

Impact of the COVID-19 pandemic on allied health programs at the University of the District of Columbia Community College (UDC-CC): an analytical case study

Abstract

The overall mission of community colleges encompasses several key components and principles, such as being cost-effective, accessible, serving as a pathway to four-year institutions, and preparing students for the workforce entry-level positions. However, 1,167 community colleges in the United States of America have been facing one of the worst threats to humanity in the 21st century, the coronavirus 19 (COVID-19) pandemic. COVID-19 is a communicable sickness caused by the SARS-CoV-2 virus (World Health Organization, 2022).¹ The viral outbreak took the entire world by surprise with paralytic consequences on health, economy, and education. Millions of people lost their lives related to the COVID-19 infection. Worldwide, individual and public lifestyle changes, such as wearing facemasks, travel bans, and quarantines became mandatory due to the fast virus outbreak. Actions were taken worldwide to contain and slow down the spread of the virus and its adverse effects. On March 13, 2020, US President Trump declared a national coronavirus emergency.² People were mandated to stay and work from home in isolation. In the United States, specifically in the academic sector, instantaneous unscheduled closures of schools were implemented. Faculty and students were forced to stay at home and convert to remote learning. Reviewing the impact of COVID-19 on community college faculty and students, we conducted a literature search of hundreds of publications on the impact of COVID-19 and its effects on health and education, and surveyed several students, faculty, and staff in our division. We found multiple publications on the consequences of the pandemic on education, healthcare providers, university staff, and students. This article presents the impact of the COVID-19 pandemic on the faculty and students in the division of Nursing, Allied Health, Life, and Physical Sciences (NAHLPS) at an inner-city HBCU Community College.

Objective, explanation of paper, significance and broad interest to readers

This article is significant to readers because it provided a window into understanding the Covid-19 impact on the experiences of faculty and students specifically in NAHLPS of an HBCU community college in the nation's capital. It will also provide a guide to future research and response ideas during a future pandemic.

Keywords: covid-19, community college education, workforce, inner city, historically black colleges and universities (HBCU), and nursing, allied health, life and physical sciences (NAHLPS)

Introduction

The overall mission of community colleges encompasses several key components and principles, such as being cost-effective, accessible, serving as a pathway to four-year institutions, and preparing students for the workforce entry-level positions. However, 1,167 community colleges have been facing one of the worst threats to humanity in the 21st century, the coronavirus-19 (COVID-19) pandemic. COVID-19 is a communicable sickness caused by the SARS-CoV-2 virus (World Health Organization, 2022).¹ The viral outbreak took the entire world by surprise with paralytic consequences on health, economy, and education. Millions of people lost their lives related to the COVID-19 infection. Worldwide, individual and public lifestyle changes, such as wearing facemasks, travel bans, and quarantines became mandatory due to the virus outbreak. Actions were taken worldwide to contain and slow down the spread of the virus and its adverse effects. On March 13, 2020, US President Trump declared a national coronavirus

emergency.² People were mandated to stay and work from home in isolation. In the United States, specifically in the academic sector, instantaneous unscheduled closures of schools were implemented. Faculty and students were forced to stay at home and convert to remote learning.

The stakeholders: faculty and students

Reviewing the impact of COVID-19 on community college faculty and students, we conducted a literature search of hundreds of publications on the impact of COVID-19 and its effects on health and education, and surveyed several students, faculty, and staff in our division. We found multiple publications on the consequences of the pandemic on education, healthcare providers, university staff, and students. However, there were minimal publications that specifically addressed the impact of COVID-19 on allied health programs at Historically Black Colleges and Universities (HBCU) Community Colleges that serve mostly minority populations. This article

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presents the impact of the COVID-19 pandemic on the faculty and students in the division of Nursing, Allied Health, Life, and Physical Sciences (NAHLPS) at an inner-city HBCU Community College. The Nursing, Allied Health, Life, and Physical Sciences (NAHLPS) division is housed within the University of the District of Columbia Community College (UDC-CC) in Washington DC. The COVID-19 pandemic significantly impacted the faculty and students of NAHLPS in numerous ways, similar to the experiences of their counterparts at other institutions and in ways unique to our community college. The geographical location of this HBCU in the nation's capital and the populations it serves present a distinct perspective on the impact of the COVID-19 pandemic. This article describes the COVID-19 pandemic's impact on technology, personal life, psychosocial, academic, and economy of our division's faculty and students. Figure 1 below shows the source of data in percentage, specifically collected from students enrolled in four Spring 2022 semester courses: Fundamentals of Human Anatomy, Physiology (P) I and II, Clinical Microbiology, and Chemistry.

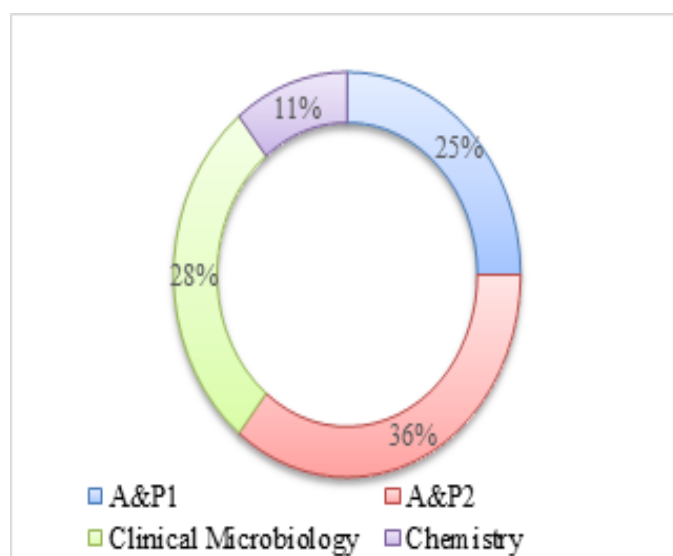


Figure 1 COVID-19 Data Collection by Course: Fundamentals of Human Anatomy and Physiology (A&P) I and II, Clinical Microbiology, Chemistry.

Technology

Faculty perspective: The COVID-19 pandemic has shaken institutions of higher education at the core. The influence of the pandemic has particularly left a devastating impact on community colleges, which play an essential role in expanding access to higher education, teaching new courses, being convenient, flexible and supporting students previously excluded from the higher education system. Due to the abrupt changes to learning caused by the COVID-19 pandemic, these institutions are now facing inequities in leadership, high staff turnover rates, early retirements of experienced staff and veteran faculty, curriculum design and development changes, funding challenges, student unemployment, social and racial tension, and low enrollment.³ At UDC-CC, most academic course offerings are taught in the traditional face-to-face format. The college also offers some hybrid courses with an in-person and online component. However, due to the COVID-19 pandemic, all faculty and staff at UDC-CC were instructed to shift from face-to-face instruction to synchronous instruction using various technology platforms. While the community college viewed remote learning as a way to provide continuity for student learning, many faculty and staff initially did not embrace the immediate transition to the virtual environment. For some faculty,

the hesitancy to transition to remote instruction was because they were not tech-savvy and did not have the computer skills to instruct courses remotely. Remote instruction would require the simultaneous use of multiple technology applications and tools (e.g., PowerPoint and Zoom) while providing instruction, which was overwhelming for faculty who were not used to doing so. The lack of equipment required to support remote teaching was a barrier for others. Remote learning would require both a computer and a working camera and upgrading equipment to meet the demands of full-time remote instruction was a necessity for some.

Others were hesitant about the sudden transition to online teaching because this would require readapting the curriculum to integrate with the learning management system (LMS). Although the instruction topics are the same for both face-to-face and online courses, online courses require creating different instructional material and learning resources not typically utilized when teaching face-to-face. For instance, rather than students performing experiments and demonstrations in the lab, the college employed gamified simulation software to use as an alternative to in-person lab. Even with the availability of simulation software, faculty still had to create multiple assignments for the same topic because some students had difficulties accessing or using the software tool. Furthermore, the difficulties working with the LMS were exacerbated by the institution embarking on the preplanned change and upgrade of the LMS from original Blackboard to Blackboard Ultra. This change required more training, and faculty having to rebuild and adjust course content in the new version of LMS. Further, faculty experienced difficulties with software provided for their remote learning, as software was often not compatible with all computer operating systems. An example of this is the Respondus Lockdown Browser, software used to monitor and proctor exams online, which was incompatible with Mac operating systems. The inconsistent use of the lockdown browser and its monitoring and proctoring capabilities caused faculty to question testing validity. Faculty also faced challenges with internet connectivity. For instance, many experienced slower internet speeds due to increased use in individual homes. The increase in workload, coupled with the complexity of engaging students virtually created a great amount of stress for faculty.

Impact of extended use of technology on physical health

Table 1 shows 63% of faculty and staff experienced fatigue during this transition from in person to online teaching while coping with the pandemic. Among other physical and mental issues, 50% of faculty experienced eye strain from prolonged glaring at the computer screen, anxiety, and mood swings, respectively. One faculty stated anonymously that "after lecturing or doing a lab virtually using virtual tools, I've noticed that I'm quite exhausted in comparison to lecture & labs before the COVID pandemic." Table 1 indicates additional common concerns among UDC-CC faculty on the impact of extended use of technology and sedentary workday include back pain, agitation, joint pain, and other physical or mental issues. The transition to remote learning reduced physical movement because classes were taught entirely online. The benefits of physical movement in the classroom are two-fold, providing faculty ways and means to interact in proximity to students and gain light exercise throughout the workday. This movement also provides health benefits to faculty, as it is well documented that movement during the workday contributes positively to overall health. A recent faculty survey revealed that many faculty had similar challenges and complaints concerning how the transition to remote learning and extended use of technology negatively impacted the overall health status during the pandemic.⁴

Table 1 Physical and Mental Health Issues Experienced by Faculty and Staff Using Extended Technology

Type of physical or health issue	Yes %	No %
Fatigue	63%	38%
Anxiety	50%	50%
Back pain	38%	63%
Mood Swings	50%	50%
Agitation	38%	63%
Eye Strain	50%	50%
Joint Pain	13%	88%
Depression	29%	71%
Other Physical or Mental Issue experienced	40%	60%

Impact of technology on communicating with students

NAHLPS Faculty also struggled with the demands of managing all course interactions/communications online. UDC-CC professors and students alike felt the lack of face-to-face connection with remote teaching. As educators, we strategized to find ways to remain connected with our students. Social media platforms became valuable tools for communicating with our students. For example, each cohort created a WhatsApp group account for their classroom. This application allowed students to engage with one another, share information, and helpful resources for studying. Many professors made themselves accessible to their students via text, and the students often sought out clarity on specific topics while they reviewed together via Webex. Professors would often leave the Webex meeting open after the lecture so the student could study together. Professors would also send frequent email reminders for assignment deadlines and videos on topics which were beneficial and relevant to the week’s lesson. It was also important that our students felt empowered and connected with their professors and mentors while struggling with the use of technology during the pandemic. To this effect, we held virtual tutoring sessions for our students to ensure they understood the content and made consistent progress towards their academic and learning goals.

Student perspective

Table 2 shows 49% of students experienced anxiety during this transition, from in person to remote teaching and coping with the pandemic challenges all at the same time. Further, Figure 2 shows the majority of students in four randomly selected science classes experienced physical, mental, and personal issues, and academic challenges. With widespread shutdowns of businesses and schools, many students were forced to take on the role of full-time caregivers to their children and elderly relatives. Unfortunately, this new role negatively impacted students learning and added additional stress as they had to adjust their learning style to online/virtual instruction. One of the most significant academic challenges noted by students was changing to virtual learning and trying to assist their children who were also staying home. Some students even experienced taking online/virtual classes while simultaneously helping their children navigate online/virtual learning. Further compounding several mental and physical challenges, as shown in Table 1, of serving as caregivers and students, many students did not have access to reliable internet. Barzilai-Nahon⁵ explains that community college students had challenges accessing reliable internet at home. This impact resulted in missed or incomplete assignments submission due to sharing a single device with other family members. Additionally, students felt that the lack of hands-on and guided instruction affected their learning.

Table 2 Physical and Mental Health Issues Experienced by Students Using Extended Technology

Type of physical or health issue	Yes %	No %
Fatigue	34%	66%
Anxiety	49%	51%
Back pain	39%	61%
Mood Swings	38%	62%
Agitation	23%	77%
Eye Strain	28%	72%
Joint Pain	18%	82%
Depression	40%	60%
Other Physical or Mental Issue experienced	29%	71%

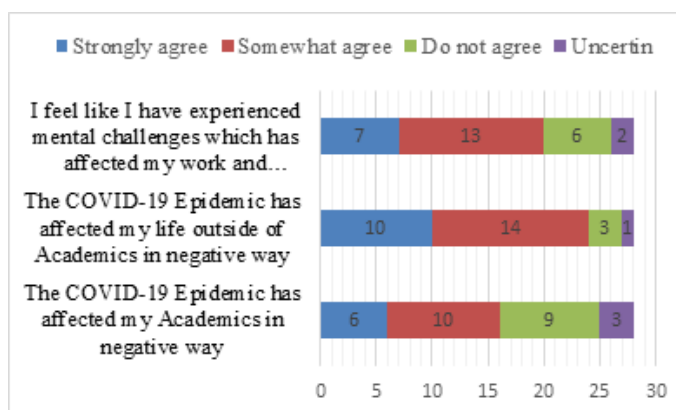


Figure 2 Effect of Pandemic on Students in Academic and Non-Academic States.

Personal life

Faculty perspective

Although the institution provided training in video conferencing tools and LMS to teach in the remote environment, no training could have prepared the faculty for the challenges that many experienced. For example, faculty had to adjust to transitioning to a life of working remotely while balancing home and personal responsibilities. In addition, faculty members with school-aged children were challenged to work full-time while simultaneously managing online learning for their children. UDC-CC transitioned immediately to remote instruction, as did local primary and secondary school systems. Faculty members with school-aged children were required to manage as parents and homeschool teachers during a workday, which posed great stress on the faculty, as shown in Table 1. This dual role of parent and instructor resulted in not functioning at their best, negatively impacting the faculty by adding constant distractors and screen time overload.

Students perspective

Many adult learners depend on a family support system to care for their children to pursue their academic studies for a better future. As reported by Fong et al.,⁶ community college learners, compared to their four-year college counterparts, are more likely to be non-traditional students over the age of 28 years old who are first-generation, non-White, and low-income working adults. The impact of the pandemic is evident as students share their experiences on how the pandemic affected their personal life. Like many faculty, one of the biggest challenges students reported was isolation and limited social interaction for them and their children. The community college

offered a sense of community for students that was immediately lost with the transition to remote learning. Students' lives were now confined to their homes, with no separation of work, school, and personal life. Students were faced with balancing learning from home and maintaining personal responsibilities. The disconnect with the physical learning environment they were accustomed to resulted in students making poor decisions with their newfound autonomy. Many students decided to do multiple tasks while attending synchronized class meetings. For instance, faculty noted that students often worked, attended children's sports practice, or even drove in their car while attending class. Many students had to balance virtual learning with caring for their children, which added an element of distraction, especially when the children were at home and required care during the class meeting. A commitment to learning seemed to have lessened, and students were less diligent. Students' family commitments superseded scheduled class time as if the synchronized scheduled course times were of less value and importance. Faculty also reported that during the COVID19 pandemic, some students were not engaged because they were not present. Many were either physically sick with COVID-19 or had a family member who was seriously ill due to the virus. Still, others were unavailable mentally and could not be active participants in the course. For example, some students had children who contracted the virus and were hospitalized for many days. Other students lost close family members due to COVID 19-related death and had to travel to plan and attend a funeral for their loved ones.

Economic impact

Perhaps the most significant impact of the pandemic seen among students was the economic impact. With the continuous rise in the cost of living, all students have noted the financial impact of the pandemic. Students pointed out that the "reduction in working hours resulted in the reduction of income." Bosley & Custer⁷ echo our community college students' financial challenges. Whereas some students expressed anxiety about being essential workers, others worked in service professions such as restaurant workers and retail clerks; and therefore were laid off or terminated due to the health and safety restrictions imposed on small businesses. A survey of students in the NALPS division revealed that COVID-19 affected the economic status of our students. As shown in Figure 3, many students indicated a significant change in their economic status due to COVID-19. One student stated, "I work in restaurants, so the pandemic has affected my income significantly". Students pointed out that the "reduction in working hours resulted in the reduction of income." Many students lost their jobs or stopped working to care for their families. Two students reported that they lost their job during the pandemic, while others stopped working to care for their families. Still, other students felt economic strain due to the increased prices for items seen in stores. While some students indicated no change in their income, the switch to remote work proved daunting for some students, given their shared living spaces.

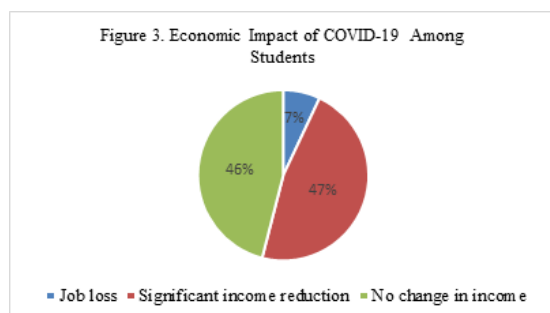


Figure 3 Economic Impact of COVID-19 Among Students.

Psychosocial wellbeing

Faculty perspective

In the response to the faculty survey, a faculty member emphasized "lack of socialization and interaction" among their peers during the pandemic and remote teaching. Another faculty member feared losing their job. The faculty spent several months isolated. Although teaching was online, the engagement with students and other faculty was no substitute for face-to-face meetings. As a result, the faculty has experienced an unprecedented increase in mental health issues, such as depression, anxiety, and hopelessness as shown in Table 1. Because of this, there was a significant need for mental health support. The technology issues that students presented with added to the instructors' stress level. Instructors were not able to successfully help students navigate their tech concerns; thus, they could not thoroughly do their job of educating. Strong leadership and administrative support in terms of providing resources immediately make a significant difference in a crisis such as COVID-19.

Students perspective

Students in the various programs in the NALPS division also experience the psychosocial impact of the COVID-19. For example, respiratory therapy students stated that they felt increased anxiety. Some students noted that the lockdown and the "scarcity of necessities, like water and masks, added to their stress levels." Perhaps the most significant psychosocial impact is the depression that students were feeling. Feelings of depression remain as they reflect on not being able to be with their family member who died from COVID-19. Single parents felt additional anxiety and stress because they "have to miss work with little Paid Time Off (PTO).

Lessons learned

Although the article has the potential to be beneficial to students and the faculty, the authors recognize the potential lessons learned from this experience. As shown and emphasized in Figure 4, one of the biggest lessons learned from the faculty perspective was the importance of future preparedness for unknown breaches in technology or face-to-face instruction. The authors applaud the institution for responding quickly to the instructional needs of the students; however, improvement is still needed. With the importance of technology playing a vital role in the classroom instruction and students' learning, the authors have learned that ongoing faculty training on the use of technology and the different platforms provided by LMS are essential for developing and enhancing teaching strategies that will engage the adult learner. Over the past two years, faculty and students have learned to be flexible with time and expectations due to the many circumstances of the COVID-19 pandemic that has placed on the family and on economic dynamics. Figure 4 underscored that one of the significant problems experienced by both faculty and students reported in this article and elsewhere was mental health concerns. The administrative offices expedited the help to resolve the technical and logistic issues for virtual learning, but little or no help was provided to address the widespread mental health concerns. Figure 4 also highlighted that a comprehensive guideline and a sustainable mental health care setup should be developed by collaborating with experts, clinicians, and service users. The social distancing and stay-at-home measures increased the loneliness, and lack of social interaction posed the added risk of ongoing mental health issues. Further, Figure 4 stressed that resources should be directed to create more virtual platforms such as "meet-and-greet" and "coffee time" to boost the morale and wellbeing of the faculty and students in future pandemic-like calamities.

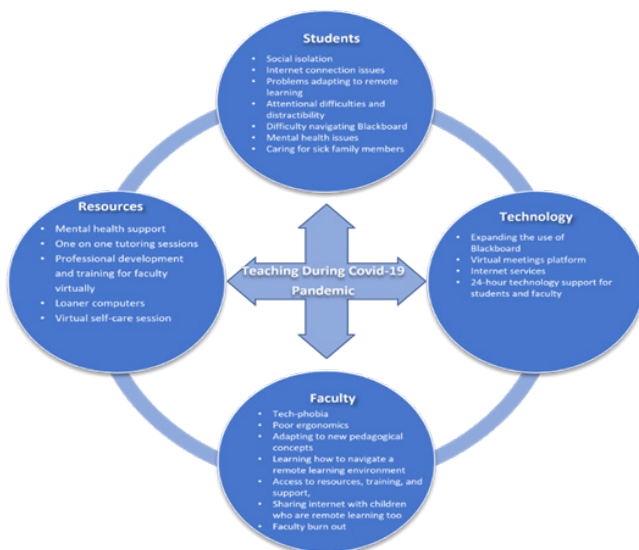


Figure 4 Represents the resources and technology used to alleviate the various factors influencing teaching during the COVID-19 pandemic on faculty and students at UDC-CC.

Recommendations

The most severe impact of COVID-19 pandemic was felt because of lack of preparedness, and delay in accepting the realities of the pandemic by the authorities. Several months before the pandemic struck, the Federal Centers for Disease Control and Prevention (CDC) abilities to promptly address public health emergencies were cut short by downward reorganization, mostly for political reasons.⁸ We recommend that public health surveillance system be continuously optimized, as it used to be before 2019. Tertiary institutions should also focus more on technology advancements that validate online learning systems, which can quickly be adapted at the minimum, to hybrid capability so that platforms can be seamlessly switched during unexpected pandemics or when needed.⁹⁻¹³ To further accomplish this, faculty training to handle these technology enhancements should be assured and functional. Similarly, students should be made familiar with all technology upgrades to the LMS. Finally, mental health services need to be adapted to specifics of pandemic times, with adequate preparedness to tackle challenges brought by similar outbreaks.

Acknowledgments

None.

Conflicts of interest

The authors declare that there is no conflict of interest.

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