APPENDIX
POST COVID-19 INNOVATION TASK FORCES
Goals, Background and Key Concepts

Task Force 1: Instruction and Student Support

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Goals

- Assess the novel, pandemic-related changes implemented to support and expand access for our students, and identify best practices that should be continued.
- Enhance student learning by leveraging the increased experience and comfort level of the faculty in the use of technology for teaching and learning to continue and improve upon online teaching modalities that benefit students and improve learning outcomes.
- Make more recorded content available on demand, which is highly desired by students, and leverages the university's investment in lecture capture technology (Care will need to be taken to protect faculty and student intellectual property and privacy.)
- Continue, where advantageous, the "hyflex" model of course offerings where classes are offered simultaneously online and face to face, giving students the flexibility to choose modalities that work best for them, including increased summer online offerings that are highly desired by students.
- With increased faculty expertise in the use of learning technologies to accelerate the digital transformation of higher education at NC State, provide an instructional framework which combines the most effective technology enhanced learning and in-person experiential learning.
- Address inequities in student and faculty access to appropriate technology and Internet access.

Background

Despite much of what has been reported in the popular press about student difficulties with the switch to online learning, the data shows a somewhat more nuanced story. A recent survey by Inside Higher Ed on student satisfaction during the COVID era which included 2,000 undergraduates from 120 institutions yielded some interesting findings. Students were asked to select their "top three" aspects of campus life that they missed most. The number one response (72%) was "friends and social life", while less than half (44%) included "in-person lectures" among their top three. When asked to pick a statement that best describes their post-pandemic learning desires, 31% chose "I can't wait for classes to be held in person again and I never want to take another Zoom class again." However, 50% had a somewhat different viewpoint: "There are things I like about remote learning that have worked for me and my learning style, but I'm anxious to get back to all or more in-person classes," and 9% indicated that that they *preferred* the online experience: "Remote classes really work for me and I don't want to go back to learning in person."

Data from studies at NC State support the robustness of our own online offerings. A rigorous study connected by DELTA to explore student and faculty perceptions of, and experiences with, online and f2f courses analyzed survey and grade data for 839 undergraduate students and 63 faculty sampled from across the university from the Fall 2019 semester. All of the courses included were offered in both online and face to face (f2f) formats by the same faculty. Across the board, student outcomes (grades and completion rates)

were not significantly different between f2f and online. No statistical differences were observed between online and f2f students in regards to their perceptions of a) course quality, and b) course satisfaction. Overall, students in both online and f2f courses viewed their course as exhibiting a moderately high level of quality and reported a moderately high level of course satisfaction. Interestingly, faculty perceptions of online vs f2f course quality and satisfaction exactly mirrored that of the students.

The DELTA study did find significant differences in student motivation and feeling of connectedness between online and f2f. These findings were mirrored exactly in the Inside Higher Ed study.

A pre- and post- pandemic transition survey conducted by the Office of Faculty Affairs supports the assertion that the faculty are more confident in their ability to teach effectively online. Prior to the transition, 58% of instructors surveyed had less than two years of experience in teaching online, with 53% of those reporting no prior experience. Pre-transition, 31% of faculty felt "totally or somewhat unprepared" to deliver course lectures online, whereas post-transition that figure dropped to 6%. Similar pre- and post- differences were found for comfort levels with using technology in instruction, maintaining communication with students, and assessing student learning without the use of proctored exams.

Over the summer of 2020, a massive build-out conducted by OIT's ClassTech group and DELTA resulted in lecture capture capability being installed across 220 teaching spaces across campus, resulting in coverage of 94.4% of all 110 classrooms. This was probably the single most important infrastructure investment to maintain academic continuity during the pandemic. Due to our prior experience with classroom lecture capture technology, the build-out was extremely robust and is positioned to serve the university well post-pandemic. Student surveys conducted for six years by ResNet have shown a very strong desire by students (98%) to have access to recorded lectures for review and study. A recent student survey conducted by DELTA yielded the same result, with 100% of students reporting that if they knew that recorded lectures were available they would utilize them to help with concepts they were having trouble with, and to study prior to exams.

Among the most challenging issues that we encountered during the pandemic were significant inequities for both students and faculty in accessing appropriate technology for remote learning, and also in the availability of adequate and reliable broadband access. We were able to address the first issue to some degree by ramping up a long-term equipment lending program through the Libraries. The broadband access issue was largely out of our control. The net result was that while we were able to produce and deliver quality eLearning content centrally, the ability of our students to take advantage of it varied greatly as a result of these inequities.

Key Concepts

- As an institution, we successfully pivoted much of our student services and support to a virtual environment as a result of the pandemic. These newly delivered modalities have increased access for students, and for some, increased engagement in different, improved ways. For instance, in a recent satisfaction survey administered by Counseling Services, 1/3 of students who responded to the survey preferred virtual appointments, 1/3 preferred in-person, and 1/3 are fine with either.

- We now have a much better understanding of faculty and student perceptions of technology-based teaching and learning, as well as what works and what doesn't work. What we've learned at NC State closely mirrors findings from national studies.
- Our faculty are now better prepared to utilize technology in teaching, and more confident in their ability to do so.
- We now have a robust infrastructure that spans virtually all of our classrooms which allows us to stream and record lectures.
- We now understand how important it is for our students and faculty to have equitable access to sufficient end point devices and high quality broadband.

All of these things can and should be leveraged to improve instructional efficiency and effectiveness, with the ultimate goal of improving student success. This includes (but it not limited to) more hybrid and "hyflex" models of delivery, making more classroom recordings available to students for study and review; making more online summer offerings available for students to make progress toward degree while allowing them to pursue employment, internships, and other experiential learning opportunities; ensuring equitable access to quality technology and broadband for all students and faculty; and setting the stage for our new strategic plan objectives in the digital transformation of higher education.