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### COVID-19 Impact on Radiology Students' Distance Learning (Summer 2021)

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# COVID-19 Impact on Radiology Students' Distance Learning

Mary Lee, Jason Chan, Cherylann Jackson-Holmes, Renzo Marmolejo

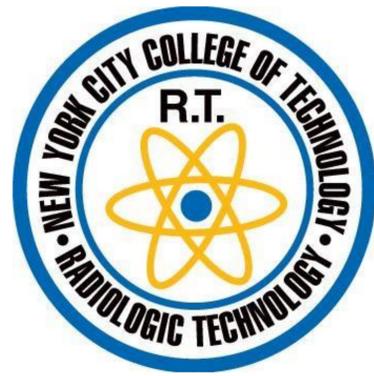
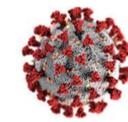
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## Abstract

The Radiological Technology students have adjusted from the urgent distance learning that was enacted in the Spring of 2020, to the hybrid distance learning that is currently in place. This hybrid distance learning is the same way the incoming class of radiological technology students were taught. Both cohorts of students were tracked over the year by online anonymous surveys. We wanted to know how students were adapting to distance learning, if their focus and motivation varied over the course of the year due to changing pandemic conditions. For the students that were working, what impact did it have on their studies? What impact did the fear of catching COVID-19 from the clinical sites during the Fall Semester have on the Senior cohort? As the number of COVID-19 cases rose over the winter, students' fear of clinical rotations were revealed, as well as the possibility of cancelled laboratories and clinical rotations. We inquired if students were aware of or took advantage of various resources such as financial assistance or mental health services to help with personal situations. We also tracked what students missed over the course of the year with distance learning. When the COVID-19 vaccine was made available in early 2021, we asked students if they would take the vaccine or opt out and their reasons. Lastly, we inquired if students suffered from learning loss due to hybrid distance learning and whether the pandemic changes how they view their future, including whether they wanted to pursue other degrees or modalities.

## Introduction

The Class of 2022 started their Rad Tech program in a hybrid model, with decreased access to critical school resources. They had to adjust without the mentoring of their upperclassmen. The Rad Tech program model allowed the Seniors to help the Juniors every year, except this past year. The Class of 2021 used a hybrid model after being forced into emergency distance learning in March of 2020.

The modifications to the program via distance learning should still allow the Juniors to obtain the necessary skills and knowledge to start their clinical rotations in Spring 2021. Clinical performance as well as the Juniors timely ability to complete their competencies will show how well the professors prepared the students. Challenges facing students include unstable internet connections, financial burdens due to lost work, time management, as well as the difficulty to focus while learning online (Amir, 2020).

## Methodology

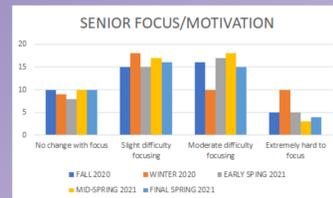
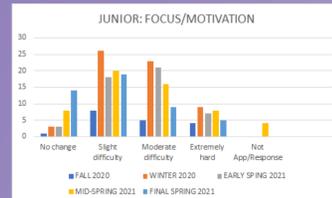
1st and 2nd year radiological students took an online survey created on Google Forms, five times over the course of the 2020-2021 school year. Surveys were distributed by email, Blackboard via professors, during clinical, in class web chats, and during Zoom classes. All surveys are anonymous to allow the students the ability to voice their opinions. The survey uses a Likert type scale to measure their concerns and thoughts with distance learning. Factors, such as being a caregiver, working status and specific motivation factors and didactic issues were assessed per student cohort. Vaccination rates, cultural competence and learning loss are other factors that are measured in the surveys.

## Results

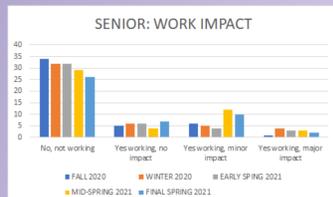
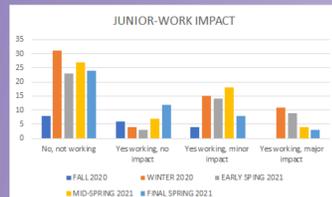
Numerical data is exported to Microsoft Excel for basic data analysis and chart formation. Pie charts are exported from Google Forms. Average survey completion is 75% per cohort except for the first survey for the Juniors.

The Excel charts follow the responses over the course of the 2020-2021 academic year. The pie charts reflect last Spring 2021 survey responses from Google

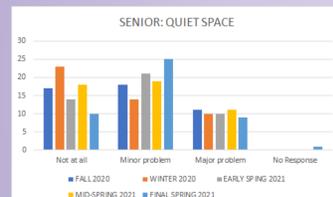
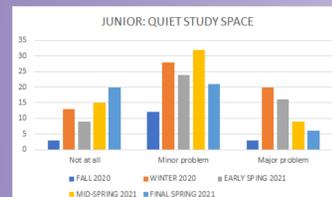
## Results Continued



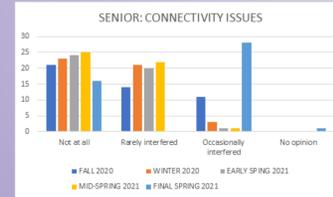
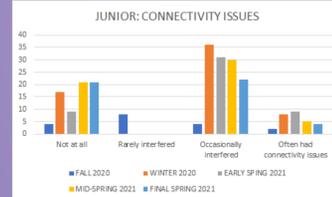
The results showed that a higher percentage of both Juniors and Seniors experienced a slight to moderate difficulty staying focused/motivated with distance learning over the course of the school year.



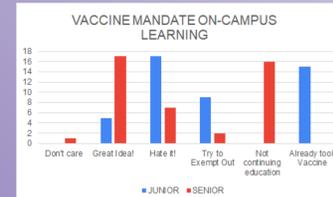
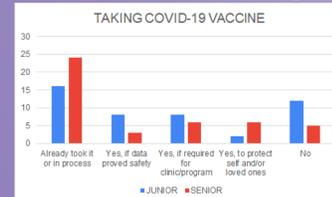
The Junior students working experienced more impact than the Seniors under distance learning over the course of the school year.



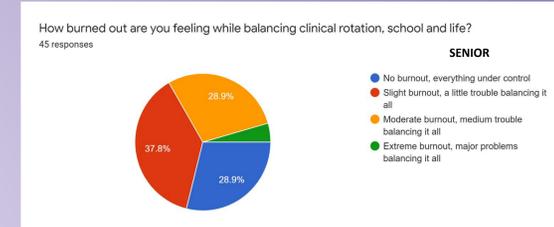
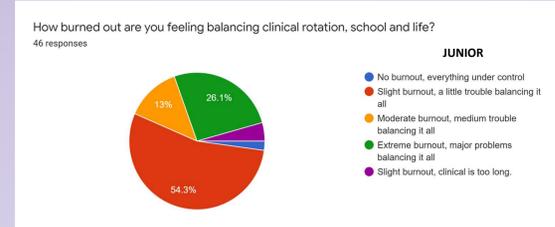
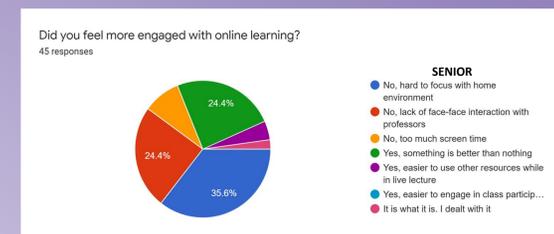
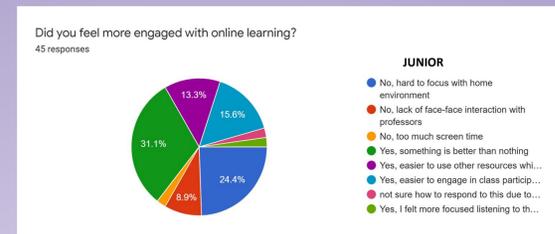
Both the Juniors and Seniors encountered issues finding a quiet study space, but the Seniors had much more difficulty during their final semester.



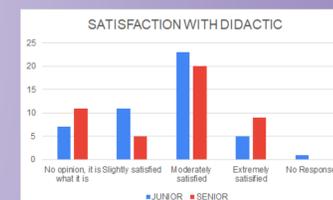
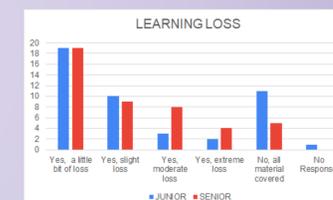
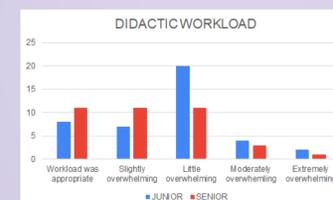
The Juniors experienced a higher percent of internet connectivity issues than the Seniors, but the Seniors experienced significantly more connectivity issues during their final semester.



The majority of students would take the COVID-19 vaccine, but more Juniors are against the mandated vaccine for in-person learning.



The majority of Seniors were less engaged in online learning compared to the Juniors. Also, a significant portion of Juniors experienced slight to extreme levels of burnout compared to the Seniors.



Although both cohorts had varying opinions on the didactic workload, the majority of them were moderately satisfied with it and experienced minor loss of academic skills and knowledge over the course of the school year.

## Conclusion

Surveying the students presents a challenge since classes are online and it's hard to gauge how your fellow classmates are doing when you only see them in class pods or in clinic pods. Based on satisfaction levels, the online learning was essential at the current time but isn't the most effective alternative for the Rad Tech students (Dutta, 2021).

The research will continue with the Class of 2021 and the incoming Class of 2022. The pandemic situation is still in flux and with new variants of the COVID-19 virus spreading, it is hard to say what model the educational system will follow.

## References

- Amir, L. R., Tanti, I., Maharani, D. A., Wimardhani, Y. S., Julia, V., Sulijaya, B., & Puspitawati, R. (2020). Student perspective of classroom and distance learning during COVID-19 pandemic in the undergraduate dental study program Universitas Indonesia. *BMC Medical Education*, 20(1), 392-392. <https://doi.org/10.1186/s12909-020-02312-0>
- Dutta, S., Ambwani, S., Lal, H., Ram, K., Mishra, G., Kumar, T., & Varthya, S. B. (2021). The Satisfaction Level of Undergraduate Medical and Nursing Students Regarding Distant Preclinical and Clinical Teaching Amidst COVID-19 Across India. *Advances in Medical Education and Practice*, 12, 113-122. <https://doi.org/10.2147/AMEP.S290142>