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Impacts of the Covid-19 Pandemic on Business Education: Case for the AACSB's Agility Standard

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Cover Page Footnote

We thank the peer reviewers who saw value in our work and helped us to refine our thoughts.

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Abstract

We explored an undergraduate business program's navigation of an unplanned change, response to the Covid-19 pandemic-occasioned move to online learning, and the resilience of its curriculum by following cohorts of students through two consecutive courses from the end of 2019 through 2020 up to summer 2021. The exploration was aimed at the assessment of the impact of the pandemic-induced disruptions, i.e., how the school's curriculum fared through the pandemic. Premised on the school's accreditor, AACSB's agility-cultivating curriculum guideline, the curriculum should adapt and stabilize post-pandemic. To identify the appropriate cohort for observation, we scrutinized the four progressive levels of agility inculcation in the program, then we picked the cohort enrolled in the agility reinforcement course. We followed this cohort into their subsequent coursework to check how they adapted to online learning through the pandemic in 2020 to 2021. Overall, this program curriculum seems adequately agile as it appears to engender resilient students and faculty who adapted and adjusted to online learning post-pandemic as indicated by the relatively comparable learning outcomes for over a year.

Introduction

This study explores an unplanned change process and the extent of the resiliency of an academic unit following the Covid-19 pandemic-occasioned disruptions. Most social change models provide for a planned process. Rarely do social researchers get to study change as it happens. Therefore, we seized the opportunity to study change as it happened when the pandemic-induced change started. We followed Lewin's (1951) model that views change as a process of unfreezing, change intervention, then refreezing. The unfreezing stage is where the need for change is determined, and for a planned change, it is also where expectations are set for managing subsequent doubts and concerns. The change intervention stage is the change period when it gets effected. For planned change, it is where communication ensures for dispelling rumors, empowering action, and engaging key stakeholders. Finally, the refreezing stage is where change is reinforced and established as the new norm.

The *unfreeze-change-refreeze* cycle can be long or short depending on the nature of change and the institutional context. Generally, in the academy, the cycle takes long because of continuous slow evolution. According to Roland (2004), this occurs because education entails acquisition of culture and technology whose evolutions are difficult to predict because these “obey the laws of evolution of knowledge.” However, being an unplanned change, the pandemic-induced rapid move to online learning shortened the *unfreeze-change-refreeze* cycle. There was no unfreezing period for determining need for change or plans for managing expectations. Also, while rumors and anxiety followed the change intervention (move to online learning), there were limited communication or empowerment for their management. The shortened cycle however provided a unique opportunity for observing unplanned change process as it happened, increasing prospects for *stress-testing* an academic unit in real time. These prospects are the main motivation for this study.

The pandemic-occasioned rapid move to online learning is an ideal context for exploring how business students and faculty in an Association to Advance Collegiate Schools of Business International (AACSB)-accredited program responded to the unplanned change. We realize that as at the time of this study in Summer 2021, the world is still *in-the-woods* regarding the pandemic. It might be too early to determine the full impact of the pandemic as the second and third waves, and even new variants of the virus--not to mention debates about vaccination, are still threatening parts of the globe. Yet, economies are opening, and like everywhere else, bits and pieces of ramifications of the Covid-19 pandemic on higher education are beginning to emerge. Therefore, we focus observation on this single case in one program so that perhaps, in the accumulation of many such in-depth observations, we might gain a glimpse at practices that mitigate the ongoing Covid-19 ramifications. We recognize that our exploration is confined by the specificity of this case program and the evolving nature of the pandemic. Nevertheless, we consider every little bit of effort towards mitigating the impacts of the ongoing pandemic a contribution to stabilization, if not to restoration, to a new normalcy.

Like everywhere else, there are indications that the pandemic caused major disruptions to educational systems worldwide (United Nations, 2020). Within a matter of months, it dramatically exposed shortcomings of systems worldwide, bringing to fore a process that has been in the grind for decades. The overwhelming response to the disruptions was the rapid move to online learning for social distancing purposes in respect of public health. The global expansion of the broadband made it feasible for many schools to move classes online in 2020 although educational systems in low-resourced areas of the world tethered to near collapse (Pokhrel & Chhetri, 2021). The pandemic compelled an embrace of digital technology in education, perhaps indicating a post-pandemic trend of online learning as an integral part of higher education (Rashid & Yadav, 2020). With attention still rightly focused on public health, fears mounted about the impact on the quality of education (World Economic Forum, 2020). There were questions whether the learning occurring online had the same quality as that of the pre-pandemic period that had weathered public scrutiny for decades. Others wondered whether students were *adjusting* to the new ‘normal’ of online learning; of justification for the high cost of university education for online courses, and more. Such worthy questions are likely to linger for a while and might be fodder for many studies yet to come, but they are outside the scope of this article.

Our modest quest in this article is to explore an academic unit undergoing an unplanned change and to assess its resiliency through the pandemic-occasioned disruptions. We aim for in-depth assessment of the impacts on learning at a particular program rather than a broad assessment. This takes us inside a classroom in order to trail student learning from the pre-pandemic period in Fall 2019, through the height of the pandemic in 2020, to the vaccine rollouts in early 2021 and the vaccination target-setting period in Summer 2021. The pandemic-induced unplanned change (the rapid move to online learning) likely impacted learning negatively in Spring 2020 from Fall 2019. That is, due to the sudden shock and disruptions from this change intervention, learning outcome levels likely dipped in Spring 2020 much like the dip of a spoon or the Gartner Hype Cycle¹ *trough of disillusionment*. For a resilient program that adjusted to online learning, learning outcome levels likely improved in Fall 2020 in a pattern much like the incline of a spoon or the Hype Cycle's *slope of enlightenment*. Having adapted to online learning as the new norm, an agile system is likely to refreeze (Lewin, 1951) and settle near the pre-pandemic state by 2021. That is, by mid/late 2021, a resilient program is likely to exhibit a learning outcome pattern that plateaus around the pre-pandemic levels, much like the spoon handle or the Hype Cycle's *plateau of productivity*.

This article is organized in seven sections. This section (Introduction) reflects on the challenges that the learning system has faced during the pandemic-induced online learning period and the uncertainty we still face. Drawing from AACSB's guidelines, section 2 sets the background by discussing expected level of agility and resilience of an accredited business program. As a case study, section 3 sheds light on the case program and its curriculum. Section 4 uses case method of description and analysis, targeting a key Management Information System (MIS) course and the Principles of Management (MGMT) and examines students' learning during the pandemic. Capitalizing on descriptive statistics and graphical representations, Section 5 delves into the discussion of the observed pattern of student learning indicating technology agility and program resilience. Section 6 encapsulates critical elements of faculty and student response to pandemic-occasioned online learning, and concluding remarks on system adjustments and opportunities created for online learning are discussed in the last section.

Background

We adopt AACSB's agility guideline as a vantage point for an observation of the case program. The guideline provides for business curriculum that is adaptive to environmental changes and that inculcates agility. AACSB accreditation is globally considered a basic requirement for credible and competitive business schools (Miles et. al, 2015). Most stakeholders agree that AACSB accreditation is essential, meaningful, and valuable in the dynamic hypercompetitive global business environment (ibid). The accreditation generally indicates quality education and is linked to a school's standing, good governance at a school, prospects at and effectiveness in student placement and in the recruitment of quality faculty. The accrediting body recommends developing innovative and impactful engaging curriculum that produces agile and resilient graduates who can adapt in dynamic business environments. We intend to explore the level of agility and the extent of resiliency of this case program (the business school) with respect to the Covid-19 pandemic-occasioned move to online learning. This school operates under AACSB's 2013 standards that define agility as:

Evidence-based decision making that integrates current and emerging technologies, including the application of statistical tools and techniques, data management, data

¹ <https://www.gartner.com/en/research/methodologies/gartner-hype-cycle>

analytics and information technology throughout the curriculum as appropriate... Understanding of the role of technology in society, including behavioral implications of technology in the workplace. Demonstration of technology agility and a “learn to learn” mindset, including the ability to rapidly adapt to new technologies. Demonstration of higher-order cognitive skills to analyze an unstructured problem, formulate and develop a solution using appropriate technology, and effectively communicate the results to stakeholders” (AACSB, 2018 p. 35).

This 2013 standard defines agility in terms of information technology. However, AACSB relaxed this definition at the height of the Covid-19 disruptions, dropping the 2013 prescriptive language and rewording its 2020 guiding principles and expectations for accredited schools. This latest version of the guidelines describe *agility* as the maintenance of “*a future-oriented mindset, with an eye to the knowledge, skills, and abilities needed by both faculty and learners, and [adjustment of] curriculum content and faculty skill sets where trends in business education, employer feedback, and best practices clearly emerge....*” Regarding the curriculum (Standard 4), the 2020 guideline is also less prescriptive, providing for “*content [that] cultivates agility with current and emerging technologies*” (section 4.1). During the transition period, AACSB allowed institutions seeking reaccreditations between July 1, 2021 and June 30, 2023 to opt for either of these standard regimes. For the purpose of this article, as of June 2021, we are unaware of the choice the case program will make for the future. Therefore, this article adopts the 2013 standard guidelines for Technology Agility as: “*integration of current and emerging technologies, including the application of statistical tools and techniques, data management, data analytics and information technology...understanding the role of technology in society, including behavioral implications of technology in the workplace. Demonstration of technology agility and a “learn to learn” mindset, including the ability to rapidly adapt to new technologies.*”

If the case program inculcates technology agility, then the program is likely to adjust to online learning after the Spring 2020 event/change period. As the system adapts, learning is likely to begin to improve after adjustments, leading to improved learning outcomes in late 2020 or early 2021. A technologically agile system would self-correct and resilient students and faculty would adapt to the new norm of online learning by mid to late 2021. Therefore, assuming all else similar, for a program that inculcates technology agility, the following pattern is likely: A decline in student learning in Spring 2020 (event period/change intervention) compared to Fall 2019 (pre-pandemic period); followed by improved student learning in Fall 2020 compared to Spring 2020; and, a stable or improved learning in Spring 2021(post-pandemic period) compared to Fall 2020. Following is a description of the case program.

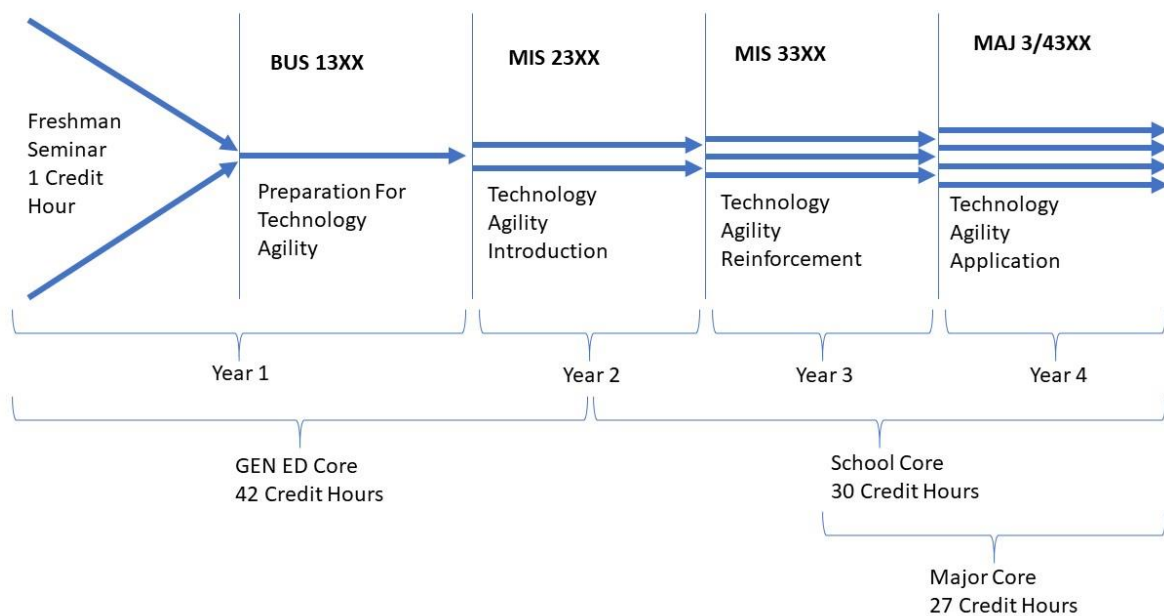
Case Program

This case program is a public university regulated by the State’s Higher Education Coordinating Board (HECB). The HECB mandates all colleges and universities to provide specified 42 credit hours of *General Education* (GenEd) to all students enrolled at the institution. The GenEd courses are often taken in the first two years of the university education. The rise in the cost of university education has led to a higher percentage of students taking these courses at the community college, then transferring these credits to the university. Similarly, for economic reasons, a good percentage of students who join the university directly from high school also take these courses at the

community college in the first two years of their studies. The transfers and the on-shoring of GenEd courses to the community college delay the onset of student-business school interaction.

The aforementioned delay means that most students start interacting with the case program in the second of the four-year program through the 100-level *Introduction to Business* course. The course introduces key business concepts and principles in relation to society and dynamic business environments through classroom discussions, writing projects, exercises, and case studies. Generally, by the time they enroll in this program's first course, students are already adept at social media and information technology use in personal life. Consequently, instruction gradually veers into strategies for adapting personal and social applications of information technology to academic and professional applications. Therefore, the *Introduction to Business* course (BUS 13XX²) is the starting point for technology agility cultivation in the program. The course nudges and molds students into transferring their technology acuity and adapting the use for academic and professional preparation. Figure 1 below represents the

FIGURE 1: Agility Cultivating Curriculum



program's Technology Agility inculcating curriculum.³

As Figure 1 shows, the semester following that of the *Introduction to Business* course, students take the technology agility introducing course, the 200-level Management Information Systems (MIS 23XX). This course covers the basics of information systems and IT concepts, introducing different components of IT and interactions between and among these that form the IT infrastructure. The course also introduces databases and different types of software used in

² Course numbering changed to four digits with the first digit indicating course level (year 1, 2, 3, or 4), the second digit represents credit hours for the course, the third and fourth digits are for unique course identification.

³ The total credit hours in the program is 120 with 20 credit hour allowance for electives.

business: Operating systems, application, and utility software. A sample learning resource used in the course is described thus:

Students can master the Microsoft Office quickly with ILLUSTRATED MICROSOFT OFFICE 365 & OFFICE 2019 INTRODUCTORY©Cengage. This focused, user-friendly approach uses a proven two-page layout that allows students to work through an entire task without turning the page. No prior computer experience is assumed, you will learn the Microsoft Office 2019 and Windows, along with Microsoft Word, Excel, Access, PowerPoint, Outlook and Integration... (MIS 23XX Spring 2020 Syllabus).

Following the semester of the agility introduction course (MIS 23XX), students study the Technology Agility re-enforcement course, MIS 33XX. The course provides “understanding of recent applications of Information Technology in business data analytics, [covering] topics [such as] *Foundations of data collection, analysis, and reporting, Introduction to Internet of Things, Cloud Services, Big Data* along with Security and Privacy issues that may arise while using these technologies” (MIS 33XX Fall 2019 Syllabus). MIS 33XX may be viewed as the fulcrum for Technology Agility in the program since it targets technology skill development and specified applications in all business school majors. The course exposes students to useful tools for other school core courses such as the Principles of Management (MGMT 33XX) and the Principles of Marketing (MKTG 33XX). Therefore, it helps cultivate relevant industry-specific knowhow and the necessary skills applicable to business and the specialized application areas in industry. Such technology applications occur at the major level for each specialized area, often through school subscriptions to industry tools such as the SAP®, an ERP tool with cross-disciplinary links or Modules for curricula. Such tools serve as vehicles for enhancing *Technology Agility* competency at the major or specialization level in the last semester of the third year or the first semester of the final year. For instance, the *Accounting Information Systems* course (ACCT 33XX) employs SAP® Finance and Control Modules for data collection, analysis, and reporting, much as happens in industry. Similarly, the SAP® Customer Relationship Management (CRM) Module is applicable to the Marketing majors (e.g., MKTG 43XX) as is the case with the SAP® Human Resource (HR) Module’s use in the *Human Resources Information Systems* course (MGMT 43XX).

The Covid-19 pandemic occasioned a changed learning environment, requiring rapid adaptation to a new way of doing things (teaching and learning online). In this study, we explore program agility through an observation of student and faculty resiliency in response to the rapid move to online learning. This case is based on an undergraduate program in Southwestern US. The school has five degree plans: Bachelor of Business Administration (BBA) in Accounting, BBA in Finance, BBA in Management, BBA in Management Information Systems, and BBA in Marketing. The program provides for inculcation of Technology Agility by requiring all students enrolled in these majors to study a 200-level (MIS 23XX) and a 300-level (MIS 33XX) Information Technology courses. MIS 23XX is taken in year 2 of the 4-year program for instruction on *management and use of Information Technology in contemporary business by diverse individuals, groups, and organizations*. It introduces IT concepts, terminologies, tools, and IT uses in business. MIS 33XX is offered to all the majors in their fifth or sixth semester in the third year of the four-year program. Designed for the *development of software skills and an appreciation of the role of information technology in modern organizations*, MIS 33XX builds on MIS 23XX. It equips students with necessary tools and skill mastery according to their majors (AACSB 2013 Standards). We discuss the study methodology next.

Methodology

This research follows a case study method where we analyze the program described above, drawing data and facts from various critical courses and students' performances that are described and analyzed accordingly. We focused on the 300-level Management Information Systems course (MIS 33XX) as the fulcrum for Technology Agility in the program. This course targets technology skill development and it is offered for application in all business school majors. To cultivate specified skills across the board, undergraduate business programs have long identified and embraced the value of mandating specified courses such as Business Policy or Strategy for all majors (Eldredge & Galloway, 1983). Similarly, based on its versatility and pervasiveness, not to mention its critical role in the discussed curriculum (Figure 1), we consider the MIS 33XX course to be a reasonable representation of technology agility throughout the school. We also adopted Fall 2019 as the last "normal" pre-pandemic semester for observing how learning occurred in MIS 33XX during normal times. Finally, we noted how the multi-section course was organized to realize the stated learning objectives: "Instruction on *components of business analytics such as, Data Sets, Database Systems, Role of Statistics, and Business Applications, Problem Solving, Programming logic.*"

We captured student learning in the program through a close-up view inside the Technology Agility reinforcement (MIS 33XX) classroom for four semesters. Starting from the pre-pandemic term in Fall 2019 when things were 'normal', to the height of the pandemic in 2020 through to the "post-pandemic" period in 2021, we trailed every student activity documented in each of the 14 sections of the class. The pattern of learning that emerges out of the four semesters would point to whether the case program, represented by the agility reinforcement course, adapted to online learning through the pandemic. We also explore the extent of resiliency of the case program. That is, whether the program inculcates "*a learn-to-learn* mindset, including the ability to rapidly adapt to new technologies" (AACSB, 2018) beyond the agility reinforcement process.

We identified a suitable program-wide course for investigating the extent of program resiliency. That is, whether demonstrated agility went beyond the Technology Agility reinforcement course (MIS 33XX) into the subsequent coursework. According to Figure 1, the MIS 33XX course is offered to all majors in the fifth or sixth semester in the third year of the four-year program. Therefore, to check the extent of resiliency, we investigated student online learning in the Principles of Management (MGMT 33XX) course. The course is mandatory for all majors but it is only offered to juniors or seniors in the sixth or the seventh semester after the MIS 33XX or alternate course in the third year of the four-year program (Figure 1). For instance, students enrolled in MIS 33XX in Spring 2020 likely enrolled in the MGMT 33XX course in Fall 2020, 2020Winter Minimester, Spring 2021, or in Summer 2021. Similarly, those enrolled in MIS 33XX in Summer or Fall 2020 likely enrolled in MGMT 33XX in the 2020Winter Minimester, Spring 2021, or in Summer 2021. Therefore, those enrolled in MGMT 33XX in the 2020Winter Minimester, in Spring 2021, or in Summer 2021 have all had previous exposure to MIS 33XX or an alternate Technology Agility reinforcement course. That is, they are the same technologically agile students who have adapted to online learning by the time of their enrollment in the MGMT 33XX course. Therefore, MGMT 33XX is appropriate for exploring program resiliency as indicated by stabilized online learning post Covid-19.

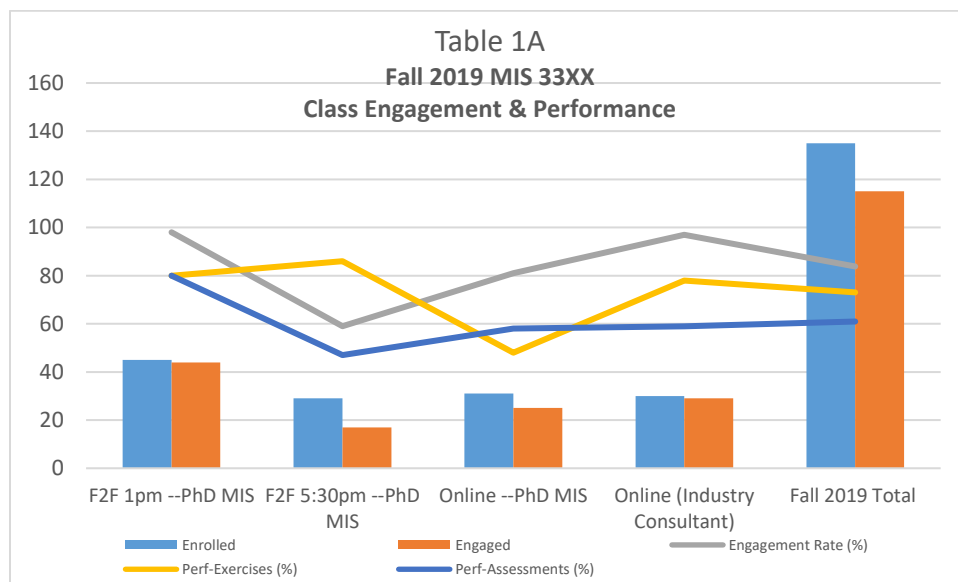
If case program inculcates resilience, then students and faculty would be relatively adapted to online learning post pandemic. That is, under similar conditions, the curriculum of a resilient program would exhibit comparable learning patterns to the pre-pandemic period. We tested this assumption in four sections of the MGMT 33XX course in three semesters from December 2020 to Summer 2021. If subjected to similar learning opportunities and treatments such as same instructor and course structure, similar coursework and class exercises, a resilient program is likely to exhibit comparable learning patterns after the pandemic. To ensure similar treatment from 2020 to 2021, we chose four sections that were taught online by the same instructor using the same course materials, learning resources and similar delivery, coursework, and assessments. The instructor also followed similar course structure and organization including grading, ensuring the sections were practically identical in all respects save for minor specified adjustments/treatments. The four sections were offered in a: 6-week 2020 Winter Minimester, 15-week Spring 2021 (2 sections), and a 5-week Summer 2021. Following is a description of the expected learning outcomes.

Learning Outcomes. We used class engagement and performance on class exercises for learning outcomes. Class engagement is important at “normal” times in a face-to-face classroom. However, it is even more crucial in a virtual environment that lacks traditional social cues (CITL, 2020; Martin & Bollinger, 2018) especially when every social interaction moved online during the pandemic. For a course that inculcates technical skills, class engagement and participation in class activities constitute important aspects of learning. They expose students to necessary techniques and tool application opportunities. Therefore, for the Technology Agility reinforcement course, MIS 33XX, we captured class engagement, participation in class activities, and coursework submissions as well as performance in class exercises as indicative of learning in the course.

For the Principles of Management course, engagement was estimated by coursework submissions. Students received instructions on the use of a common learning resource provider’s contents that included completion of three sets of exercises per chapter for 15 to 16 chapters. The first exercise for each chapter entailed a 45-minute assignment for knowledge and comprehension assessment. The second, a 30-minute practice and application, and the third a 30-minute *Media* exercise--a business video case analysis. Therefore, each student went over each chapter of the text at least three times for a total of 45 to 48 exercises or engagement points, covering four levels of Bloom’s taxonomy (Bloom et al., 1956). We computed potential maximum engagement per class as follows: Class size multiply by 45 or 48, depending on whether the class completed 15 or 16 chapters respectively. We then counted the total engagement achieved as a percentage of the potential for each class. To ascertain comparable treatment for each class, we checked whether adjustment in coursework submission times impacted class engagement. That is, whether engagement was linked to weekly, weekend or the flipped classroom deadlines. Following is a description of the pre-pandemic state.

In order to observe how the case curriculum fared through the pandemic, we followed the Technology Agility reinforcement class (MIS 33XX) for four semesters. As discussed above, we aimed to get a close-up inside the classroom at normal times-- pre-pandemic in Fall 2019, at the height of the pandemic in 2020, and during the “post-pandemic” period in 2021. In Fall 2019, the program enrolled 135 students in two online and two face-to-face (F2F) sections of the MIS33XX course. Even though the demand for online enrollment was higher pre-pandemic, actual enrollment

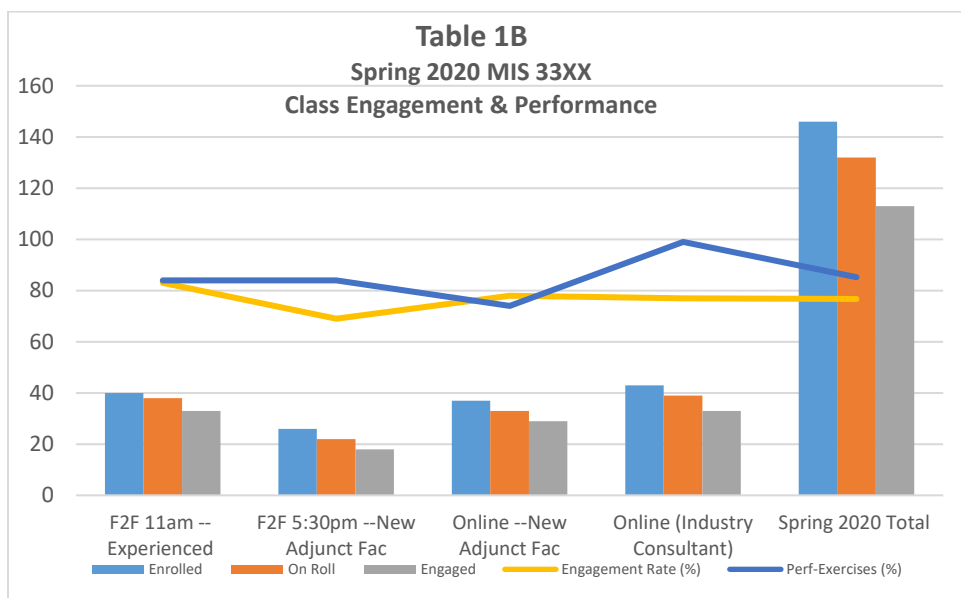
was limited by the teaching lab capacity (30 and 31). Therefore, only 45% of students enrolled in the online sections. The rest enrolled in the F2F sections. A fulltime faculty (PhD in MIS) taught the two F2F and an online section while an IT industry consultant, an *SAP® Solutions Architect*, taught the second online section. These instructors adopted the same syllabus and they used the same learning resources and similar tools for the different areas of the course: *Foundations of data collection, analysis, and reporting, Introduction to Internet of Things, Cloud Services, Big Data, Security and Privacy* issues. They also followed the same structure and similar classroom organization, assigning similar exercises and assessments. Table 1A following summarizes the pre-pandemic (Fall 2019) learning outcomes.



Fall 2019. Table 1A shows class engagement and performance in the coursework as measured by involvement in class activities, and performance in class projects, exercises and assessments. From the Table, it appears that the traditional F2F section covered by the fulltime instructor in the afternoon did quite well with high engagement rate, counted as submitted coursework, performance in class exercises, and assessments. Though 50% larger than that covered by the industry consultant online, this class was highly engaged (98% engagement rate) and performed well in class exercises as well as in assessments (average 80%). This was not the case in the evening class that was not as engaged (59%) and did poorly in the assessments (47%). Generally, the evening class is dominated by non-traditional students, mature adults, likely working professionals. Given their high performance in the class exercises (86%), perhaps some might even work in the technology industry. The online section did not fare as well on the class exercises (48%) though they were quite engaged (81%). However, the industry consultant's online section was highly engaged (97%) and also did well in class exercises (78%), mirroring the performance of the F2F afternoon class. Overall, the pre-pandemic class engagement for this course stood at 84% and performance in class exercises at 73% in Fall 2019. We present observation of the pandemic-impacted class in the following section.

Observation

Spring 2020. According to Lewin's *unfreeze-change-refreeze* framing (1951), the pandemic-occasioned rapid move to online learning in Spring 2020 may be seen as a change intervention. The pervasive disruptions at the peak of the pandemic likely impacted learning adversely leading to a drop in learning outcomes compared to the pre-pandemic period. Therefore, in comparison to Fall 2019, we are likely to observe learning outcomes that dip in Spring 2020 in a pattern that resembles the dip of a spoon or the Gardner Hype Cycle's *trough of disillusionment*. The Spring 2020 semester started normally much like Fall 2019 with two F2F (one in the afternoon and one in the evening) and two online sections. However, the fulltime faculty, who had carried the three sections of MIS 33XX in the past left suddenly. An experienced colleague stepped up to cover one section. But, to accommodate this change,



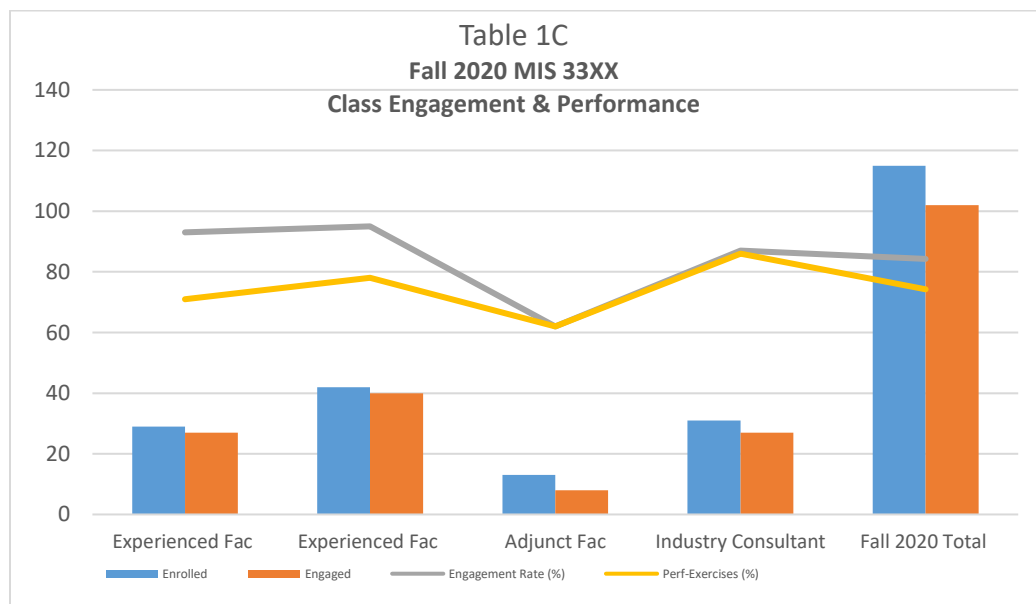
the afternoon session was pushed to the morning. That left two sections for new adjuncts. Then, the uncertainty of the pandemic set in just before spring break. By March 23, 2020, all classes moved online. With the pandemic-induced confusions in Spring 2020, more adjustments followed, including a few weeks of waiting and back-and-forth between university stakeholders and the administration over potential grade options. Without access to the computer lab, limited internet access and equipment problems among others, the university finally offered students the option between regular letter grades and a “pass/no-pass” option. A likely casualty of these pandemic-induced adjustments appears to have been exams/tests that disappeared. Table 1B above provides a summary of the outcome from Spring 2020 at the height of the pandemic.

The Table shows a new category, *On Roll* as distinct from the *Enrolled*. The *Enrolled* students were those registered in the course and on the roster but with patchy course records after all classes moved online as the pandemic hit in late March 2020. Those *On Roll* were the enrolled whose complete course records could be traced in the class to the end of the semester. The difference between the *Enrolled* and *On Roll* are students with incomplete course records as of the end of the semester. Table 1B also shows the data for the two sections covered by the new adjunct faculty sandwiched between the experienced faculty's class and that of the consultant's. The new adjunct faculty who covered the evening class was an IT specialist. As in Fall 2019, before the pandemic,

it seems the non-traditional students in this section kept its high performance on the class exercises (84%) above class engagement (69%) even during the pandemic. The opposite pattern also held up as Fall 2019, though with a narrower margin, for the online class covered by the second new adjunct faculty, with class engagement (78%) slightly edging class exercises (74%). The consultant's class also changed patterns with class exercises (99%) outperforming class engagement (77%) unlike in Fall 2019 when the reverse held.

We found some noise in the Spring 2020 data. The class exercises data in particular appears inflated across most sections. In some instances, the grading for some exercises appear to have followed the “pass/no-pass” option ending up in a “done” (100%) or “not-done” (0%) for these exercises in some sections. Similarly, it is not apparent that during the stressful and confusing pandemic semester in Spring 2020 students did better, with two new adjunct faculties, in class exercises (85%) than they did in the pre-pandemic with regular faculty (73%). On the other hand, we found the class engagement data a better indicator of learning outcome during the pandemic. We did not use instructor-assigned grades for this measure but we based it on coursework submission counts. Since it was independently determined by the researchers, the counting stayed consistent across all sections. Therefore, the class engagement rate data is subject to less noise and is more reliable. When applied to the Spring 2020 term, the overall picture does indicate student engagement rate drop to 77% compared to 84% in Fall 2019.

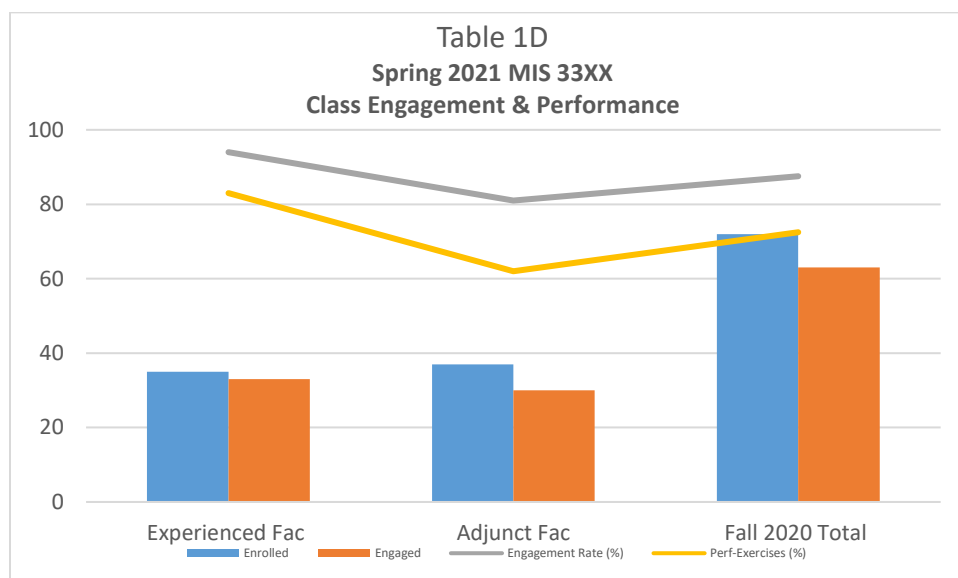
Fall 2020. The situation in Fall 2020 differed from that of Spring 2020. The university administration returned the letter grade regime. Faculty and students had had Summer 2020 for more online learning and they had to settled into the online learning routine though exams and tests were still absent in MIS 33XX. We therefore anticipated less resistance to the pandemic-induced change to online learning. We expected to observe improved learning outcome in Fall 2020 compared to Spring 2020, potentially patterned in the shape of an incline of a spoon or the



Gardner Hype Cycle's *slope of enlightenment*. In reality, enrollment dropped by 15% from 135 in Fall 2019 to 115, too low for a four section set-up. Still, two online and two hybrid sections were

scheduled with a ‘return-to-campus’ anticipation in the air for the hybrid sections. Albeit all were pretty much still taught online. The experienced faculty covered two sections. One of the new adjunct faculty and the consultant covered the other two. The implications of these readjustments appear in the raw data for each section where performance in class exercises appear more varied. Table 1C above does show a pattern for this semester’ that is a perfect match of the pre-pandemic period and opposite to that of Spring 2020. Class engagement rate rose from 77% in Spring 2020 to 84% as was the case in Fall 2019. Similarly, performance in class exercises (74%) matches that of the pre-pandemic (73%) period.

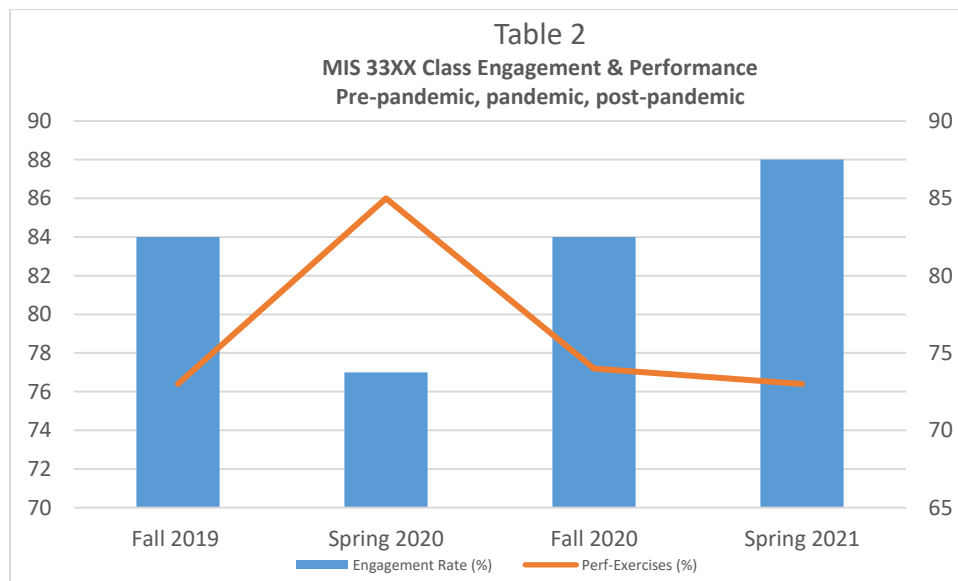
Spring 2021. By Spring 2021, we anticipated *refreezing* (Lewin, 1951) to occur or to have occurred, with the system adapted to online learning as the new norm. Therefore, we expect to observe a learning outcome pattern that plateaus around the pre-pandemic levels, much like



the spoon handle or the Hype Cycle’s *plateau of productivity*. We observed further decline in MIS 33XX enrollment in Spring 2021, dropping by 37% from 115 in Fall 2020 to 72 students. For the first time in nearly a decade, only two sections were scheduled with a new adjunct faculty, an IT specialist, joining the experienced faculty to cover these online. Exams and tests still absent, the same sections show similar patterns of class engagement and performance on class exercises even though one section has slightly lower scores in both. Table 1D above shows a learning outcome pattern that is consistent with that of the pre-pandemic period and opposite to that of Spring 2020. The class engagement rate continued the rise to 88% from 84% in Fall 2020 as was the case in Fall 2019. Similarly, the pattern of performance in class exercises (73%) matched that of Fall 2020 and that of the pre-pandemic period. Generally, the Spring 2021 learning outcome pattern plateaued around the pre-pandemic level, much like the spoon handle or the Hype Cycle’s *plateau of productivity*. We discuss the composite data from Fall 2019 to Spring 2021 next.

Composite data: Fall 2019 to Spring 2021. Table 2 following combines the patterns indicated on Tables 1A, 1B, 1C, and 1D. It summarizes the pattern of learning outcome that emerges from the composite data of the MIS 33XX class from the pre-pandemic period in Fall 2019, to the height of the pandemic in Spring and Fall 2020 up to the ‘post-pandemic’ period in Spring 2021.

Following Lewin's (1951) *unfreeze-change-refreeze* framing, the pre-pandemic period can be viewed as the beginning or the unfreezing period. The pandemic-induced move to online learning in Spring 2020 would be the change intervention, Fall 2020, the adjustment



period, and Spring 2021 as the potential refreezing and restoration period. Accordingly, the disruptions to learning as a result of the change intervention in Spring 2020 likely led to a decline in learning outcome compared to those of the pre-pandemic period. However, as the agile program adapted to online learning by Fall 2020, we should observe improved learning compared to Spring 2020. As the program settled into the new norm of online learning by Spring 2021 (potentially the refreezing period), we should observe improved learning compared to Fall 2020. That is, assuming the pre-pandemic learning levels in Fall 2019 represents the tip, we anticipated a learning pattern that dips during the tumultuous Spring 2020 term at the peak of the pandemic like the dip of a spoon or the Gartner Hype Cycle's *trough of disillusionment*.

Due to technology agility, as the program adjusted to online learning after the shock, the system would have adapted and learning likely improved by Fall 2020. Therefore, we are likely to observe a learning outcome pattern that resembles the incline of a spoon or the Hype Cycle's *slope of enlightenment*. If technologically agile, the system should indicate self-correction signs post-2020 as agile students and faculty adapt to the new norm of online learning. That is, the system having adapted to online learning as the new norm, the Spring 2021 learning outcome pattern likely plateaued around the pre-pandemic levels, much like the spoon handle or the Hype Cycle's *plateau of productivity*. Following is a discussion of the learning outcome pattern that we observed.

Online Class Engagement. For a class that always had at least 50% of the coursework done online before the pandemic, we did not anticipate extensive decline in class engagement due to the rapid transition to online learning in Spring 2020. However, as a measure of learning in the MIS 33XX class, we anticipated to see some decline in student engagement in class activities during the pandemic in Spring 2020 due to the disruptions. Table 2 does show a pattern that is consistent with this anticipation. Class engagement rate fell to 77% in Spring 2020 from 84% in Fall 2019, a drop of 7 points. That is, about 111 of the 132 students enrolled in MIS 33XX in Spring 2020 would

have engaged actively in class activities had they enrolled in Fall 2019. Instead, only 102 engaged in class activities in Spring 2020.

By Fall 2020, things had settled a little bit with students and faculty having adapted somewhat to online learning, we anticipated improved class engagement in comparison to Spring 2020. Table 2 shows a consistent pattern with this anticipation. Class engagement rate rose back to 84% in Fall 2020 from 77% in Spring 2020. That is, 9 (111-102) of the 132 students enrolled in MIS 33XX in Spring 2020 would have been back engaged actively in class activities had they enrolled in Fall 2020 instead of in Spring 2020. As the program settled into the ‘new normal’ of online learning by Spring 2021, we anticipated to see stable or improved class engagement in comparison to Fall 2020. Again, Table 2 shows a pattern of class engagement in Spring 2021 (88%) that is consistent with this anticipation. That is, 5 (116-111) of the 132 students enrolled in MIS 33XX in Spring 2020 would have joined the other 9 to total 14 (116-102) back to class engagement had they enrolled in Spring 2021 instead of in Spring 2020. Table 2 thus shows the pattern of class engagement in MIS 33XX from Fall 2019 to Spring 2021 in the shape of a spoon with the depression at the Spring 2020 point as we anticipated. We turn next to the pattern of learning as indicated by performance on class exercises.

Class Exercises. As discussed earlier, the MIS 33XX course is designed for inculcating technical skills and class exercises are avenues for students to apply and practice learned skills. Consequently, class exercises are a major part of learning in the MIS 33XX class. Therefore, we captured performance in class exercises as proxy for skill development and application in the course. We anticipated these activities to have been hampered by the rapid transition to online learning in Spring 2020. With the computer lab out of bounds in Spring 2020, opportunity for completing class exercises narrowed for most students. For instance, students lacked adequate caliber computers for the necessary software; they faced incompatibility issues; inadequate and/or unreliable internet access for use by whole households, in addition to lack of camaraderie and social support, among others. Due to several such challenges, class exercises may have been constrained by the rapid move to online learning in Spring 2020. Therefore, we anticipated to see a general decline in learning outcomes from these exercise during the pandemic in Spring 2020 as compared to Fall 2019.

Table 2 does show the anticipated pattern for class exercises in Spring 2020 but in the opposite direction. Instead of a depression at the Spring 2020 point, Table 2 shows a peak. At 85%, class performance in exercise activities was higher in Spring 2020 than in Fall 2019 (73%), Fall 2020 (74%), and in Spring 2021 (73%). That is, the pattern of learning outcome from class exercises is that of an inverted spoon with a peak rather than a depression at the peak of the pandemic. This is not only inconsistent with our anticipation, but it might indicate noise in the data or even suggest an agile and self-adjusting system that may have ‘over-corrected’ for the aforementioned disruptions in Spring 2020. We discuss these possibilities in the discussion section after we explore the extent of the case program’s resiliency.

Program Resiliency

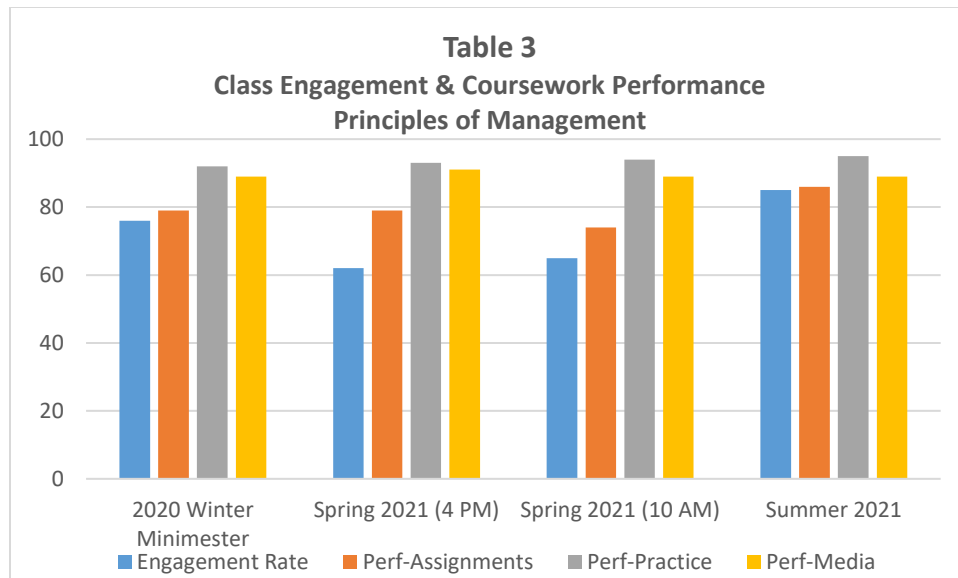
The Technology Agility reinforcement course data (Table 2) appear to indicate a program that adapted to online learning through the pandemic. However, for program resiliency, adaption needs to go beyond the agility reinforcement process into the subsequent coursework. Therefore, we

tested whether demonstrated agility went beyond the agility reinforcement process into the Principles of Management (MGMT 33XX) course. As discussed in the methodology section, the MGMT 33XX course is particularly suited for exploring program resiliency because it is a school core that is mandatory for all majors. It also follows right after agility reinforcement (MIS 33XX) in the eight semester degree plan (Figure 1).⁴ Therefore, we tested for resiliency through the Principles of Management course (MGMT 33XX), first, in the 2020 Winter Minimester class that met from December 2020 to January 2021. It had twelve students enrolled. The class had 76% engagement rate, completing a total of 436 exercises out of the possible 576 (each student potentially completing 16 Assignments, 16 Practice and 16 Media Exercises). This class met online asynchronously Monday to Friday. While they were encouraged to submit their coursework daily, the deadline for weekly coursework was set at 11:59pm on Sunday following each week.

The Spring 2021 classes were hybrid with 50% asynchronous and 50% synchronous online meetings on Mondays and Wednesdays at 4pm for Section 1 and Mondays, Wednesdays, and Fridays at 10am for Section 4. Section 1 had 20 students with 62% engagement rate. That is, 560 class exercises completed out of the possible 900 (each student potentially completing 15 Assignments, 15 Practice and 15 Media Exercises) over 15 weeks. Similarly, section 4 had 32 students with 65% engagement rate (941 exercises out of the possible 1440 with each student potentially completing 15 Assignments, 15 Practice and 15 Media Exercises over 15 weeks). Both sections were encouraged to submit their coursework every class day although the weekly deadline was set at 11:59pm on Fridays.

Finally, as at the time of this writing, the Summer 2021 class is ongoing. However, class data shows the 26 enrolled have 85% engagement rate. That is, 662 out of the possible 780 class exercises (each student potentially completing 10 Assignments, 10 Practice and 10 Media Exercises) for three weeks. This is a flipped classroom that meets Mondays to Thursdays synchronously online for 2 hours to complete coursework. The flipped component involves a dedicated two-hour class time (12:30-2:30pm) for completion and submission of class exercises. Class discussions and lectures occur outside the 12:30-2:30pm class time. Deadline for coursework submission was set at the end of each class session. The flipped classroom format reverses the structure of the traditional class that dedicates class time for lectures and discussions while relegating assignments, projects, and exercises (homework) to non-class time. Table 3 following provides a summary of the learning patterns that emerge across the four sections.

⁴ A detailed description of the link between the two courses is provided in the methodology section.

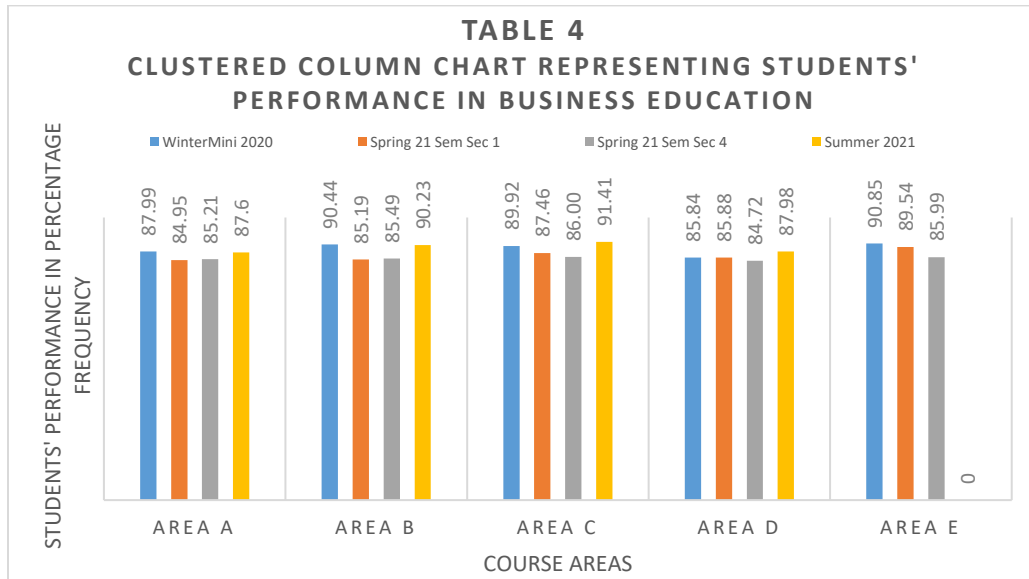


Overall, the Table shows a pattern of relatively comparable class engagement and coursework performance across the three semesters. The comparable learning outcomes from December 2020 to Summer 2021 point to elements of *refrozen* (Lewin 1951) online learning as the new norm and are consistent with some degree of program resilience. Table 3 also shows the flipped synchronous classroom format as yielding a slightly higher class engagement rate (85%) followed by the asynchronous-weekend-included section (76%). Both were intense classes in short duration (5 weeks) with frequent meetings, factors that might have contributed to enhanced class engagement. We shall discuss the implication of these observations in the discussion section after we explore the pattern of learning outcome by course area.

Student Performance by Course Area. The Principles of Management (MGMT 33XX) course was divided into five content areas. Students completed a knowledge and comprehension assignment, an experiential learning practice exercise (application), and a media exercise (analysis) for each area as follows: Area “A”--*Functions of Management*; Area “B”--*Management History & Organizational Environment*; Area “C”-- *Planning and Structure*; Area “D”--*Organizing*; Area “E”--*Leading & Control*. Table 4 following shows learning outcomes that are comparable from the 2020 Winter Minimester, Spring 2021 to Summer 2021. There are no significant differences between and among percentage scores in the students’ performance by the defined course areas (A, B, C, D, & E). The percentage distribution under Table 4 all cluster around 80s with a few low 90s. These show that regardless of the semester of enrollment, type of exercise completed: knowledge/comprehension assignment, application, or analytical skill development, student learning compares across these four classes spread out in three semesters.

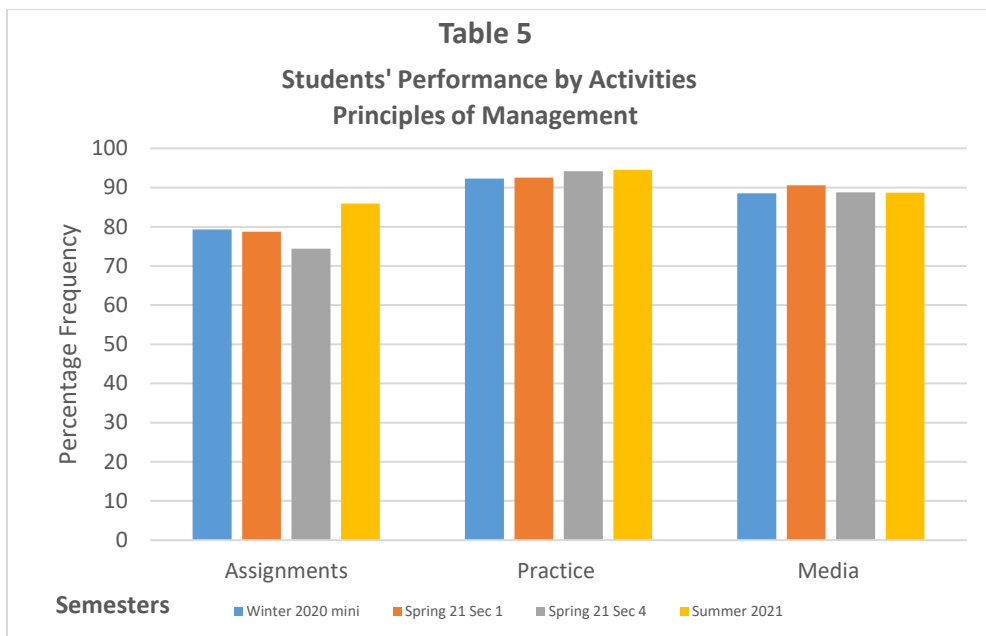
The percentage data reveal no significant variation in student performance in the course areas or per semester. However, the spike in performance during 2020 Winter Minimester is worth noting. As discussed earlier about this cohort’s engagement rate, extension to the weekend probably helped the mostly non-traditional students. With their regular work and other commitments slowed over the weekend, it may have provided them opportunity to focus on the coursework. Although the flipped classroom (Summer 2021) cohort had not completed the *Leading & Control* (Area “E”)

coursework in time for this article, their performance in the other course areas rival those of the 2020 Winter cohort. Overall, the data show the three cohorts (2020

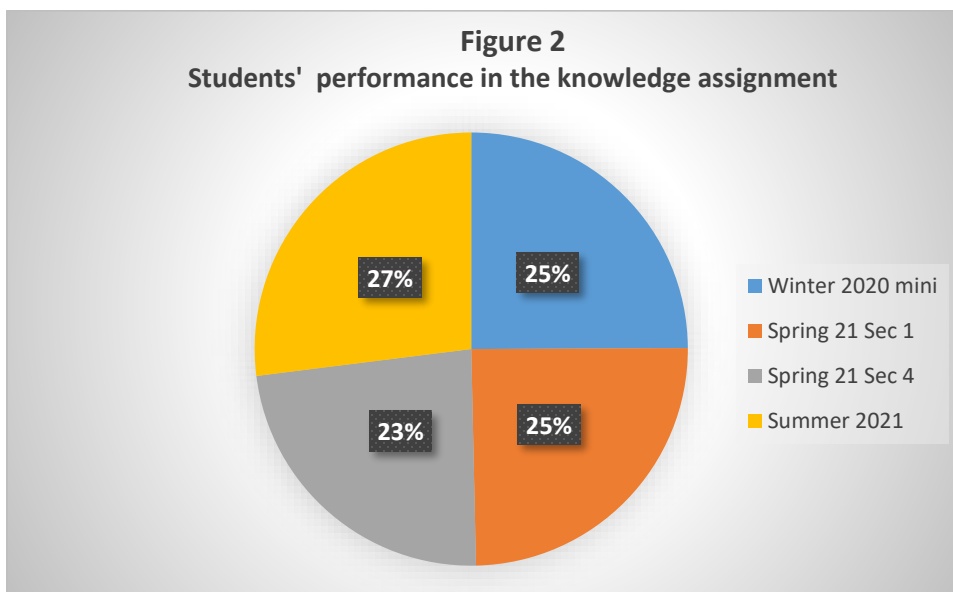


Winter, Spring 2021, and Summer 2021) as coming from the same population with learning outcome clustering close to 90 percent. With the mean outcome of 87.51 percent and an *Upper Limit – Lower Limit = 9*, this suggests that student performance in these cohorts are pretty close. The standard deviation (measure of data spread or dispersion) reveals that 95.5 percent of student performance cluster around the mean within the range of plus/minus two standard deviations. That is, 95.5 percent of the distribution of students’ performance lie between 83 and 92 percent.

The learning outcomes from the three activity types also follow the same pattern from Winter 2020 to Summer 2021. Table 5 following shows comparable learning outcomes for the three cohorts. It shows students’ performance on the application exercise edging performance on media analysis exercises and those of the knowledge/comprehension assignment. The application and analysis exercises both averaged over 80% score per semester indicating that students did well in these exercises online regardless of the semester. On the other hand, only the flipped classroom (Summer 2021) topped 80% on the knowledge/comprehension exercise. This could be a single happenstance or an indication that the synchronous flipped formatting yields better learning outcome from these types of exercises than asynchronous formatting. It is likely that students learn better from exercises that entail recall, recognition of terms, ideas, procedures, theories, and principles when there is live frequent/instant feedback and interaction accorded as in a flipped classroom. Rather than complete such exercises over abstract material alone online, they may gain from instant clarity, discussion, and camaraderie of a flipped class environment.



The definition of a flipped classroom varies wildly. However, it is generally agreed that it differs from the traditional lecture format in its active engagement of students. As Chen et al (2018) noted in a medical education study, this active engagement ends up yielding better learning outcome for theory-heavy lessons. Indeed, Figure 2 following shows that, even with incomplete data (60%), the flipped format outperforms the other sections in the theory-heavy exercises. When pooled together, the flipped classroom yielded slightly better learning outcome from the knowledge/comprehension exercises than asynchronous or a traditional synchronous-asynchronous hybrid delivery.



Discussion

For a program that inculcates technology agility, we expected to see a decline in student learning at the height of the pandemic in Spring 2020 due to pandemic-induced disruptions. However, this decline would be temporal as the agile system adjusts back to the pre-pandemic level. Overall, we visualized a learning pattern similar to the shape of a spoon: Learning levels at pre-pandemic in Fall 2019 representing the short tip of the spoon; the expected drop in learning during the peak of the pandemic, when classes moved online in Spring 2020, representing the depression of the spoon; and the post-pandemic learning pattern restored closer to or back to that of the pre-pandemic representing the tail end of the spoon. What we observed (Table 2) is a pattern indicative of depressed learning during Spring 2020 when learning is estimated by class engagement but not when it is estimated by performance in class exercises. Instead it shows a peak rather than a depression in class performance on exercises during Spring 2020. If it is not the result of noise in the Spring 2020 MIS 33XX class exercises data, then this would be one of the most interesting observations made in this paper.

It is probable that the peak in learning outcome, as measured by performance in class exercises, is an aberration of noisy data. Even without the pandemic, the MIS 33XX class was going to face disruption in Spring 2020. The week before classes started, the fulltime instructor who taught three out of the four-sections left suddenly. Because the university had changed rules for adjunct hires effective Spring 2020, it took one to two weeks before the three sections settled with new instructors. With four different instructors, three of them new to the course and two of them new adjuncts, it took quite a bit to pair syllabi-course contents and assessments. It proved even more challenging discerning relationships between class exercises and grading among different sections taught by four professionals, each enjoying their academic freedom. Different instructors gave different weights to exercises, some treated them individually, others substituted averages or highest scores. One adjunct instructor even resorted to exercises outside the recommended material. Ultimately, we consulted an instruction designer for help where we could not reach the part-time instructors for consultation. The result ended up as summarized in Table 2 with a peak rather than a depression for class exercises during the pandemic and an inverted spoon pattern instead.

If not an aberration of noisy data, then the peak, indicating enhanced performance in class exercises, rather than a depression during Spring 2020 would be one of the most exciting observations of this paper. The peak could potentially be an instance of an agile program self-adjusting in response to the confusion and disruptions at the height of the pandemic in Spring 2020. For instance, faculty may have adjusted expectations over class exercises. With some students struggling due to lack of computer capacity for completing exercises on *Foundations of data collection, analysis, and reporting, Introduction to Internet of Things, Cloud Services, Big Data*, and such (MIS 33XX Syllabus), expectations over these exercises may have relaxed. Perhaps, expectations over class exercises adapted to compensate for the Spring 2020 university-wide *pass/no-pass* grading option in lieu of the traditional letter grade. In any case, as discussed under Table 1B about the Spring 2020 MIS 33XX class, raw data from some sections show large portions of 100% and 0%, suggesting that some grades on these exercises were awarded on a complete/submit for full credit basis. This could have contributed to the inverted spoon shape (Table 2) with a peak rather than a depression in class performance on exercises at the peak of the pandemic in Spring 2020. Such adjustments might explain why the peak declined after Spring

2020 with the return to a new ‘normal’ of online learning, readjustment of expectations/grading and the return of letter grades in Fall 2020. That is, due to the self-adjusting agile system, the anticipated post-pandemic learning pattern, as measured by class exercises, returned to the pre-pandemic levels in Fall 2020 (74%) and in Spring 2021 (73%).

Based on the indepth analysis of this case program, it appears sufficiently agile that it adapted to online learning following the pandemic-induced move to online learning. Its agility also appears to have gone beyond the technology agility reinforcement process into the subsequent coursework as shown by the post-pandemic pattern of relatively comparable learning. That is, students and faculty appeared well adapted to online learning post-pandemic. The adaption is consistent with a stabilized system and a resilient program that has online learning as the new norm post-pandemic. As indicated by the resiliency test, the program appears sufficiently well adapted to online learning post-pandemic that we did not observe significant variation in learning outcome per course content from late 2020 to mid-2021. The non-significant differences we noticed appear to be related to differential adjustments such as expansion of coursework submission to weekends, a factor that might have benefited the largely non-traditional students. The weekend extension might have enabled time-pressed online learners to dedicate their non-work days (weekends) to their coursework. Some observers have noted that a substantial percentage of asynchronous online learners, known as *weekend warriors*,⁵ tend to their online learning over weekends.

Resilience is also indicated by the comparable learning patterns for *knowledge/comprehension*, *application* and *analytical* skill exercises. Although a minor difference is seen with the flipped classroom formatting where there is a spike in performance on the *knowledge/comprehension* exercises, the spike appears to be unrelated to online delivery per se. Rather, it might be the consequence of designated frequent class interaction that served to remind students to log into the class site to complete coursework. The spike might also indicate that the synchronous flipped classroom formatting is better suited for these type of exercises. The flipped format provided real time interaction for such exercises that entail recall, recognition of terms, ideas, procedures, theories, and principles. Students may get more out of these exercise types with live frequent/instant feedback and interaction accorded by a flipped synchronous better than in an asynchronous format.

The flipped classroom did boost class engagement as students got compelled to complete their class exercises and learning activities before or during the set class time. This way, the flipped classroom allowed real-time intervention and feedback that improved student engagement and increased prospects for enhanced learning. For instance, in the middle of a flipped classroom session in Summer 2021, it was noted that 21% of the class had not started their coursework for that day. Therefore, a class announcement was posted in addition to direct email to the whole class stating the above facts. Twelve minutes after the first feedback, none of the procrastinators had started their coursework so a direct reminder was sent to them, causing 60% of them to start their coursework. A third reminder was sent to the remnants within the last 10 minutes of the session. This caused the remnants (8% of the class) to start their coursework, if only to avoid being reported as absent, for they knew they would be time-barred from completing the day’s coursework.

⁵There is even a program whose specialty is in the weekend online learning niche (<https://inside.ewu.edu/plus/weekend-warriors/>)

Ultimately, the flipped classroom session ended with 100% attendance and an improved class engagement rate (see Exhibit 1 for the correspondence) as a result of the intervention.

Conclusion

In this study we explored how an undergraduate business program navigated an unplanned change, responding to the Covid-19 pandemic-occasioned move to online learning. We also sought to assess the extent of the program resiliency following the disruptions. Even though it is a case study that is confined by the specificity of this particular program and the evolving nature of the pandemic, we are confident that its depth and scope make up for this confinement. The study is a detailed through-the-curriculum pre-pandemic to pandemic to post-pandemic trail of students from one level of study to the next. This process yields a valuable glimpse inside the classroom at a dynamic time at an angle that may not have been discernible in a large scale wide-angle study. It is a unique time capsule of a cohort of business students who survived the Covid-19 pandemic and emerged relatively comfortable with online learning, a picture that might not have been possible to capture otherwise. The data show a normally distributed learning outcome averaging nearly 90% on similar coursework for the program enrollment from the end of 2020 to midway through 2021. Students did equally well in all course areas and over multiple course activities: knowledge/comprehension assignments, experiential application and analytical skill development exercises at the end of 2020, in Spring 2021, and in Summer 2021. Overall, this program curriculum appeared adequately agile and engendered resilient students who adapted and adjusted to online learning post-pandemic as indicated by the relatively comparable learning outcomes for three semesters.

The accrediting body's (AACSB) guideline also speaks to faculty adaption. The need for faculty to flex, adjust, and reconfigure the process in order to facilitate learning in a new environment/context. The pandemic and post-pandemic environment called for constant reconfiguration to refocus learning for a student cohort that lived through some historic events of the 21st Century in the US. In addition to the pandemic induced disruptions, this largely non-traditional student population also survived the 2020 Summer social unrests in the US; a tumultuous presidential election and its culmination in the January 6, 2021 *event* at the US Capitol. Their school, adjacent to the late George Floyd's former high school and the public housing of his childhood, put these students in the midst of the 2020 protests and unrest that mirrored those of the sixties. For instance, the 2020 Winter cohort started their online class at the end of November after voting for but before inauguration of the US president. They submitted their final coursework on January 7, 2021, the day after the Capitol *event*, undertaking their coursework during an intense period in US history. As fulltime employees, most worked from home online or serviced the quarantined and those on lockdown. Some lost jobs and became homeless while others suffered mental anguish as they watched their neighborhoods suffer utility outages following the February 2021 Texas freeze. Yet, the fortunate ones worked huge warehouses to supply the quarantined consumers, often with co-bots only (Koppelman, 2020) as companions. At home, they juggled domestic work, children/siblings' online schoolwork and their own, as media channeled distress 24/7 in the background.

The complexities and the demands around the cohorts represented in this study called for constant adaption and reconfiguration to refocus learning and it appears that this program adapted. Students and faculty appear to have adapted to the pandemic-induced disruptions adequately. For instance,

the Spring 2020 class data appear to indicate that faculty adjusted by dropping exams/tests and adapted the grading of class exercises. Some instances appear to follow the administration's *pass/no-pass* cue. Such adjustments might have made the coursework bearable for students who were already reeling from a deluge of pandemic-induced challenges outside of school. Indeed, as indicated in subsequent coursework beyond 2020, students appear to have adapted reasonably, perhaps due to such adaptations by the faculty.

Some faculty experimented with ways to counter online interaction/learning fatigue. Examples that gained traction include continuous short messaging, flipped classroom formatting, and flex coursework submission times. Continuous short messages through multiple avenues such as class site announcement posts linked to email/messages that get directly to student phones, chats, and discussion forums, nudged and kept students focused on their online coursework. However, it made teaching a 24/7 affair, sometimes with complain emails at 2 am on Sunday, often copied to the administration. The flipped classroom format provided for dedicated specified time for class exercises that also counted as "attendance." This helped raise class engagement, potentially enhancing learning outcome. In the flipped classroom, students accessed recorded lectures and learning resources for study at their own pace and live elaborations (also recorded) provided at designated times at the class site. Coursework was completed and submitted earlier or during the specified class time with deadlines confined to the end of each class session. The flipped classroom format thereby resolved the 24/7 teaching cycle problem. It also eradicated the excuse of 'forgotten' or missed deadlines as the faculty stayed online at the class site monitoring coursework submission during class time to alert procrastinators (e.g., Exhibit 1). The flexible coursework submission times extended coursework to the weekend, an option that proved quite popular with the *weekend warrior* students who dedicate the weekend for their coursework, leading to quite a bit of weekend teaching and class email correspondence.

Finally, as estimated in this study, it appears the program curriculum was sufficiently agile and adapted adequately to the disruption of rapid move to online learning. With the agility reinforcement course and the school core course sampled in this work as proxy, it appears the curriculum held, enabling maintenance of quality learning online post-pandemic. Anecdotally, the case program not only held against the pandemic-induced disruptions, but, it might even do better in the post-pandemic with its online curriculum. Although we focused on this single case in one program in search of details, we hope the multiple angles introduced would serve as hooks to link to continued discourse. It is done in the hope that in the accumulation of many such in-depth observations, we might gain insight on practices that mitigate impacts of the ongoing Covid-19 pandemic.

We realize that ramifications on academic programs vary and institutions still face a lot more challenges before return to 'normalcy' in the near future. For instance, universities are facing declining enrollment, reduced budgets, and empty campuses, causing some mulling about turning these to cash (Vedder, 2021). The enrollment decline is particularly hard on public universities with limited marketing capabilities. As sampled in this case program, just one instance, the MIS 33XX course, saw a 15% enrollment drop from 135 in Fall 2019 to 115 in Fall 2020. This was followed by an even worse decline of 45% or 51%⁶ from Spring 2020 to Spring 2021 (72). Even after students enroll, a number of universities are grappling with demands for permanent

⁶ Spring 2020 enrollment in MIS 33XX stood at 146 or 132, depending on the institutional records one consults.

institutionalization of parallel traditional and online programs. Still, others are working on various strategies for coaxing students back to lecture halls. Some are even contemplating price discrimination, putting a premium on online classes, in order to divert enrollment back to campus. From the look of it, although some regions might be in post-pandemic, the reality is that a lot is still unknown and some of its impacts may be permanent. Therefore, we hope for continued dialogue and a sharing of working solutions as contributory to stabilization to some sort of new normalcy, ultimately, pushing us towards restoration to the pursuit of progress.

REFERENCES

- AACSB (2018). "2013 Eligibility procedures and accreditation standards for business accreditation", revised July 1, 2018. <https://www.aacsb.edu>
- Bloom, B. S., Englehart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *The Taxonomy of educational objectives, handbook I: The Cognitive domain*. New York: David McKay Co., Inc.
- CITL (2020). "Three dimensions of student engagement?" <https://citl.illinois.edu/citl-101/teaching-learning/teaching-tips-blog/teaching-tips/2020/09/15/three-dimensions-of-student-engagement>, Accessed June 24, 2021.
- Chen, K. et al., (2018). "Academic outcomes of flipped classroom learning: A meta-analysis", *Medical Education*, Association for the Study of Medical Education and John Wiley & Sons Ltd, Vol. 52, pp. 910-924. <https://onlinelibrary.wiley.com/doi/pdf/10.1111/medu.13616>
- Eldredge, D.L. & Galloway, R.F (1983). "Study of the undergraduate business policy course at AACSB-accredited universities", *Strategic Management Journal*, Vol. 4(1), pp. 85-90. <https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.4250040109>
- Koppelman, L. (2020). "29 warehouse & automation experts share insights on how warehouse robots will impact industry employment", *6 River Systems*, <https://6river.com>
- Lewin, K. (1951). *Field Theory in Social Science: Selected Theoretical Papers*. New York: Harper & Brothers.
- Martin, F. & Bolliger, D.U. (2018). "Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment", *Online Learning* 22(1), pp. 205-222. doi:10.24059/olj.v22i1.1092
- Miles, M.P., Franklin, G.M., Grimmer, M. & Heriot, K.C. (2015). "An exploratory study of the perceptions of AACSB International's 2013 Accreditation Standards", *Journal of International Education in Business*, Vol. 8(1), pp. 2-17. <https://doi.org/10.1108/JIEB-02-2014-0009>
- Pokhrel, S. & Chhetri, R. (2021). "A literature review in impact of Covid-19 pandemic on teaching and learning", *Higher Education for the Future*, Vol. 8(1), pp. 133-141. <https://journals.sagepub.com/doi/10.1177/2347631120983481>
- Rashid, S. & Yadav, S. S. (2020). "Impacts of Covid-19 pandemic on higher education and research", *Indian Journal of Human Development*, pp. 1-4. <https://doi.org/10.1177/0973703020946700>

Roland, G. (2004). "Understanding institutional change: Fast-moving and slow-moving institutions", *Studies in Comparative International Development*, Vol 38, pp. 109-131. <https://doi.org/10.1007/BF02686330>

United Nations (2020). "Policy brief: Education during Covid-19 and beyond", UN, NY. <https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/>

Vedder, R. (2021). "Colleges short of cash: Sell the campus?", *Forbes*, March 22, 2021 <https://www.forbes.com>

World Economic Forum (2020). "The COVID-19 pandemic has changed education forever. This is how", <https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>

Exhibit 2

From Instructor

To Student 1; Student 2; Student 3

Sent Tuesday, June 22, 2021 2:20 PM **Subject** Re: Chapter 6 MindTap Exercises

Hello,

Please respond and complete even 1 of the 3 exercises in order not to be reported as absent from class today, June 22, 2021. Time is running out--just 10 minutes left of class time.

Thank you.

----- Original Message ----- Sent on: Tuesday, June 22, 2021 1:13 PM

Hi,

Let me know how I can support you to complete your coursework today.

The class is going on well and 79% of the class have completed today's coursework (the 3 exercises in chapter 6 MindTap). The 21% (5 individuals) who are yet to start these exercises, please do so immediately so we can have 100% compliance.

Alert me if you need help completing your coursework today, June 22, 2021.

Thank you.

Class announcement & related system email

June 22 Coursework

Posted on: Tuesday, June 22, 2021 1:01:57 PM CDT

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