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Forced abrupt transition of face-to-face courses to online: A case study**Abstract**

This paper presents the case of a well-managed process of converting face-to-face courses to online courses in higher education in response to the COVID-19 pandemic. A case study approach is followed to demonstrate some of the actions taken to abruptly convert face-to-face courses to online. This case shows that while the process is chaotic and stressful, a well-managed conversion of course delivery method from face-to-face to online can be accomplished.

This paper does not propose other alternatives for converting face-to-face courses to online in a short time. Other alternatives should be presented, and the alternatives should be compared to determine the preferred course of action relative to the higher education position and market.

Following the processes presented in this paper results in a relatively smooth transition from face-to-face delivery method to online when it must happen in a very short time without major disruptions.

Keywords: Information Technology, Course delivery method, Online course delivery

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Introduction

The University's Spring Break in March 2020 began while the news of coronavirus and the possible pandemic were on everyone's mind. The University President announced the need to convert all face-to-face classes to online and extended the Spring Break by one week to allow time for faculty to prepare for the course delivery change. Students who had left were informed that they could return to pick up their belongings. A limited number of students, including international students could stay in on-campus dormitories if they wanted to stay for the rest of the semester. The need for an abrupt conversion of face-to-face courses to online and its ramifications for faculty, students, and support services created a situation that tested the resiliency of the University as a whole. The University had to have been ready for emergency situations, thoughtful and creative, and skilled and organized to achieve its objectives and successfully finish the semester.

Background

In the late 1980's the President of the University at the time began sowing the seeds for distance learning. The market was defined as the place-bound students in the State that did not have access to higher education. That President successfully lobbied the State legislators for funding to establish distance learning programs at the University. Consequently, the University administration established the Center for Learning Technology. The Center housed a small number of instructional technologists, curriculum developers, distance learning pedagogists, and computing and video technicians who collectively had the expertise for working with knowledge experts to develop and deliver courses via satellite synchronously. The Center developed and

offered a variety of training classes and workshops for the interested faculty to familiarize them with techniques for teaching distant students effectively.

The Center's administrative office, the control room for managing production and delivery of courses, and the distance learning classrooms were housed in one of the colleges' buildings. The University rented one or two classrooms at several community colleges across the State where there was enough demand for the programs to make offering the programs economical. These classrooms were equipped with audio visual equipment to receive broadcast made from the Center's classrooms. Each student desk had a microphone that could be activated by pressing a button on the microphone to speak with the instructor or make comments. Everyone in all classes could hear the student's questions and comments. The system was one-way video and two-way audio. Instructors could not see the students in the distant classrooms.

Classrooms in the Center were equipped with a document reader/vertical camera that showed an 11 by 8 inches rectangle on the instructor's desk. Instructors used this space to write notes, show a document, or an artifact. Each classroom had a regular board. The camera located in the back of the classroom could show the instructor and the board. A technician selected one of the two cameras to broadcast contents based on cues from the instructor. Two large monitors in the classroom showed what was being broadcast to distant classrooms. While the students in the Center's classrooms could see the instructor and the monitors, the distant students could only watch what was being broadcast on their classroom monitor. Each student desk in the Center's classrooms also had a microphone that could be activated by pressing a button on the microphone. When activated, the instructor and every student in all classrooms could hear the student's questions and comments.

Instructors emailed course syllabi, handouts, and other documents to students. Instructors emailed the exams to site directors in community colleges. Site directors made copies of the exams and had proctors administer the exams. Completed exams were shipped overnight to the Center on campus. Staff in the Center's mailroom recorded the students' names and their sites and routed them to the appropriate departments. Departmental staff inspected the names and sites and signed off on the receipt documents. They then distributed the exams to the instructors. Graded exams and term papers were collected and sent to the appropriate sites through the Center's mailroom.

Broadcast via satellite was replaced with broadcast over the Internet as more advanced technology and computing software became available. The correspondence processes remained the same.

Beginning with the strategic decision for the University to engage in distance learning and throughout its growth, all faculty and student support services such as advising, tutoring, and registrar also acquired the appropriate online technologies. They were given training in the use of technology and preferred ways of working with faculty and students. The University earned the reputation for being the State's distant learning University.

The advent of learning platforms created a turning point for the University's distance learning program. All course materials including audio and videos of lectures and exams were housed on the learning platform. The Center's mailroom was dismantled. The learning platform is up almost all the time, making it possible to have a highly reliable real-time asynchronous online system. The University expanded its reach to outside of the State and beyond.

The University projected demand for academic programs and prioritized the development of online programs while considering the capacity of Center's and programs' resources. The

University administration in collaboration with the faculty and the Center developed policies for the faculty to develop online courses. Quality assurance and format standards were developed and were applied for all online courses. The goal of the standard presentation format was to help students become familiar with the format quickly to improve their ability to interact and navigate the learning platform quickly and with less frustration. Every course was checked for quality and format by the faculty and the Center staff before they were approved.

The Center developed a training program for showing the faculty how to collaborate with the Center's staff to develop online courses. Webinars, online workshops, and literature on online pedagogical issues and in-depth information on the learning platform were provided to the instructors. Faculty were also taught techniques that make student interested in learning and participating in class discussions and activities.

A modified version of the following four design principles that were recommended by Southern Poly State University was used as a guide for developing online courses: consistent layout and design, clear organization and presentation of information, consistent and easy-to-use navigation, and aesthetically pleasing design and graphics (Butcher and Wilson-Strydom, 2013). Modular format presentation of course contents was also used because it enables students to arrange and rearrange course content. Students feel more comfortable, spend more time on the site, and learn better (Masoumi and Lindström, 2012).

Following the successful transition from the mostly synchronous to asynchronous delivery, a four-story building dedicated solely to distance learning was constructed. This building houses the Center staff, production rooms and facilities, the control rooms, equipment, and classrooms. The technology for support of online course development and delivery is continuously being updated. The Center regularly offers webinars and workshops on the application of new online

technologies. It offers education and assistance to the faculty who are new to developing and teaching online. The distance learning strategic objective of the University is achieved and runs as a well-oiled and well-maintained system with all subsystems working closely together in unison. The University can respond to changes in demand for either face-to-face or online delivery system in a relatively short time.

Literature review

Several issues in the online course and program delivery method have been researched. The knowledge of this literature is helpful as online courses are developed and as support services take a more active role in supporting students and faculty online.

Context

Higher education administrators' perception of the effectiveness of online programs has been increasing from 60% in 20003 to 77% in 2012 (Alsaaty *et al.*, 2016). A Sloan Consortium report concluded that two-thirds of academic leaders felt that online learning is one of their critical long-term institutional strategies (Tichavsky *et al.*, 2015).

Results of comparisons of the face-to-face and online delivery methods is mixed (Hanan *et al.*, 2015). Skillful use of online course technologies can create more effective learning opportunities than the face-to-face method. Online education has its own characteristics and it should be evaluated based on standards designed for online delivery method (Masoumi and Lindström, 2012). Community building is a natural characteristic of face-to-face settings. Online technologies allow participants to build communities as well, but with a different feel and effectiveness (Ganesh *et al.*, 2015). Online technologies do not completely support non-verbal communication. However, these technologies prevent misconceptions that result from students' appearance, manners, accents, and smell. While students skilled in real-time thinking and communicating have advantage in face-to-face method, students skilled in thoughtful and persuasive writing have advantage in online

method (Arasaratnam-Smith and Northcote, 2017). Some students may prefer online courses because they provide them with anonymity which protects them against discrimination (Bawa, 2016).

Tichavsky *et al.* (2015) state that while students were concerned about interaction, motivation, and the comfort of familiarity, their satisfaction with both face-to-face and online courses was similar if online courses were designed based on a strong pedagogical background. Some students felt that the separation of students and instructors in online classes makes timely feedback a challenge, and negatively affects students' perception of the online learning environment.

Student performance

Review and analysis of pros and cons of the two delivery methods and strengths and weaknesses of different groups of participants show that the combined effect of age, gender, and ethnicity on student performance is not significant. However, students in face-to-face courses performed better than students in online courses (Hanan *et al.*, 2015). Cultural issues are important in the development of online courses and programs as students from different regions of the world and different cultures may participate in online classes (Masoumi and Lindström, 2012). Perception of quality of service is a strong predictor of online learning acceptance and satisfaction for both American and Korean students and American and Korean students' perception of quality of service of online education are significantly different (Lee, 2010).

Faculty characteristics

Developing effective methods of teaching online courses is different from the face-to-face methods. Student satisfaction is significantly affected by the inclusion of appropriate course materials, effective use of learning techniques, integration of high-level interaction and collaboration, students' culture, and providing high quality and timely student support (Arinto, 2016; Markova *et al.*, 2017). Quality online course development can be accomplished by

offering extensive training for faculty as the results of a study that used Quality Matters standards on K-12 teachers' readiness for developing and delivering online courses showed that even when teachers attended course development workshops, there were a significant number of teachers who were not ready to develop and/or deliver online courses (Quiroz *et al.*, 2016).

While faculty is seen as the source of information in face-to-face courses, the faculty is seen as a facilitator in online courses (Ganesh *et al.*, 2015).

Motivational theories of self-determination in online learning indicate the importance of emphasizing students' sense of control, feelings of competency for tasks, and sense of inclusion. Faculty who teach online should know that self-efficacy beliefs of students are directly related to their abilities to stay in the course and be successful (Bawa, 2016; Davis, 2016). While non-traditional students find the self-directed learning of online courses appealing, they may realize that they lack the necessary skills to work with online learning technologies. Non-traditional students should have technical support, time, and practice to learn the learning platform well (Bawa, 2016).

Faculty should incorporate activities for engaging non-traditional students and create supportive, friendly, informal, and open environments because these students tend to not engage on their own, and their social needs are not usually considered in online education (Davis, 2016). While it is important for faculty to know what facets of online education require additional consideration and monitoring (Harroff, 2002), faculty educating non-traditional students should be cognizant of students' limited amount of time they have to spend on coursework. Faculty should create clear and detailed instructions, and provide frequent feedback to these students (Davis, 2016).

Course structure and faculty engagement affects student satisfaction and perceived learning significantly (Gray and DiLoreto, 2016). Faculty are concerned about students' technology readiness and skills, communication abilities, achievement of learning objectives, and proctoring. Faculty are also concerned about faculty's image as online instructors, the effect on performance evaluation and tenure, technology readiness and skills, differences in workload, and engagement with students and engagement of student with student. Some faculty are reluctant to participate in online education while some others participate to learn the technology and become involved in the online environment (Wingo *et al.*, 2017).

Online program characteristics and university services

Almost all units and offices in higher education institutions provide support for face-to-face and online course delivery systems (Markova, *et al.*, 2017). A set of twenty-four benchmarks that are presented as essential components of quality of online education includes institutional support, course development, teaching and learning, course structure, student support, faculty support, and evaluation and assessment (Phipps and Merisotis, 2000). Four basic principles of program planning as part of a decision-making framework that (a) define learning objectives, (b) develop appropriate learning experiences, (c) maximize learning identified experiences, and (d) evaluate and revise learning objectives (Tyler, 1950). This framework is a basis for many adult education program planning models that have been developed since then. The statement issued by regional U.S. accrediting bodies on the online programs included five components: institutional context and commitment, curriculum and instruction, faculty support, and evaluation and assessment (Benson, 2003).

Determining the factors that affect the quality of online education has been the subject of extensive research efforts (Frydenberg, 2002; Benson, 2003; Harroff, 2003; McGorry, 2003;

Zhao, 2003; Mariasingam and Hanna, 2006; Young and Norgard, 2006; Chua and Lam 2007; Jung, 2011; Masoumi and Lindström, 2012; Wingo *et al.*, 2017). An extensive study involving adult educators concludes that the most important dimensions of quality are quality of instruction, quality of administrative recognition, quality of advisement, quality of technical support, quality of advance information, and quality of course evaluation (Harroff 2003).

Another elaborate study of important quality factors in online education in Korea concluded that interaction, staff support, institutional quality assurance mechanisms, institutional credibility, student support, information and publicity, and learning tasks shape students' perception of online education quality (Jung, 2011).

Online courses and programs have attracted non-traditional students. This has contributed to enrollment growth of online education. This group usually brings their experience to the classroom and enhances richness of discussions. They are diverse in terms of academic preparedness and social and ethnic backgrounds and feel less prepared for the use of technology and querying information than traditional students. Although student involvement and engagement are important factors for student retention, these factors were even more important in non-traditional students in their first year. About 50 percent of these students felt that support services provided by their university were barely adequate (Davis, 2016). In response some universities have created an office that helps non-traditional adult students stay enrolled in their program.

These college and university offices focus on helping with transition of non-traditional students to academic environment. They help non-traditional students become more educated and better informed of non-traditional scholarship programs, the registration process, academic advising and counseling services, field and career options, student health services, student parking, the

financial aid process, student housing, networking with peers/colleagues, commuting issues, and even have staff available to answer questions regarding courses, programs, and/or instructors (Hardin, 2008). Davis (2016) indicates that higher education institutions should assign knowledgeable, well-trained, and personable advisors who understand the needs of non-traditional adult students and can guide them to achieve their education goals. Providing guidance related to specific types of learning, study skills in online environments, time management, the balancing of educational and other life demands, collaboration methods, library organizations and searches, honor system, and social connections improves student retention and success is also essential for these students (Koehler and Burke, 1996).

The need to convert all face-to-face courses to online

The University had to close all operations except for the essential operations in the beginning of the spring break to stop the spread of coronavirus. All face-to-face classes had to be converted to online and be delivered online for the rest of the semester. The spring break was extended for one week to prepare and equip faculty teaching face-to-face with the necessary technology and support for the course conversion. The conversion process had to be efficient and effective because it normally takes between six months to two years to develop an online course that meets the University's quality standards for these courses. Faculty and administration had to manage their expectation of online course quality while everyone was doing their best to convert face-to-face courses to online abruptly. The conversion needed to be done day-by-day and week-to-week because of lack adequate time to convert all class sessions to online in a short time. All University's faculty and student support structures had to gear up for continued support online as well.

The following sections discuss the efforts of faculty and support services to achieve the goal of converting face-to-face courses to online.

Basic technology

Most of the faculty who had already taught an online course had most of the technologies and accessories required for developing and teaching online courses. The University and college administrators made sure that all faculty had the necessary technologies for creating and offering online courses. They used each college's emergency plans that include faculty contact information to contact all faculty to determine their technology needs. The required technologies were made available to the faculty quickly. The technologies included computers, audio and video cards or equipment, and hotspot drive for those who did not have steady Internet access. Video recording software such as Camtasia and PowerPoint were made available to the faculty to record their instructional materials. Other accessories such as digital writing pads and digital document readers were also made available to the faculty to enhance their communication quality and save communication time and effort with students. The Office of Computing increased the pool of computing technologies, devices, and hotspot drives and made them available for students to check out.

Online course development

Realizing that proper course development is an important determinant of the quality of online courses (Frydenberg 2002; Mostafa 2006), online course creation has been a collaborative effort between the faculty member, instructional designers, curriculum specialists, and technology specialists. The Center provided webinars, online workshops, and literature related to online pedagogical concepts and concise information about the learning platform to the instructors who had to convert their face-to-face courses to online. In addition, the Center

distributed information to the faculty on how to increase student interest in learning and participating in class discussions and activities. Some of these faculty had already taught one or more online courses and were knowledgeable of these materials.

The University's Academic Administration Office and the Center followed a multi-pronged approach to support the faculty in converting their face-to-face courses to online. The specific approach taken in each course depended on the availability of the staff and expert resources and the specific requirements of the online course under development. All of the efforts emphasized the standard presentation format of course materials on the learning platform and the required quality standards.

One approach was to offer webinars, online workshops, and literature for faculty to show them how the educational technologies are used in online courses. The second approach was to assign instructional designers, curriculum specialists, and technology experts to the faculty to create online courses. The third approach was to assign faculty with experience in online course development as mentors to the faculty who did not have prior experience in this area. The fourth approach was to offer webinars and literature on what type of technologies to use and how to use those technologies to create effective online courses. The fifth approach was to offer webinars on a variety of topics that present factors in online courses that result in better presentation of materials and student learning. Faculty were also taught on how to use communication technologies and group meeting software to improve students' interaction with their classmates and the faculty. Some examples of the webinars, workshops, and literature were on how to:

- deploy online pedagogical concepts in developing online courses
- organize an online course on the learning platform
- make presentations more dynamic

- use VoiceThread for assignments on the learning platform
- create and embed video on the learning platform
- hold online meetings
- use storymapping in classes and research.
- prepare for online summer courses

and webinars on:

- best practices and teaching tips for the online classroom
- key pedagogical strategies for online teaching
- Small Teaching Online: Applying learning science in online classes (2019).
- pedagogical practices for developing online courses
- The top 10 things I've learned about teaching online with Zoom
- When teaching online, Consider alternatives to timed testing
- Graduate online teaching debriefs---Specifics on graduate instruction.

Faculty made all course materials including the course syllabi, e-book, course assignments, video lectures and instructions as well as other instructional materials available online and easily accessible to students. The online materials included information on how to access and use the online materials, the required specifications for students' computers, and information on how to access and use the testing system, advising, tutoring, and the library. Instructors were cognizant of the fact that because this is the main way for students to access and work with the course, these materials were self-explanatory, user-friendly, easy to follow, and professionally done. Their course syllabi highlight course expectations, information on assignments, due dates, exam dates, and supplemental materials. The course materials were personalized for students and their

learning styles and considered the whole course and students, as recommended by Masoumi and Lindström (2012).

Instructors

Instructor's compassion as defined by being friendly, patient, and respectful to students significantly affects students' experience in online courses. Webinars on best practices for working with online students discussed the importance of responding to students' inquiries quickly and with compassion to make online students feel more welcome and comfortable. Instructors were encouraged to carry mobile technologies such as smart phones and tablets while out of the office or away from home for a relatively long periods to use and respond quickly to students' questions. In addition, instructors were encouraged to make online calendar and appointment systems available to online students to allow students easily arrange for online meetings. Faculty and students were also trained through webinars and brochures in the use of technologies that may be used in one-to-one and lecture sessions.

Faculty were encouraged to promote the safety of students, fellow faculty, and staff while providing the best possible education. Faculty were also asked to be flexible with students who are dealing with the interruptions caused by the course delivery changes, especially those students who were new to online courses. Faculty were instructed to refer students to the dean of students if they were facing extenuating circumstances or needed additional support. Examples of webinars related to instructors were:

- Crisis Pedagogy Starts with the Human Touch (With the nation buffeted by two major crises, it's more important than ever to check in with our students. And with our colleagues as well.)

- We have embraced technology; now let's humanize it
- Stay positive and calm, even if you experience challenges. Distance Learning and Information Technology Services are available to help you and your students.
- Continually communicate with your students to establish clear expectations and avoid confusion and uncertainty.
- For office hours and advising, please let your students know that you will be available by phone, email, or through other technologies.
- Are you Biased? Unconscious Bias and Online Teaching.
- Effective Mentorship and Supervision – Inspiring the Next Generation.
- Culturally Competent Leadership workshop
- Issues related to adjusting to the physical pains of working at home, online resources, motivating and or engaging students online

Synchronous lectures

Given the short time for switching face-to-face classes to online, some faculty who did not have enough time to develop a high-quality online version of the course had to give lectures online synchronously at the designated time for the face-to-face class. The faculty were provided the required technology for these synchronous lectures.

Office hours

Faculty continued to hold office hours online at the specified days and times as indicated in their course syllabi. Students could also make appointments to meet the faculty online at other times that were convenient to both the student and the faculty. The required technology such as video accessories and writing pads were also made available to the faculty for these meetings.

Learning aids

Tutoring continued to be available for all courses. Providing sophisticated communication technologies to the tutors and students to enable them to share screens, whiteboard, digital documents, and images of regular hard copy documents was particularly challenging monetarily and logistically. Online tutorial videos and documents were made available to students to improve tutoring effectiveness.

Testing system

Online students had to take their tests online. Some of the options used were take-home exams, learning platform with lock down browser, or hiring proctoring companies to proctor exams using either live or automated proctoring. Subject matter experts/instructors offered appropriate alternatives for administering exams. These alternatives considered the field of instruction and the type of test.

Advising

Advising online students required high skills in using a variety of online technologies and communication software. These skills were the subject of webinars and instructional materials designed for advisors. Advising directors and institution's administrators identified the sources of these webinars and online workshops and arranged for their presentation to the advisors.

Internship and job placement

The University Career Development Services encouraged students to continue to work with this office on internship and job search online. The office closely monitored the challenges associated with coronavirus and its impact on student internships. The office shared opportunities for students and recent graduates to pursue short-term, professional, paid work experiences through micro-internships which could be completed remotely. Through Micro-

Internships, students could demonstrate their skills, explore career paths, and develop their professional networks.

Other student support services

Online programs must have the online equivalent of all the face-to-face student support services. Some of these offices are computing services, library, student services, educational accessibility, registrar, financial aid, health services, counseling, international students, and housing. Staff serving online students were provided webinars and specialized online training workshops on how to resolve the many logistical and technical needs of online students and guide the students to the appropriate groups or units that can resolve students' issues. Realizing that technical help is a very important component of online programs (Osika, 2004), the University provided timely solution to students' technical problems to reduce students' frustration and interruption to students' progress.

Maintaining a safe learning environment for students is an important service factor (Mostafa, 2006). In online education, the focus is on protection of students' computers and data against cyber-attacks that can also be routed through university systems (Rhiel, et al. 2016). Computing offices were cognizant of this fact and supported the many more students who went online for their education. Examples of the support provided by Student Services are:

- An emergency call center was established to support students in providing guidance and emergency services such as Counseling, Health Services, and Educational Accessibility.
- Virtual Student Engagement & Enrollment Services (SEES)
 - With a fully online experience, students stayed connected with campus and one another through Virtual SEES
 - From easy online appointments with financial aid, to volunteer service opportunities, this site provides needed student services.
- Expanded Student Success Coaching (from 10 to 20 coaches)
 - Provided individualized success coaching support to 800 sophomore students.
 - Coached students received weekly outreach support though videoconferencing, phone, and emails.
- Dean of Students Office

- Expanded retention/persistence support by 20 staff members from various functional areas.
- Food Insecurity
 - Coordinated new measures to connect students with food resources
- Emergency Housing
 - Provided emergency housing for students without permanent homes and international students as well as emergency food supplies.
- Student Employment
 - The University committed \$1.6 million to keep students employed through teleworking arrangements.
- Dean of Students Emergency grant awards processed faster
 - By working in collaboration with the Office of Finance, the Office shortened the wait time of Emergency Grant Awards that helped students with rent, utilities, car insurance, and tuition.
- Rise to the Challenge Fund
 - The University established the Rise to the Challenge Fund providing emergency relief for those experiencing unforeseen personal difficulties.
- Housing Emergency grant funds
 - Supported residential students in moving belongings home with no financial burden directly to the student
- Provided resources to prospective students that include virtual information sessions, virtual campus tours, meetings with financial aid counselors, admission counselor check-ins with students and families
- Expanded offering of application fee waivers for freshmen
- Extended the freshmen deposit deadline

Other support services for the faculty

Some University units provided emotional and technical support to the faculty to make it easier for them to continue to perform their duties effectively and with the right attitude. Some examples of the support were:

- COVID-19: The Impact on Women in Higher Education
- Engaging Faculty and Staff with Disabilities.
- Virtual Mentoring Monday: Resource Recognition, Utilization, and Integration.
- Virtual tour of the 400th commemoration art exhibit
- Combat COVID! Maintain research habits-of-mind
- Recommended LinkedIn resources:

- Managing Telework Collection
 - Coaching for Performance Success
 - Emotional Intelligence
 - Team Building
 - Time Management
 - Understanding Transition: The Personal Side of Change
- Remote training options for supervisors to continue to actively engage employees while teleworking and provide them with necessary or desired training to enhance their skillsets.
 - Resources to help a search committee conduct a virtual campus visit
 - The Office of Research provided a set of guidelines on procedures for working on grant proposals and contracts in collaboration with the office staff.

Conclusions

This paper illustrated the leadership provided by the University administrators for collaborative efforts by several units to successfully convert all face-to-face course to online courses very quickly while providing high quality support to the academic side. For the sake of brevity only the academic side of the University was discussed. This paper presented factors that are important in developing and delivering online courses. It discussed the major units involved in an online delivery system in higher education institutions. The discussions illustrated that offering online programs requires extensive investments in money and time over a long period of time to acquire and set up the required technologies, hire skilled professionals, and train faculty, staff, and students.

In special circumstances such as the one presented by the coronavirus universities must convert all their face-to-face courses to online. This is a very challenging task even for universities that have an established online delivery system. This case study showed that higher education institutions are powerful sources of energy, intellect, and problem-solving ability. They can acquire the basic technology and be quickly trained to convert their face-to-face courses to online

while trying to achieve the quality that is in line with the quality level defined in their organization's strategy.

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