

Teaching Student Online and Students' Opinion on its Impact on Learning

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ABSTRACT

Background: Teaching online has always been around; however, because of the Covid-19 pandemic it has certainly increased its popularity. Despite its expended year since 2020, there have only been limited number of published articles that assesses student's opinion on its impact on learning. Therefore, the objective of this study was to evaluate the impact of online teaching on first professional year Howard University College of pharmacy students.

Methods: This study was conducted amongst 44 Howard University College of Pharmacy First Year Students in their Drug Informatics course. The survey was distributed online to all the students enrolled in the course. The survey had a total of 13 survey questions and the data was analyzed using the SPSS statistical software.

Results: A total of 44 students were surveyed with 100 percent response rate majority of the students were female (n=34; 77.3%) while only 22.7% (n=10) were males. Most individuals were from out of state, outside the DMV area (n=19; 43.2%) and have a work experience ((n=42; 95.5%) before joining the pharmacy program at Howard University. The survey revealed that even though most lectures are recorded and available to students, they tend not to miss the live virtual lecture presentations. However, individuals living in other states other than the DMV area where Howard is in, tend to miss less live lectures than those who live in the metropolitan area. Moreover, individuals who have longer years of experience, enjoyed virtual learning comparing to their counterparts. Over two-thirds of the participants were able to establish a good relationship with their classmate and faculty despite the fact most of them never met them in person or face-to-face as a result of the Covid pandemic.

Conclusion: Students, overall, have a positive opinion about the online learning and seems that they are comfortable in the virtual environment. Like any other university in the country, virtual learning has impacted Howard university; however, the outcome of this study is very encouraging to plan future programs virtually.

Introduction

Personal computers, the Internet and of course the infamous Covid 19 pandemic has revolutionized the entire educational sector. Virtual learning has become the new norm as students are unable to gather in classrooms like they did approximately a year ago. The innovations in computer technology are as outstanding

as they are conversant. However, most people are not aware of how computers and Internet technology are renovating the way pupils learn. This promising education exemplar is frequently called "virtual learning", and it has the prospective to mend student attainment, educational access and schools' cost-effectiveness. With Virtual Learning environments (VLEs), the educational

process becomes more flexible, specifically in relations to time. Having access to study material and recorded lectures, students can indubitably align their studies with other plans and activities. Thus, virtual learning has made it simpler to continue your education all while thriving in another aspect of one's life, whether it is fitness, full time or a newborn demanding much time and attention [1]. Moreover, a study was done by Di Xu and S.S. Jaggars [2] using a sizable administrative dataset from a statewide system comprising of 34 community and technical colleges, the authors employed an instrumental variable technique to estimate the impact of online versus in person course delivery on student course performance. Estimates across all model specifications suggest that the online format had a significant negative impact on both course persistence and course grade.

Furthermore, a randomized control trial was conducted to evaluate, "The Impact of Virtual Learning Environment on Students' Satisfaction, Engagement, Recall, and Retention". Consequently, during the study students were instructed to randomly attend one of two teaching sessions about radiation therapy. Both sessions were identical except a VLE was used in the second talk with the first being solely didactic. Anonymous questionnaires were distributed. Two weeks after the teachings, participants were required to complete the same knowledge questionnaire to determine retention [3]. Based on the obtained results, virtual learning does notably improve students' satisfaction/engagement and recall. A sum of 40 pupils attended the lecturing periods. The student group taught using the virtual Learning Environment had greater mean scores for retention than the didactic group; however, this was not statistically significant. Ultimately, there are limited number of studies about the impact of virtual learning. Therefore, the goal of this study is to evaluate the impact of virtual learning on First Year Professional Pharmacy Students at Howard University College of Pharmacy.

Table 1: Demographic Data.

Gender	%
Male	10 (22.7)
Female	34 (77.3)
Age	
18-24	25 (58.1)
25-34	18 (41.9)
State of Residence Prior to admission	
Washington, DC	4 (9.1)
Maryland	12 (27.3)
Virginia	9 (20.5)
Other states	19 (43.2)
Employment Prior to HU Pharmacy Program	
No	2(4.5)
Yes	42(95.5)

Methods

This study was conducted amongst 44 Howard University College of Pharmacy First Year Students as a part of the Drug Informatics course which is a mandatory two-credit hour course for incoming pharmacy students. The survey was distributed virtually to all the first-year professional students enrolled in the course and had a total of 13 survey questions. The data was also rated on a 4-point Likert scale which ranges from strongly agree to strongly disagree. Furthermore, SPSS was utilized to generate the descriptive Analysis.

Results

Based on the demographic data in Table 1 of the surveyed individuals, about one in five of the participants (n=10; 22.7%) were male and the remaining identified as female (n=34; 77.3%). As it regards to age over half of the participants (n=25; 58.1%) were between the age of 18-24 and the other 41.9% (n=18) were between the age of 25-34. Most of the individuals (n=19; 43.2%) lived in other states outside the DC, MD, and VA area. Also, almost everyone (n=42; 95.5%) said they had worked prior to joining the pharmacy program. Annual income was also assessed and over forty percent of the students (n=17; 39.5%) had an annual income less than \$10K and only 18% (n=8) students had an income equal or higher than \$40K. Of those who had prior jobs, about sixty percent of the students (n=27; 62.8%) had pharmacy-related jobs and about one out five (n=9; 20.9%) had a non-pharmacy-related. Only a small number of participants (n=7; 6.3%) have had jobs that are not healthcare related. As it regards to years of experience, about once-third of the participants (n=25; 56%) had 4 years or more of work experience. Students were also surveyed on their highest level of education. Over one-quarter (n=12; 27.3%) had some level of college experience. Whereas over two-third of them (n=30; 69%) had a 4-year or a higher degree.

Annual income from job	%
<\$10K	17(39.5)
\$10K-\$19K	7(16.3)
\$20K-\$29K	3(7.0)
\$30K-\$39K	8(18.6)
\$40K-\$49	3(7.0)
>\$49K	5(11.6)
Type of work Experience	
Pharmacy Related	27(62.8)
Non-Pharmacy Related but healthcare Related	9(20.9)
Non-Pharmacy or Non-Healthcare Related	7(16.3)
Years of Work Experience	
<1	7(15.9)
3-Jan	14(31.8)
5-Apr	11(25)
>5	11(25)
Highest Education Prior to Pharmacy School	
Some College	12(27.3)
2-year Degree	2 (4.5)
4-year Degree	26 (59.1)
Professional Degree	4 (9.1)
Doctorate	0

As shown in Table 2, participants were also asked several questions different from the demographic questions such as, if they students were still able to establish a relationship with the professor during the virtual environment, about two-third (n=27; 62.8%) either strongly agreed or somewhat agreed. Students were also asked if they chose to attend the lectures at their leisure time since most of the lectures are recorded, about sixty percent of them (n=31; 61.4%) preferred to attend the live virtual class. Students were also asked if they were comfortable addressing their concerns in a virtual environment, over half (n=26; 59.1%) say they are comfortable in communicating their concerns. The survey participants were also asked if they enjoyed virtual learning, about two-third (n=27; 61.4%) said they enjoyed the virtual lecture format. Surprisingly, only one-third (n=17; 40.9%) disagreed. One of the key issues with virtual learning is the challenges with

administering examinations and quizzes. However, based on the findings of this study, over sixty percent of students seem prepared for virtual based type of examinations or quizzes (n=28; 63.7%) A Chi Square test of independence was performed to examine the relationship between gender and having lectures being recorded if one is unable to attend class and it shows that significantly more female participants agreed they still attend lectures despite the availability of recorded lectures comparing to the male participants. Students' residence prior to joining the pharmacy program at Howard also have association to the level of attendance of the live online presentation. Students from other states away from Howard seems to prefer attending the live class instead of relying on the recorded lectures. Individuals with more years of work experience also enjoyed virtual learning more than those with less year of experience (Table 3).

Table 2: Frequency survey responses, n=44.

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
I am still able to establish relationships with my colleagues and professors during the virtual environment	8 (18.6%)	19 (44.2 %)	11 (25.6%)	5 (11.6%)
Since most lectures are available on recording, I may not always attend virtual classes.	4 (9.1%)	9 (20.5%)	9 (20.5%)	22 (50%)
I am also comfortable addressing my concerns in a virtual an environment	9 (20.5%)	17 (38.6%)	14 (31.8%)	4 (9.1%)
I enjoy virtual learning as a first pharmacy student	11 (25 %)	16 (36.4 %)	7 (15.9%)	10 (22.7%)
I feel adequately prepared for virtually administered exams and quizzes.	8 (18.2%)	20 (45.5%)	13 (29.5 %)	3 (6.8%)

Table 3: Effect of demographic characteristics on virtual learning.

	Strongly Agree/Somewhat agree	Strongly Disagree/somewhat Disagree.	p-Value
Since most lectures are available on recordings, I may not always attend virtual classes.			
· Female	7 (16.3%)	11 (25.6%)	0.041
· Male	6 (14%)	19 (44.2%)	
Since most lectures are available on recordings, I may not always attend virtual classes.			
· DC	0 (0%)	4 (9.1%)	0.029
· MD	7 (15.9%)	5 (11.3%)	
· VA	3 (6.8%)	6 (13.7%)	
· Other States	3 (6.8%)	6 (36.3%)	
I enjoy virtual learning as a first-year pharmacy student			
· <1yr	5 (11.4%)	2 (4.5%)	0.019
· 1-3 yr	4 (9%)	10 (22.8%)	
· 4-5 yr>	9 (20.45%)	2 (4.6%)	
· 5yr	9 (20.4%)	2 (4.5%)	

Discussion

Some may argue that virtual learning is a blessing in disguise, life changing might be stretch however, we have to face the reality that this may be our new normal for the next few years until the infamous Covid 19 virus has ran its complete course or until everyone in the world is completely vaccinated and protected from all the new variants. Making virtual learning work for all student can be quite challenging. Thus, some questions that have arisen with virtual learning, questioning whether it is equivalent to learning in the classroom, does it have the same value? Nonetheless, although these queries are relevant, there are other substantial concerns. The objective of this study was to evaluate the impact of virtual learning on first year pharmacy school students at Howard University College of Pharmacy. When students were asked the question of, since most the lectures are being recorded one may not always attend virtual classes, a vast majority of the students disagreed. Surprisingly, one would think that if the lectures are being recorded sometimes students may want to sleep in but the first-year students still attend their scheduled classes. One might argue that there are some benefits of attending live lectures. Live lectures allow the students to interact with the professor and receive instant feedback on concepts that need clarification. Having the lectures recorded also has its benefits as well, as it helps with comprehension as the student can reduce the speed and re-watch as much as possible and it gives flexibility and convenience.

In a study done by Topale L4, a survey was conducted using a convenience sample that consisted of 27 closed ended multiple choice and only 1 open ended question. The survey was devised to explore students' acuties of how recorded lectures affected participation and impacted their learning and to furthermore comprehend how recorded lectures enabled a tactical, active learning course. Findings showed that recorded lectures had

minute effect on students' decisions to partake. Furthermore, when students were asked these same questions, since most the lectures are being recorded one may not always attend virtual classes. Surprisingly, individuals living in other states strongly agreed. From the results, it seems that students who live outside of the DMV area and who are not so close to the campus benefit the most as they do not have to travel or be away from family and loved ones. One may argue that pre-pandemic students had to worry about housing, travel expenses and sometimes homesickness. Maybe quarantining at home isn't so bad. Intuitively, students having the comfort of learning in their own home is quite unmatched. There is absolute something about not being confined in the [4] walls of a classroom and sitting around in your favorite coffee shop or even at your local library. Being in a virtually environment gives students a plethora of benefits.

Additionally, students were asked if they've worked prior to attending Howard and how many years. Subsequently, they were asked if they enjoyed virtual learning as a first-year pharmacy student. Individuals who worked for roughly 4-5 years 20.45% strongly agreed while for first year pharmacy students that worked longer years agreed that they do enjoy virtual learning probably because they can work more hours at their respective jobs and earn more money while attending online school. While working full time or even parttime and attending pharmacy school, it can be quite challenging nevertheless, with the right balance and scheduling it is certainly achievable. Working while attending Pharmacy school undeniably has its doles. Students are able to take advantage of the employee benefits such as the health insurance, the Howard university college of pharmacy insurance covers most medical issues but not all, having a secondary insurance helps to cover some medical cost. Additionally, some employer does reimburse their employees for taking classes while working for them. Moreover, Students are able to gain real world skills. The pharmacy field

is fairly competitive thus, this will help to set us apart. Lastly, working while in pharmacy schools helps to create and maintain a professional mindset. As, working while in a PhD program requires discipline, commitment and proper time management [5].

It was also discovered that students were still able to connect with their professor even though they have never met in person before and that they still felt comfortable addressing their concerns in the virtual environment. Furthermore, through all this student expressed that felt adequately prepared for exams and quizzes. The limitations of the study are that the study was conducted amongst a small population of student only 44 participants. Similarly, it was conducted amongst one school which was Howard university College of Pharmacy. Also, the survey only consisted of only 13 questions that evaluated the students on virtual learn but they were not thorough enough to achieve a deeper perspective. Additionally, the survey only assessed first year pharmacy students thus, extending it to second year professional students and third year professional students would have helped to strengthen the study. Lastly, the first-year students never had face-face classes they only know virtual learning so there is nothing to compare it to.

Conclusion

Virtual learning has certainly impacted Howard university College of Pharmacy first year students and students do have a

positive opinion on virtual learning. Students who completed the survey said they were still able to establish meaningful relationships with their professors even though they have never met. Majority of the students still attended class on time even though the lectures are being recorded. First year students also confirmed that they are comfortable addressing concerns virtually as well and that they do feel adequately prepared for exams and quizzes. Whilst virtual learning has been around for quite some time, since the pandemic it has revolutionized the educational sector. Virtual learning offers flexibility and convenience. Virtual learning offers balance for some while supporting personalized learning experience.

References

1. (2011) What is "virtual learning"? Mackinac.org.
2. Xu D, Jaggars SS (2013) The impact of online learning on students' course outcomes: Evidence from a large community and technical college system. *Econ Educ Rev* 37: 46-57.
3. Ryan E, Poole C (2019) Impact of virtual learning environment on students' satisfaction, engagement, recall, and retention. *J Med Imaging Radiat Sci* 50(3): 408-415.
4. Topale L (2016) The strategic use of lecture recordings to facilitate an active and self-directed learning approach. *BMC Med Educ* 16(1): 201.
5. (2018) Staff Writers. Expert tips for working full-time and going to college. Learnhowtobecome.org.

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