouTube, other]</td>
</tr>
<tr>
<td>___ I have shared access to my hardware (e.g., computer, tablet, phone) with a friend, family member, or through a public computer</td>
<td>Please comment on strengths and weaknesses of each tool you’ve used and any preferences you have. [include open answer for comments on strengths, weaknesses and preferences]</td>
</tr>
<tr>
<td>___ I have my own personal hardware (e.g., computer, tablet, phone)</td>
<td></td>
</tr>
<tr>
<td>___ I have consistent access to secure, stable internet</td>
<td></td>
</tr>
<tr>
<td>___ I have a dedicated workspace in which to study</td>
<td></td>
</tr>
<tr>
<td>___ I have caregiving responsibilities for others</td>
<td></td>
</tr>
<tr>
<td>___ I have employment responsibilities</td>
<td></td>
</tr>
<tr>
<td>___ I am in a different time-zone (greater than 1-hour difference than Eastern Time Zone)</td>
<td></td>
</tr>
<tr>
<td>___ I identify as a student with a disability</td>
<td></td>
</tr>
</tbody>
</table>

**Faculty-Specific Questions**

**Student / Learning**

Each Faculty provided up to 3 additional questions to ask students.

**Instructor / Teaching**

Each Faculty provided up to 3 additional questions to ask instructors.
## Appendix B1. Total Respondent Numbers

<table>
<thead>
<tr>
<th>STUDENTS</th>
<th>Bus</th>
<th>Eng</th>
<th>FHS</th>
<th>Hum</th>
<th>Sci</th>
<th>Soc</th>
<th>ArtSci</th>
<th>Other</th>
<th>CE</th>
<th>Total</th>
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<tbody>
<tr>
<td>Undergraduate Student</td>
<td>22 (24%)</td>
<td>518 (84%)</td>
<td>161 (60%)</td>
<td>172 (85%)</td>
<td>960 (96%)</td>
<td>299 (82%)</td>
<td>72 (99%)</td>
<td>26 (65%)</td>
<td>2 (1%)</td>
<td>2232 (80%)</td>
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<tr>
<td>Level 1</td>
<td>8 (9%)</td>
<td>279 (45%)</td>
<td>62 (23%)</td>
<td>54 (27%)</td>
<td>383 (38%)</td>
<td>76 (21%)</td>
<td>26 (36%)</td>
<td>7 (18%)</td>
<td>2 (1%)</td>
<td>897 (32%)</td>
</tr>
<tr>
<td>Level 2</td>
<td>5 (5%)</td>
<td>63 (10%)</td>
<td>41 (15%)</td>
<td>38 (19%)</td>
<td>218 (19%)</td>
<td>74 (20%)</td>
<td>15 (21%)</td>
<td>5 (13%)</td>
<td></td>
<td>459 (16%)</td>
</tr>
<tr>
<td>Level 3</td>
<td>6 (6%)</td>
<td>86 (14%)</td>
<td>28 (10%)</td>
<td>38 (19%)</td>
<td>175 (17%)</td>
<td>67 (18%)</td>
<td>15 (21%)</td>
<td>6 (15%)</td>
<td></td>
<td>421 (15%)</td>
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<tr>
<td>Level 4</td>
<td>2 (2%)</td>
<td>45 (7%)</td>
<td>23 (9%)</td>
<td>33 (6%)</td>
<td>145 (14%)</td>
<td>64 (17%)</td>
<td>12 (16%)</td>
<td>7 (18%)</td>
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<td></td>
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<tr>
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<td>7 (3%)</td>
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<td>21 (2%)</td>
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<td>1 (3%)</td>
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<tr>
<td>Masters Student</td>
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<td>65 (11%)</td>
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<td>29 (3%)</td>
<td>37 (10%)</td>
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<td>10 (25%)</td>
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<td>PhD Student</td>
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<td>14 (5%)</td>
<td>13 (6%)</td>
<td>11 (1%)</td>
<td>25 (7%)</td>
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<td></td>
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<tr>
<td>CE Student</td>
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<td>1 (&lt;1%)</td>
<td>23 (9%)</td>
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<td>2 (&lt;1%)</td>
<td>5 (1%)</td>
<td>3 (8%)</td>
<td>136 (99%)</td>
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<td>209 (7%)</td>
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<td>Total</td>
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<td>615 (100%)</td>
<td>267 (100%)</td>
<td>202 (100%)</td>
<td>1002 (100%)</td>
<td>366 (100%)</td>
<td>73 (100%)</td>
<td>40 (100%)</td>
<td>138 (100%)</td>
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<table>
<thead>
<tr>
<th>INSTRUCTORS</th>
<th>Bus</th>
<th>Eng</th>
<th>FHS</th>
<th>Hum</th>
<th>Sci</th>
<th>Soc</th>
<th>ArtSci</th>
<th>Other</th>
<th>CE</th>
<th>Total</th>
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<tbody>
<tr>
<td>Teaching Assistants</td>
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<td>11 (23%)</td>
<td>24 (27%)</td>
<td>8 (14%)</td>
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<tr>
<td>Faculty</td>
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<td>49 (47%)</td>
<td>33 (66%)</td>
<td>24 (51%)</td>
<td>46 (52%)</td>
<td>40 (70%)</td>
<td>5 (100%)</td>
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<tr>
<td>Staff</td>
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<td>1 (1%)</td>
<td>3 (6%)</td>
<td>8 (9%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>21 (5%)</td>
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<tr>
<td>Sessional Instructor</td>
<td>23 (22%)</td>
<td>9 (18%)</td>
<td>12 (26%)</td>
<td>6 (7%)</td>
<td>6 (11%)</td>
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<td></td>
<td></td>
<td></td>
<td>56 (15%)</td>
</tr>
<tr>
<td>CLA</td>
<td>3 (3%)</td>
<td>1 (2%)</td>
<td>4 (5%)</td>
<td>3 (5%)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>11 (3%)</td>
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<tr>
<td>Con Ed Instructor</td>
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<td>2 (4%)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14 (4%)</td>
</tr>
<tr>
<td>Total</td>
<td>15 (100%)</td>
<td>104 (100%)</td>
<td>50 (100%)</td>
<td>47 (100%)</td>
<td>88 (100%)</td>
<td>57 (100%)</td>
<td>5 (100%)</td>
<td>7 (100%)</td>
<td>11 (100%)</td>
<td>384 (100%)</td>
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</tbody>
</table>

**Notes:** All values are represented by total number of respondents, followed by percentage. Grey shaded cells indicate where no responses were received in that category. The following abbreviations are used: ArtSci – Arts & Science Program, Bus – Business, Eng – Engineering, FHS – Health Sciences, Sci – Science, Soc – Social Sciences, Other – Other Program, CE – Continuing Education, CLA – Contractually Limited Appointment.
Appendix B2. Overall Experience Ratings for all Respondents

Refer to Figure 2 for visual display of results.

<table>
<thead>
<tr>
<th>Rating</th>
<th>All Respondents</th>
<th>Students</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>287 (9%)</td>
<td>227 (10%)</td>
<td>10 (3%)</td>
</tr>
<tr>
<td>Poor</td>
<td>653 (21%)</td>
<td>625 (23%)</td>
<td>28 (7%)</td>
</tr>
<tr>
<td>Fair (or Neutral)</td>
<td>1061 (33%)</td>
<td>955 (35%)</td>
<td>106 (28%)</td>
</tr>
<tr>
<td>Good</td>
<td>863 (27%)</td>
<td>692 (25%)</td>
<td>171 (45%)</td>
</tr>
<tr>
<td>Excellent</td>
<td>246 (8%)</td>
<td>195 (7%)</td>
<td>52 (14%)</td>
</tr>
<tr>
<td>No Response</td>
<td>69 (2%)</td>
<td>52 (2%)</td>
<td>17 (4%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3180 (100%)</strong></td>
<td><strong>2796 (100%)</strong></td>
<td><strong>384 (100%)</strong></td>
</tr>
</tbody>
</table>

Note: All values are represented by total number of respondents, followed by percentage.

**Statistical Analysis:** Respondent ratings above were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. A two-sided Fisher's exact test was calculated with GraphPad Prism 8.

<table>
<thead>
<tr>
<th>Role</th>
<th>Negative Experience</th>
<th>Positive Experience</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructors</td>
<td>38</td>
<td>223</td>
<td>261</td>
</tr>
<tr>
<td>Students</td>
<td>902</td>
<td>887</td>
<td>1789</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>940</strong></td>
<td><strong>1110</strong></td>
<td><strong>2050</strong></td>
</tr>
</tbody>
</table>

**Findings:** Instructor respondents were more likely to report a positive experience of the fall term compared to student respondents. (P<0.0001, OR=0.1676 (95%CI 0.1177-0.2390)).
Refer to Figure 3 for visual display of results.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Undergraduate Students</th>
<th>Masters Students</th>
<th>PhD Students</th>
<th>Continuing Ed Students</th>
<th>All Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>250 (11%)</td>
<td>13 (5%)</td>
<td>6 (6%)</td>
<td>8 (4%)</td>
<td>227 (10%)</td>
</tr>
<tr>
<td>Poor</td>
<td>562 (25%)</td>
<td>46 (18%)</td>
<td>12 (12%)</td>
<td>5 (2%)</td>
<td>625 (23%)</td>
</tr>
<tr>
<td>Fair (or Neutral)</td>
<td>814 (36%)</td>
<td>74 (29%)</td>
<td>28 (28%)</td>
<td>39 (19%)</td>
<td>955 (35%)</td>
</tr>
<tr>
<td>Good</td>
<td>483 (22%)</td>
<td>100 (39%)</td>
<td>37 (37%)</td>
<td>72 (34%)</td>
<td>692 (25%)</td>
</tr>
<tr>
<td>Excellent</td>
<td>85 (4%)</td>
<td>20 (8%)</td>
<td>10 (10%)</td>
<td>80 (38%)</td>
<td>195 (7%)</td>
</tr>
<tr>
<td>No Response</td>
<td>38 (2%)</td>
<td>3 (1%)</td>
<td>6 (6%)</td>
<td>5 (2%)</td>
<td>52 (2%)</td>
</tr>
<tr>
<td>Total</td>
<td>2232 (100%)</td>
<td>256 (100%)</td>
<td>99 (100%)</td>
<td>209 (100%)</td>
<td>2796 (100%)</td>
</tr>
</tbody>
</table>

**Note:** All values are represented by total number of respondents, followed by percentage. The following abbreviations are used: Continuing Ed Students – Continuing Education Students.

**Statistical Analysis:** Respondent ratings from above were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. A two-sided Fisher’s exact test was calculated with GraphPad Prism 8.

<table>
<thead>
<tr>
<th>Role</th>
<th>Negative Experience</th>
<th>Positive Experience</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate students</td>
<td>77</td>
<td>167</td>
<td>244</td>
</tr>
<tr>
<td>Undergraduate Students</td>
<td>812</td>
<td>568</td>
<td>1380</td>
</tr>
<tr>
<td>Total</td>
<td>889</td>
<td>735</td>
<td>1624</td>
</tr>
</tbody>
</table>

**Note:** “Graduate Students” include Masters and PhD Students. Continuing education students were not included in this analysis.

**Findings:** Graduate students were more likely to report a positive experience of the fall term compared to undergraduate student respondents ($P<0.0001$, OR=0.3225 (95%CI 0.2420-0.4294)).
Appendix B4. Overall Experience Ratings for Undergraduate Students – by Level

Refer to Figure 4 for visual display of results.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5+</th>
<th>Not Disclosed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Very Poor</strong></td>
<td>88 (10%)</td>
<td>60 (13%)</td>
<td>49 (12%)</td>
<td>42 (13%)</td>
<td>8 (3%)</td>
<td>3 (5%)</td>
<td>250 (11%)</td>
</tr>
<tr>
<td><strong>Poor</strong></td>
<td>209 (23%)</td>
<td>119 (26%)</td>
<td>120 (29%)</td>
<td>79 (24%)</td>
<td>15 (25%)</td>
<td>20 (31%)</td>
<td>562 (25%)</td>
</tr>
<tr>
<td><strong>Fair (or Neutral)</strong></td>
<td>350 (39%)</td>
<td>164 (36%)</td>
<td>134 (32%)</td>
<td>118 (36%)</td>
<td>24 (40%)</td>
<td>24 (38%)</td>
<td>814 (36%)</td>
</tr>
<tr>
<td><strong>Good</strong></td>
<td>206 (23%)</td>
<td>97 (21%)</td>
<td>88 (21%)</td>
<td>73 (22%)</td>
<td>10 (17%)</td>
<td>9 (14%)</td>
<td>483 (22%)</td>
</tr>
<tr>
<td><strong>Excellent</strong></td>
<td>33 (4%)</td>
<td>12 (3%)</td>
<td>21 (5%)</td>
<td>12 (4%)</td>
<td>3 (5%)</td>
<td>4 (6%)</td>
<td>85 (4%)</td>
</tr>
<tr>
<td><strong>No Response</strong></td>
<td>11 (1%)</td>
<td>7 (2%)</td>
<td>9 (2%)</td>
<td>7 (2%)</td>
<td></td>
<td>4 (6%)</td>
<td>38 (2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>897 (100%)</td>
<td>459 (100%)</td>
<td>421 (100%)</td>
<td>331 (100%)</td>
<td>60 (100%)</td>
<td>64 (100%)</td>
<td>2232 (100%)</td>
</tr>
</tbody>
</table>

**Note:** All values are represented by total number of respondents, followed by percentage. Grey shaded cells indicate where no responses were received in that category.

**Findings:** Similar experience trends are seen across the undergraduate population.
Appendix B5. Overall Experience Ratings for Instructors – by type of instructor

Refer to Figure 5 for visual display of results.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Faculty, Staff, and CLA</th>
<th>Sessional and Continuing Education Instructors</th>
<th>Teaching Assistants</th>
<th>All Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>8 (3%)</td>
<td>1 (1%)</td>
<td>1 (1%)</td>
<td>10 (3%)</td>
</tr>
<tr>
<td>Poor</td>
<td>15 (6%)</td>
<td>4 (6%)</td>
<td>9 (12%)</td>
<td>28 (7%)</td>
</tr>
<tr>
<td>Fair (or Neutral)</td>
<td>74 (31%)</td>
<td>11 (16%)</td>
<td>21 (28%)</td>
<td>106 (28%)</td>
</tr>
<tr>
<td>Good</td>
<td>100 (42%)</td>
<td>36 (51%)</td>
<td>35 (57%)</td>
<td>171 (45%)</td>
</tr>
<tr>
<td>Excellent</td>
<td>32 (13%)</td>
<td>16 (23%)</td>
<td>4 (5%)</td>
<td>52 (14%)</td>
</tr>
<tr>
<td>No Response</td>
<td>11 (5%)</td>
<td>2 (3%)</td>
<td>4 (5%)</td>
<td>17 (4%)</td>
</tr>
<tr>
<td>Total</td>
<td>240 (100%)</td>
<td>70 (100%)</td>
<td>74 (100%)</td>
<td>384 (100%)</td>
</tr>
</tbody>
</table>

**Note:** All values are represented by total number of respondents, followed by percentage. The following abbreviations are used: CLA – Contractually Limited Appointment.

**Statistical Analysis:** Respondent ratings from the above table were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. A two-sided Fisher's exact test was calculated with GraphPad Prism 8. P=0.2590.

<table>
<thead>
<tr>
<th>Role</th>
<th>Negative Experience</th>
<th>Positive Experience</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Instructors</td>
<td>28</td>
<td>184</td>
<td>212</td>
</tr>
<tr>
<td>Teaching Assistants</td>
<td>10</td>
<td>39</td>
<td>49</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>223</td>
<td>261</td>
</tr>
</tbody>
</table>

**Note:** “Other Instructors” include all other instructor responses who did not identify as a teaching assistant.

**Findings:** This means teaching assistants had similar responses to other instructors about their fall term experience.

**Statistical Analysis:** Respondent ratings from the above table were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. A two-sided Fisher's exact test was calculated with GraphPad Prism 8. P=0.2042.

<table>
<thead>
<tr>
<th>Role</th>
<th>Negative Experience</th>
<th>Positive Experience</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Instructors</td>
<td>33</td>
<td>171</td>
<td>204</td>
</tr>
<tr>
<td>Sessional and Continuing Education Instructors</td>
<td>5</td>
<td>52</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>223</td>
<td>261</td>
</tr>
</tbody>
</table>

**Note:** “Other Instructors” include all other instructor responses who did not identify as a Sessional or Continuing Education Instructor.

**Findings:** This means Sessional and Continuing Education Instructors had similar responses to other instructors about their fall term experience.
Appendix B6. Overall Experience Ratings for All Respondents – by Faculty/Area

Refer to Figure 6 for visual display of results.

<table>
<thead>
<tr>
<th>Faculty or Program</th>
<th>Very Poor</th>
<th>Poor</th>
<th>Fair (or Neutral)</th>
<th>Good</th>
<th>Excellent</th>
<th>No Response</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>5 (5%)</td>
<td>18 (17%)</td>
<td>29 (27%)</td>
<td>29 (27%)</td>
<td>24 (22%)</td>
<td>3 (3%)</td>
<td>108 (100%)</td>
</tr>
<tr>
<td>Engineering</td>
<td>70 (10%)</td>
<td>154 (21%)</td>
<td>227 (32%)</td>
<td>201 (28%)</td>
<td>50 (7%)</td>
<td>17 (2%)</td>
<td>719 (100%)</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>12 (4%)</td>
<td>44 (14%)</td>
<td>106 (33%)</td>
<td>111 (35%)</td>
<td>36 (11%)</td>
<td>8 (3%)</td>
<td>317 (100%)</td>
</tr>
<tr>
<td>Humanities</td>
<td>26 (10%)</td>
<td>49 (20%)</td>
<td>84 (34%)</td>
<td>69 (28%)</td>
<td>16 (6%)</td>
<td>5 (2%)</td>
<td>249 (100%)</td>
</tr>
<tr>
<td>Science</td>
<td>100 (9%)</td>
<td>286 (25%)</td>
<td>401 (37%)</td>
<td>261 (24%)</td>
<td>38 (3%)</td>
<td>22 (2%)</td>
<td>1090 (100%)</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>61 (13%)</td>
<td>97 (23%)</td>
<td>146 (35%)</td>
<td>92 (22%)</td>
<td>18 (4%)</td>
<td>9 (2%)</td>
<td>423 (100%)</td>
</tr>
<tr>
<td>Arts &amp; Science</td>
<td>3 (4%)</td>
<td>13 (17%)</td>
<td>31 (40%)</td>
<td>29 (37%)</td>
<td>2 (3%)</td>
<td>78 (100%)</td>
<td></td>
</tr>
<tr>
<td>Other Program</td>
<td>5 (13%)</td>
<td>7 (18%)</td>
<td>8 (20%)</td>
<td>17 (43%)</td>
<td>2 (5%)</td>
<td>1 (3%)</td>
<td>40 (100%)</td>
</tr>
<tr>
<td>Central Support Unit</td>
<td>4 (57%)</td>
<td>3 (43%)</td>
<td></td>
<td></td>
<td></td>
<td>7 (100%)</td>
<td></td>
</tr>
<tr>
<td>Continuing Education</td>
<td>5 (3%)</td>
<td>3 (2%)</td>
<td>25 (17%)</td>
<td>51 (34%)</td>
<td>61 (41%)</td>
<td>4 (3%)</td>
<td>149 (100%)</td>
</tr>
<tr>
<td>Total</td>
<td>287 (9%)</td>
<td>653 (21%)</td>
<td>1061 (33%)</td>
<td>863 (27%)</td>
<td>247 (8%)</td>
<td>69 (2%)</td>
<td>2232 (100%)</td>
</tr>
</tbody>
</table>

Note: All values are represented by total number of respondents, followed by percentage. Grey shaded cells indicate where no responses were received in that category.
Appendix B7. Student Access to Technology and Study Spaces

Refer to Figure 7 for visual display of results.

<table>
<thead>
<tr>
<th>Technology or Resource</th>
<th>Respondents with Access</th>
<th>Respondents without Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared access to hardware (with a friend, family member, or through a public computer)</td>
<td>251 (9%)</td>
<td>2545 (91%)</td>
</tr>
<tr>
<td>Own personal hardware</td>
<td>2620 (94%)</td>
<td>176 (6%)</td>
</tr>
<tr>
<td>Either shared access or own personal hardware</td>
<td>2718 (97%)</td>
<td>78 (3%)</td>
</tr>
<tr>
<td>Secure, stable internet</td>
<td>1897 (68%)</td>
<td>899 (32%)</td>
</tr>
<tr>
<td>Dedicated workspace in which to study</td>
<td>1914 (68%)</td>
<td>882 (32%)</td>
</tr>
</tbody>
</table>

**Note:** All values are represented by total number of respondents, followed by percentage. Hardware refers to a computer, table, phone, or other electronic device.

<table>
<thead>
<tr>
<th>Number of Technology and Resource Barriers Experienced</th>
<th>Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No barriers reported</td>
<td>1468 (53%)</td>
</tr>
<tr>
<td>1</td>
<td>843 (30%)</td>
</tr>
<tr>
<td>2</td>
<td>439 (16%)</td>
</tr>
<tr>
<td>3</td>
<td>46 (2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2798 (100%)</strong></td>
</tr>
</tbody>
</table>

**Note:** All values are represented by total number of respondents, followed by percentage. The three barriers examined are lack of access to hardware (either shared or personal use), lack of access to secure and stable internet, and lack of access to a dedicated workspace in which to study.

<table>
<thead>
<tr>
<th>Rating</th>
<th>All Students</th>
<th>No Barriers Reported</th>
<th>One or More Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>227 (10%)</td>
<td>88 (6%)</td>
<td>189 (14%)</td>
</tr>
<tr>
<td>Poor</td>
<td>625 (23%)</td>
<td>254 (17%)</td>
<td>371 (28%)</td>
</tr>
<tr>
<td>Fair (or Neutral)</td>
<td>955 (35%)</td>
<td>540 (37%)</td>
<td>415 (31%)</td>
</tr>
<tr>
<td>Good</td>
<td>692 (25%)</td>
<td>436 (30%)</td>
<td>256 (19%)</td>
</tr>
<tr>
<td>Excellent</td>
<td>195 (7%)</td>
<td>132 (9%)</td>
<td>63 (5%)</td>
</tr>
<tr>
<td>No Response</td>
<td>52 (2%)</td>
<td>18 (1%)</td>
<td>34 (3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2796 (100%)</td>
<td>1468 (100%)</td>
<td>1328 (100%)</td>
</tr>
</tbody>
</table>

**Note:** All values are represented by total number of respondents, followed by percentage.

**Statistical Analysis:** Respondent ratings from the above table were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. A two-sided Fisher's exact test was calculated with GraphPad Prism 8.
<table>
<thead>
<tr>
<th>Role</th>
<th>Negative Experience</th>
<th>Positive Experience</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>One of More Barriers</td>
<td>560</td>
<td>319</td>
<td>879</td>
</tr>
<tr>
<td>No Barriers Reported</td>
<td>342</td>
<td>568</td>
<td>910</td>
</tr>
<tr>
<td>Total</td>
<td>902</td>
<td>887</td>
<td>1789</td>
</tr>
</tbody>
</table>

**Findings:** Students experiencing one or more technical or resource barriers more likely to report negative experiences of the fall term. P<0.0001, OR=2.916 (95%CI 2.410-3.523).
Appendix B8. Students with Other Responsibilities

Refer to Figure 8 for visual display of results.

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregiving responsibilities for others</td>
<td>658 (24%)</td>
</tr>
<tr>
<td>Employment responsibilities</td>
<td>1148 (41%)</td>
</tr>
<tr>
<td>Employment and Caregiving Responsibilities</td>
<td>381 (14%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2796 (100%)</td>
</tr>
</tbody>
</table>

Stratification by Caregiving Responsibilities

<table>
<thead>
<tr>
<th>Rating</th>
<th>All Students</th>
<th>No Caregiving Responsibilities</th>
<th>Caregiving Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>227 (10%)</td>
<td>207 (10%)</td>
<td>70 (11%)</td>
</tr>
<tr>
<td>Poor</td>
<td>625 (23%)</td>
<td>461 (22%)</td>
<td>164 (25%)</td>
</tr>
<tr>
<td>Fair (or Neutral)</td>
<td>955 (35%)</td>
<td>761 (36%)</td>
<td>194 (29%)</td>
</tr>
<tr>
<td>Good</td>
<td>692 (25%)</td>
<td>530 (25%)</td>
<td>162 (25%)</td>
</tr>
<tr>
<td>Excellent</td>
<td>195 (7%)</td>
<td>137 (6%)</td>
<td>58 (9%)</td>
</tr>
<tr>
<td>No Response</td>
<td>52 (2%)</td>
<td>42 (2%)</td>
<td>10 (2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2796 (100%)</td>
<td>2138 (100%)</td>
<td>658 (100%)</td>
</tr>
</tbody>
</table>

Note: All values are represented by total number of respondents, followed by percentage.

**Statistical Analysis:** Respondent ratings from the above table were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. A two-sided Fisher's exact test was calculated with GraphPad Prism 8. P=0.5873.

<table>
<thead>
<tr>
<th>Role</th>
<th>Negative Experience</th>
<th>Positive Experience</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregiving Responsibilities</td>
<td>234</td>
<td>220</td>
<td>454</td>
</tr>
<tr>
<td>No Caregiving Responsibilities</td>
<td>668</td>
<td>667</td>
<td>1335</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>902</td>
<td>887</td>
<td>1789</td>
</tr>
</tbody>
</table>

**Findings:** Whether students had caregiving responsibilities or not did not impact the likelihood of them reporting a negative or positive fall experience. P=0.5873.
Stratification by Employment Responsibilities

<table>
<thead>
<tr>
<th>Rating</th>
<th>All Students</th>
<th>No Employment Responsibilities</th>
<th>Employment Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>227 (10%)</td>
<td>151 (9%)</td>
<td>126 (11%)</td>
</tr>
<tr>
<td>Poor</td>
<td>625 (23%)</td>
<td>378 (23%)</td>
<td>246 (21%)</td>
</tr>
<tr>
<td>Fair (or Neutral)</td>
<td>955 (35%)</td>
<td>585 (35%)</td>
<td>370 (32%)</td>
</tr>
<tr>
<td>Good</td>
<td>692 (25%)</td>
<td>408 (25%)</td>
<td>284 (25%)</td>
</tr>
<tr>
<td>Excellent</td>
<td>195 (7%)</td>
<td>84 (5%)</td>
<td>111 (10%)</td>
</tr>
<tr>
<td>No Response</td>
<td>52 (2%)</td>
<td>31 (2%)</td>
<td>10 (1%)</td>
</tr>
<tr>
<td>Total</td>
<td>2796 (100%)</td>
<td>1648 (100%)</td>
<td>1148 (100%)</td>
</tr>
</tbody>
</table>

Note: All values are represented by total number of respondents, followed by percentage.

Statistical Analysis: Respondent ratings from the above table were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. A two-sided Fisher's exact test was calculated with GraphPad Prism 8. P=0.1660.

Role | Negative Experience | Positive Experience | Total |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Responsibilities</td>
<td>372</td>
<td>395</td>
<td>767</td>
</tr>
<tr>
<td>No Employment Responsibilities</td>
<td>530</td>
<td>492</td>
<td>1022</td>
</tr>
<tr>
<td>Total</td>
<td>902</td>
<td>887</td>
<td>1789</td>
</tr>
</tbody>
</table>

Findings: Whether students had employment responsibilities or not did not impact the likelihood of them reporting a negative or positive fall experience. P=0.1660.

Stratification by Dual Caregiving and Employment Responsibilities

<table>
<thead>
<tr>
<th>Rating</th>
<th>All Students</th>
<th>No Caregiving or Employment Responsibilities</th>
<th>Caregiving and Employment Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>227 (10%)</td>
<td>231 (10%)</td>
<td>46 (12%)</td>
</tr>
<tr>
<td>Poor</td>
<td>625 (23%)</td>
<td>539 (23%)</td>
<td>86 (23%)</td>
</tr>
<tr>
<td>Fair (or Neutral)</td>
<td>955 (35%)</td>
<td>845 (35%)</td>
<td>110 (29%)</td>
</tr>
<tr>
<td>Good</td>
<td>692 (25%)</td>
<td>602 (25%)</td>
<td>90 (24%)</td>
</tr>
<tr>
<td>Excellent</td>
<td>195 (7%)</td>
<td>152 (6%)</td>
<td>43 (11%)</td>
</tr>
<tr>
<td>No Response</td>
<td>52 (2%)</td>
<td>46 (2%)</td>
<td>6 (2%)</td>
</tr>
<tr>
<td>Total</td>
<td>2796 (100%)</td>
<td>2415 (100%)</td>
<td>381 (100%)</td>
</tr>
</tbody>
</table>

Statistical Analysis: Respondent ratings from the above table were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. A two-sided Fisher's exact test was calculated with GraphPad Prism 8. P=0.8420.
<table>
<thead>
<tr>
<th>Role</th>
<th>Negative Experience</th>
<th>Positive Experience</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregiving and Employment Responsibilities</td>
<td>132</td>
<td>133</td>
<td>265</td>
</tr>
<tr>
<td>No Caregiving or Employment Responsibilities</td>
<td>770</td>
<td>754</td>
<td>1524</td>
</tr>
<tr>
<td>Total</td>
<td>902</td>
<td>887</td>
<td>1789</td>
</tr>
</tbody>
</table>

**Findings:** Whether students had employment responsibilities or not did not impact the likelihood of them reporting a negative or positive fall experience. P=0.8420.
Appendix B9. Students Learning from another Time Zone

Refer to Figure 9 for visual display of results.

Stratification by Time Zone

<table>
<thead>
<tr>
<th>Rating</th>
<th>All Students</th>
<th>No Time-Zone Difference</th>
<th>Time-Zone Difference of 1 hour or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>227 (10%)</td>
<td>256 (10%)</td>
<td>21 (8%)</td>
</tr>
<tr>
<td>Poor</td>
<td>625 (23%)</td>
<td>574 (23%)</td>
<td>51 (20%)</td>
</tr>
<tr>
<td>Fair (or Neutral)</td>
<td>955 (35%)</td>
<td>875 (34%)</td>
<td>80 (31%)</td>
</tr>
<tr>
<td>Good</td>
<td>692 (25%)</td>
<td>615 (24%)</td>
<td>77 (30%)</td>
</tr>
<tr>
<td>Excellent</td>
<td>195 (7%)</td>
<td>169 (7%)</td>
<td>26 (10%)</td>
</tr>
<tr>
<td>No Response</td>
<td>52 (2%)</td>
<td>49 (2%)</td>
<td>3 (1%)</td>
</tr>
<tr>
<td>Total</td>
<td>2796 (100%)</td>
<td>2538 (100%)</td>
<td>258 (100%)</td>
</tr>
</tbody>
</table>

Note: All values are represented by total number of respondents, followed by percentage.

Statistical Analysis: Respondent ratings from the above table were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. A two-sided Fisher's exact test was calculated with GraphPad Prism 8. P=0.0108, OR=0.6603 (95%CI 0.4780-0.9097).

<table>
<thead>
<tr>
<th>Role</th>
<th>Negative Experience</th>
<th>Positive Experience</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time-Zone Difference of 1 hour or more</td>
<td>72</td>
<td>103</td>
<td>175</td>
</tr>
<tr>
<td>No Time-Zone Difference</td>
<td>830</td>
<td>784</td>
<td>1614</td>
</tr>
<tr>
<td>Total</td>
<td>902</td>
<td>887</td>
<td>1789</td>
</tr>
</tbody>
</table>

Findings: Students with a time-zone difference of 1 hour or more were slightly more likely to report a positive experience of the fall term. (P=0.0108, OR=0.6603 (95%CI 0.4780-0.9097)).
Appendix B10. Students Identifying with a Disability

Refer to Figure 10 for visual display of results.

Stratification by Students with a Disability

<table>
<thead>
<tr>
<th>Rating</th>
<th>All Students</th>
<th>Students without Disabilities</th>
<th>Students with Disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>227 (10%)</td>
<td>240 (9%)</td>
<td>37 (15%)</td>
</tr>
<tr>
<td>Poor</td>
<td>625 (23%)</td>
<td>563 (22%)</td>
<td>62 (24%)</td>
</tr>
<tr>
<td>Fair (or Neutral)</td>
<td>955 (35%)</td>
<td>859 (34%)</td>
<td>96 (38%)</td>
</tr>
<tr>
<td>Good</td>
<td>692 (25%)</td>
<td>647 (25%)</td>
<td>45 (18%)</td>
</tr>
<tr>
<td>Excellent</td>
<td>195 (7%)</td>
<td>184 (7%)</td>
<td>11 (4%)</td>
</tr>
<tr>
<td>No Response</td>
<td>52 (2%)</td>
<td>48 (1%)</td>
<td>4 (2%)</td>
</tr>
<tr>
<td>Total</td>
<td>2796 (100%)</td>
<td>2541 (100%)</td>
<td>255 (100%)</td>
</tr>
</tbody>
</table>

Note: All values are represented by total number of respondents, followed by percentage.

Statistical Analysis: Respondent ratings from the above table were converted into the binary responses of “Negative Experience” (Very Poor and Poor) and “Positive Experience” (Good and Excellent). Neutral responses were not included in analysis. A two-sided Fisher's exact test was calculated with GraphPad Prism 8. P=0.0005, OR=1.830 (95%CI 1.305-2.558).

<table>
<thead>
<tr>
<th>Role</th>
<th>Negative Experience</th>
<th>Positive Experience</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students with Disabilities</td>
<td>99</td>
<td>56</td>
<td>155</td>
</tr>
<tr>
<td>Students without Disabilities</td>
<td>803</td>
<td>831</td>
<td>1634</td>
</tr>
<tr>
<td>Total</td>
<td>902</td>
<td>887</td>
<td>1789</td>
</tr>
</tbody>
</table>

Findings: Students with disabilities were more likely to report negative experiences of the fall term (P=0.0005, OR=1.830 (95%CI 1.305-2.558)).
Appendix B11. Technologies used by Instructors for Fall 2020 courses

Refer to Figure 11 for visual display of results.

Type of Technology Used

<table>
<thead>
<tr>
<th>Technology</th>
<th>Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avenue to Learn</td>
<td>276 (72%)</td>
</tr>
<tr>
<td>Zoom</td>
<td>244 (64%)</td>
</tr>
<tr>
<td>Microsoft Teams</td>
<td>185 (48%)</td>
</tr>
<tr>
<td>MacVideo</td>
<td>103 (27%)</td>
</tr>
<tr>
<td>Microsoft Stream</td>
<td>65 (17%)</td>
</tr>
<tr>
<td>YouTube</td>
<td>51 (13%)</td>
</tr>
<tr>
<td>Echo360</td>
<td>50 (13%)</td>
</tr>
<tr>
<td>WebEx</td>
<td>33 (9%)</td>
</tr>
<tr>
<td>Other</td>
<td>52 (14%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>384 (100%)</strong></td>
</tr>
</tbody>
</table>

Note: All values are represented by total number of respondents, followed by percentage. Other category includes multiple platforms, including Camtasia, polling software such as Mentimeter, and Faculty or department specific technology such as ChildsMath.

Number of Technology Platforms Used per Respondent

<table>
<thead>
<tr>
<th>Number of Technologies Used Reported by an Individual</th>
<th>Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5 (1%)</td>
</tr>
<tr>
<td>1</td>
<td>70 (18%)</td>
</tr>
<tr>
<td>2</td>
<td>86 (22%)</td>
</tr>
<tr>
<td>3</td>
<td>119 (31%)</td>
</tr>
<tr>
<td>4</td>
<td>70 (18%)</td>
</tr>
<tr>
<td>5</td>
<td>27 (5%)</td>
</tr>
<tr>
<td>6+</td>
<td>7 (2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>384 (100%)</strong></td>
</tr>
</tbody>
</table>

Note: All values are represented by total number of respondents, followed by percentage. Note if respondent selected “Other”, this counted only as a single technology, even if multiple technologies were referenced.
## Overall Experience Rating – Stratification by Number of Technologies used

<table>
<thead>
<tr>
<th>Faculty or Program</th>
<th>0 or 1 Technology</th>
<th>2 Technologies</th>
<th>3 Technologies</th>
<th>4 Technologies</th>
<th>5+ Technologies</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>5 (7%)</td>
<td>2 (2%)</td>
<td>2 (2%)</td>
<td></td>
<td>1 (3%)</td>
<td>10 (3%)</td>
</tr>
<tr>
<td>Poor</td>
<td>8 (11%)</td>
<td>5 (6%)</td>
<td>7 (6%)</td>
<td>6 (9%)</td>
<td>2 (6%)</td>
<td>28 (7%)</td>
</tr>
<tr>
<td>Fair (or Neutral)</td>
<td>13 (17%)</td>
<td>23 (27%)</td>
<td>38 (32%)</td>
<td>26 (37%)</td>
<td>6 (18%)</td>
<td>106 (28%)</td>
</tr>
<tr>
<td>Good</td>
<td>31 (41%)</td>
<td>43 (50%)</td>
<td>59 (50%)</td>
<td>26 (37%)</td>
<td>12 (35%)</td>
<td>171 (45%)</td>
</tr>
<tr>
<td>Excellent</td>
<td>13 (17%)</td>
<td>11 (23%)</td>
<td>10 (8%)</td>
<td>9 (13%)</td>
<td>9 (26%)</td>
<td>52 (16%)</td>
</tr>
<tr>
<td>No Response</td>
<td>5 (7%)</td>
<td>2 (2%)</td>
<td>3 (3%)</td>
<td>3 (4%)</td>
<td>4 (12%)</td>
<td>17 (4%)</td>
</tr>
<tr>
<td>Total</td>
<td>75 (100%)</td>
<td>86 (100%)</td>
<td>119 (100%)</td>
<td>70 (100%)</td>
<td>34 (100%)</td>
<td>367 (100%)</td>
</tr>
</tbody>
</table>

**Note:** All values are represented by total number of respondents, followed by percentage. Grey shaded cells indicate where no responses were received in that category.