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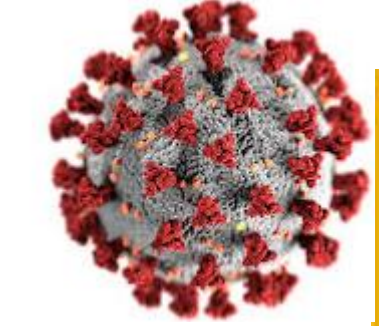
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COVID-19 Impact on Radiology Students' Distance Learning

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

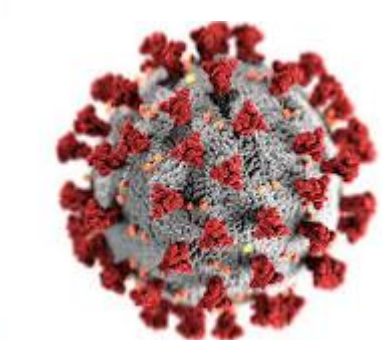
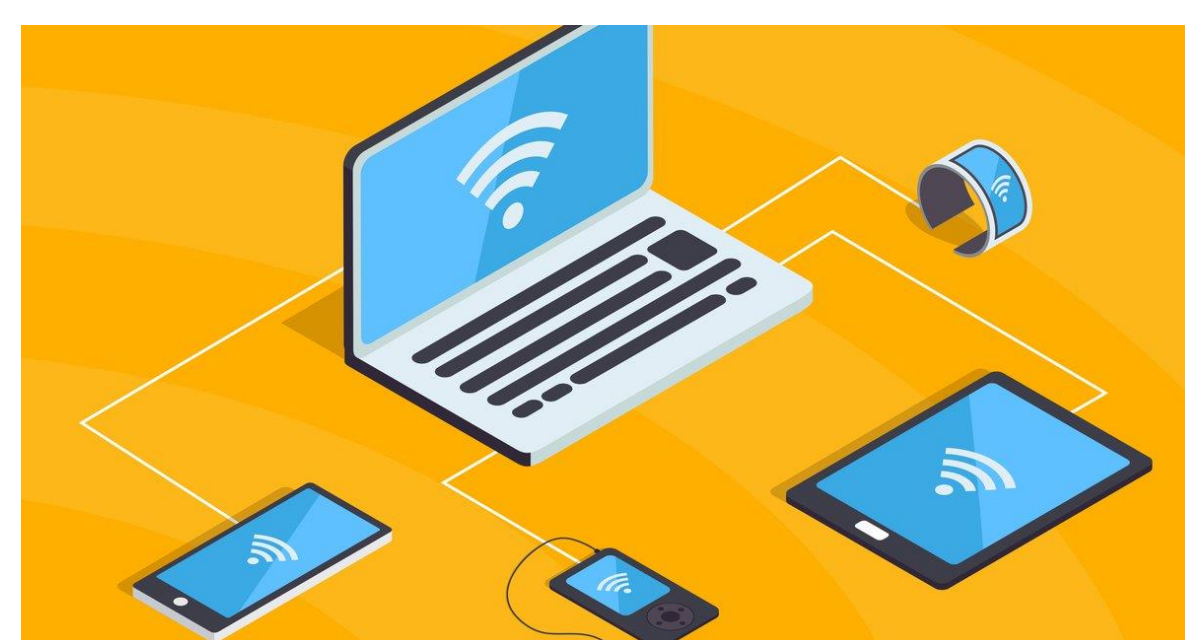
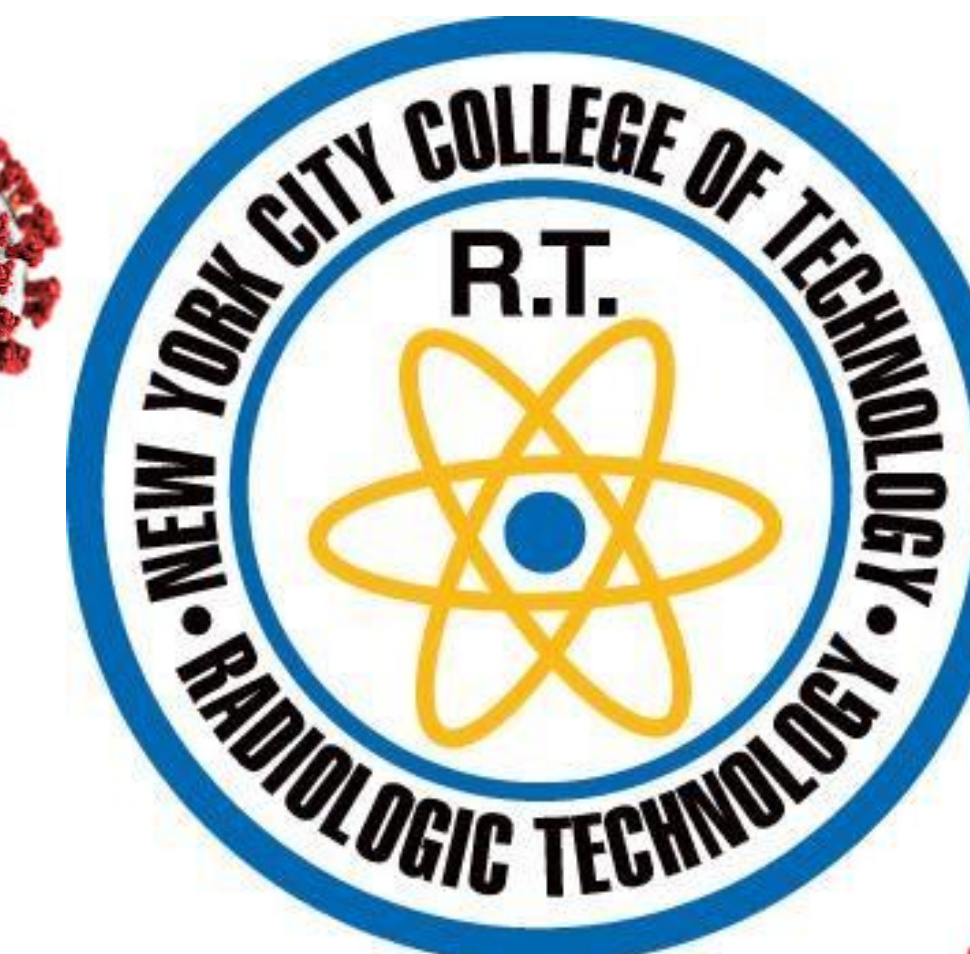
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Introduction

As COVID-19 continues to batter the healthcare system, the education system is working hard to fulfilling their teaching missions. Every level of education is impacted and its effects are most keenly felt in disciplines that weigh heavily on hand-on components, such as health care programs.

The Radiology program is divided into trimesters during the two-year program. Currently, the first year is online learning with modified laboratory components to comply with social distance regulations, as well as reduced open laboratory hours (Hassan, 2020). The junior students have already been placed into their clinical sites in preparation for their second semester, where they will be on site, twice a week with DL.

First-year students will be introduced to the science of Radiologic Technology and the different components to creating an acceptable x-ray. The third semester of each year is a five day a week summer clinical rotation for 7 and 5 weeks, respectively. The second-year students are at clinical rotations, three days a week and two days of DL work. In this phase, emphasis is placed on clinical competency and preparation for the American Registry of Radiologic Technology exam, following their final summer clinical rotation.

Methodology

First and second year radiological students were emailed an online survey created on Google Forms, at the beginning of the Fall 2020 semester and another one after mid-semester exams. Another survey will be sent to inquire about the end of the Fall semester and asking questions leading into the spring semester concerns. 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 issues were assessed per student cohort. Numerical data is exported to Microsoft Excel for analysis and chart formation. First set of surveys, 73% completion out of 63 seniors and 29% out of 61 juniors. Mid-semester survey, 76% senior completion and 100% for junior completion.

Images of the mid-semester surveys filled out by the students, questions will vary based on the cohort and reflects key concerns of the students, regarding DL and clinical rotations.

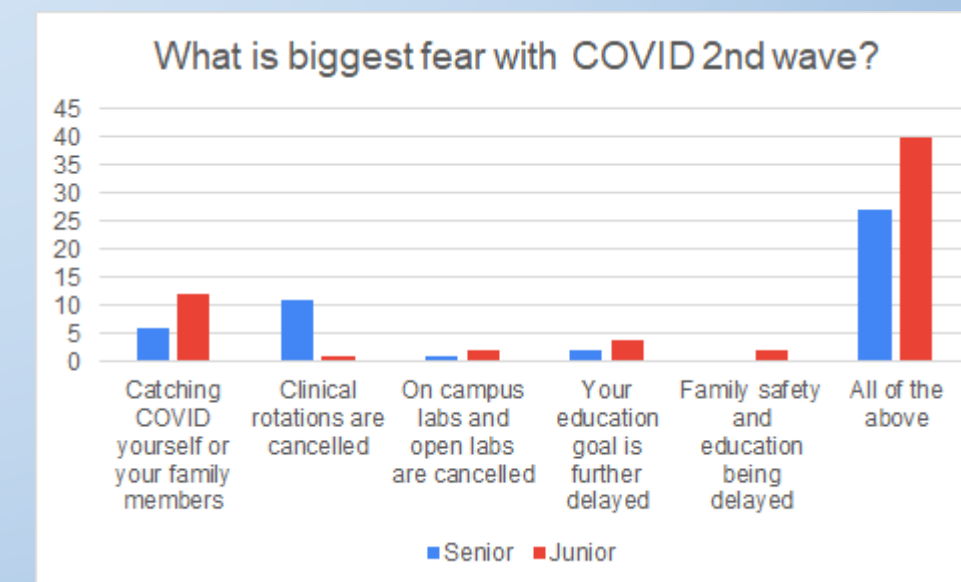
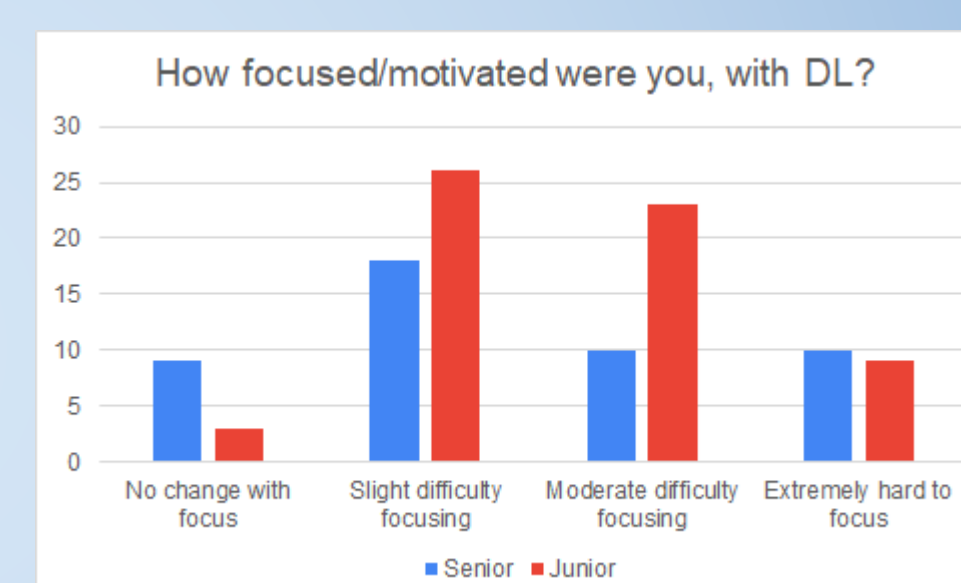
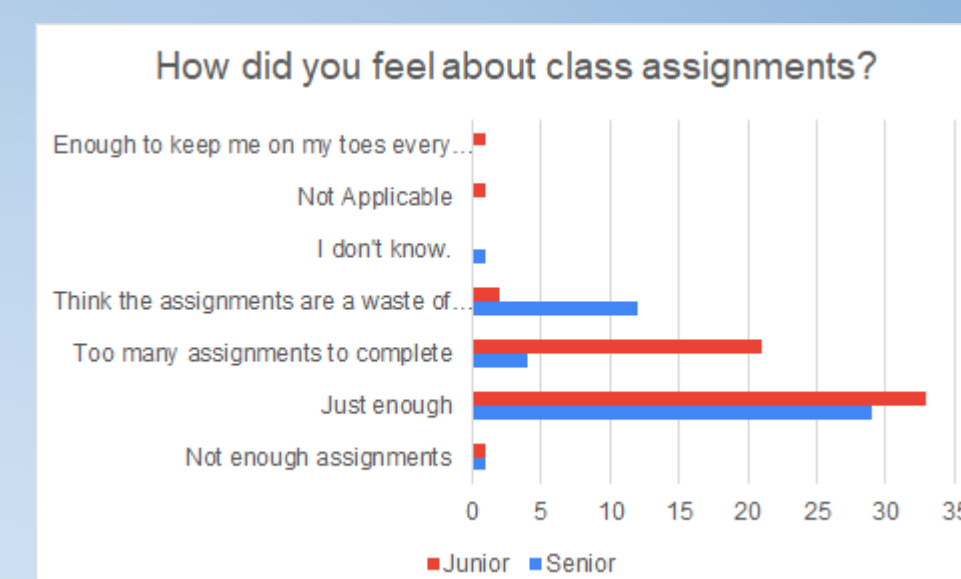
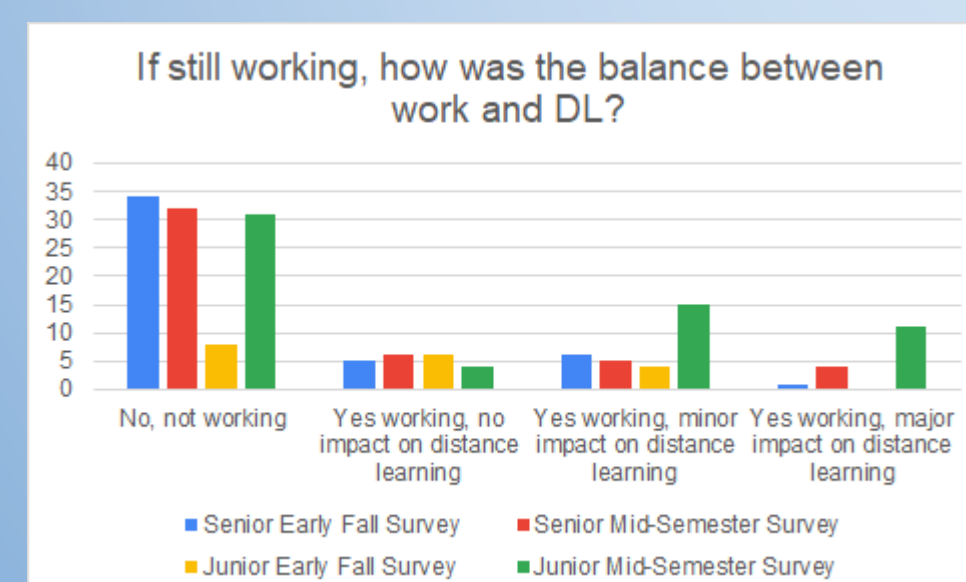
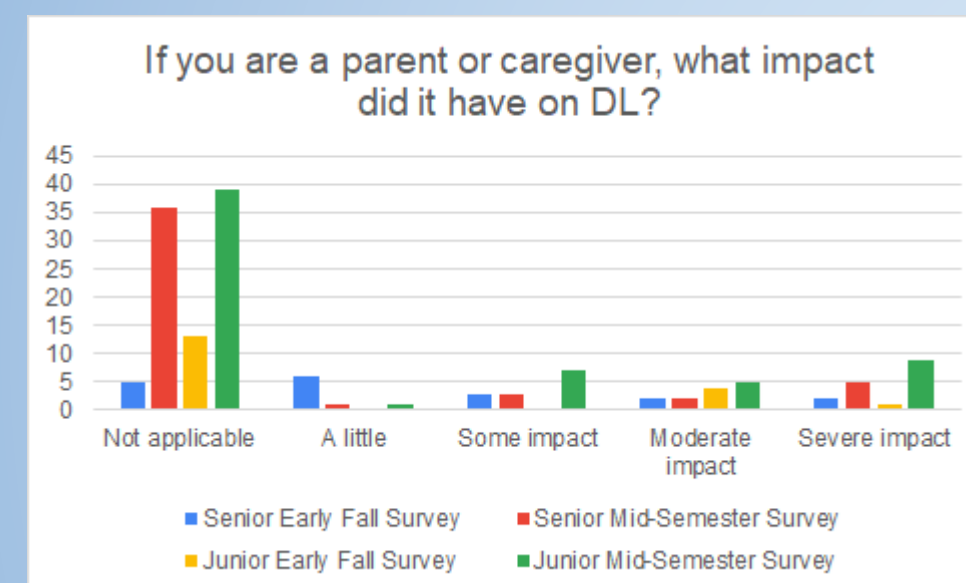
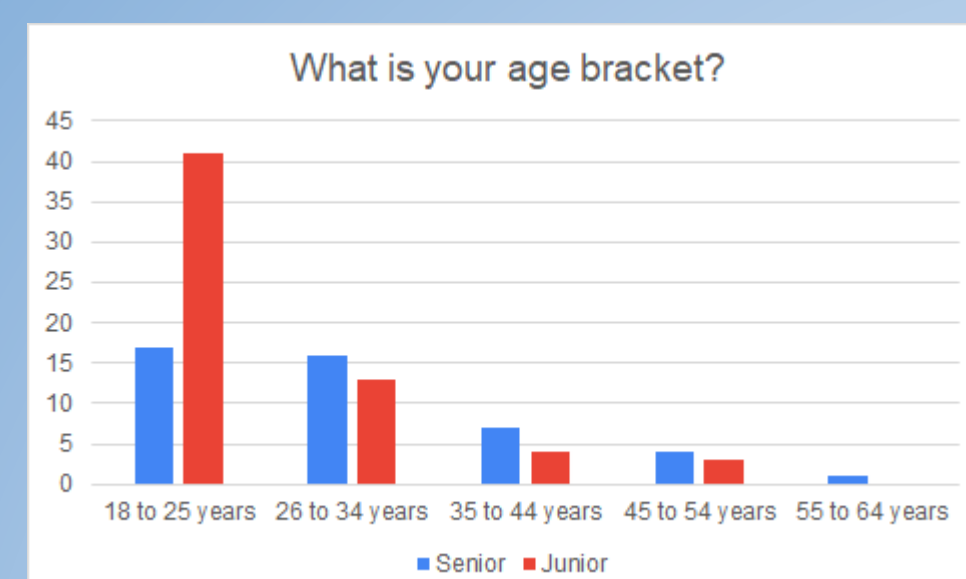
Abstract

Distance learning (DL) is a teaching tool that offers education to students remotely in various locations (Ruiz, 2006). The increase in distance learning education is evident in all types of educational programs including those in Radiologic Sciences. DL education programs are expected to comply with all standards just as traditional programs are (Aaron, 2015). With traditional class settings, knowledge is taught at a given time and day and is structured in terms of course development and attendance. It does not factor in the domestic and familial responsibilities of the students outside the classroom walls or the effects of a worldwide pandemic.

Radiological Technology education is active with DL for the current semester and looks to continue with DL into the Spring semester. What happens to Radiological Technological education when the COVID-19 pandemic continues with no visible end in sight. Laboratories and clinical rotations are still open and ongoing, respectively but based on rising infections could stop at any moment. With the distribution of online surveys, we are continuing to evaluate the effects that distance learning, modified laboratory schedules and increased positive COVID-19 cases at their clinical sites. We will look into the efficiency of course material distribution to prepare the junior students for clinical rotations and the current students for their licensing exam. We will also compare the emotional, mental and physical well-being of the students over the course of the current school year.

Results

The success of Radiological Technology students with distance learning will depend on their ability to cope with external factors such as working status or being a caregiver. Having adequate resources for DL and even the stress of contracting COVID during clinical rotations may impact how students learn.

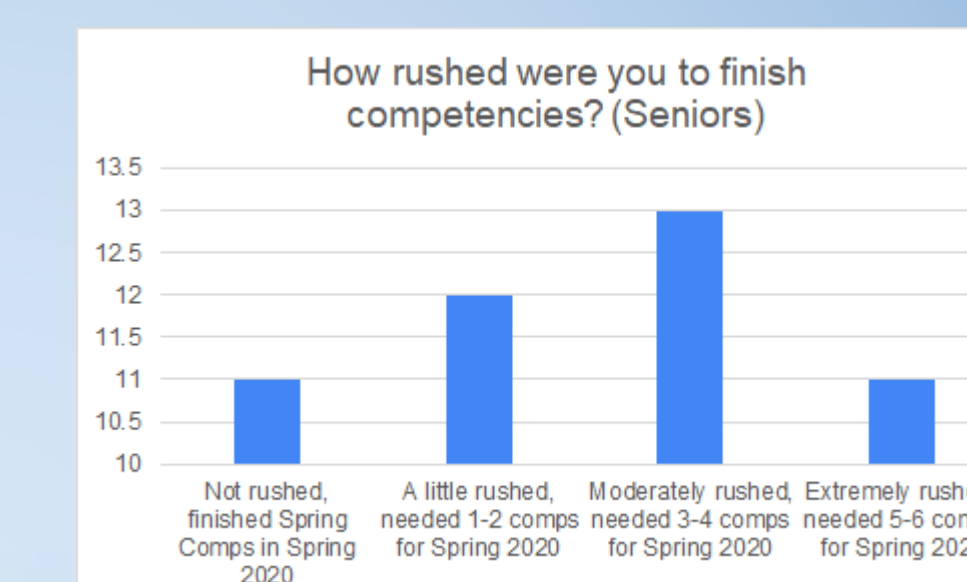
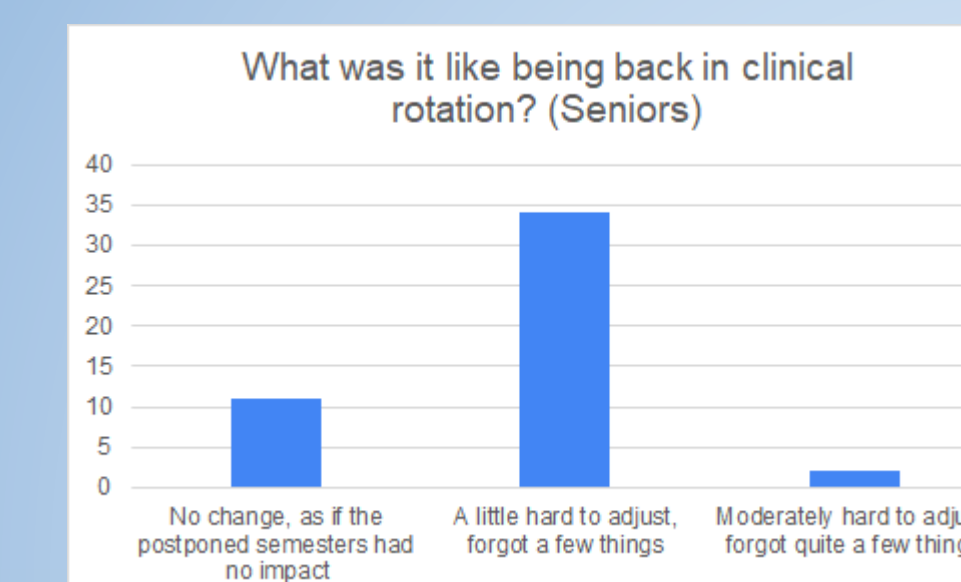
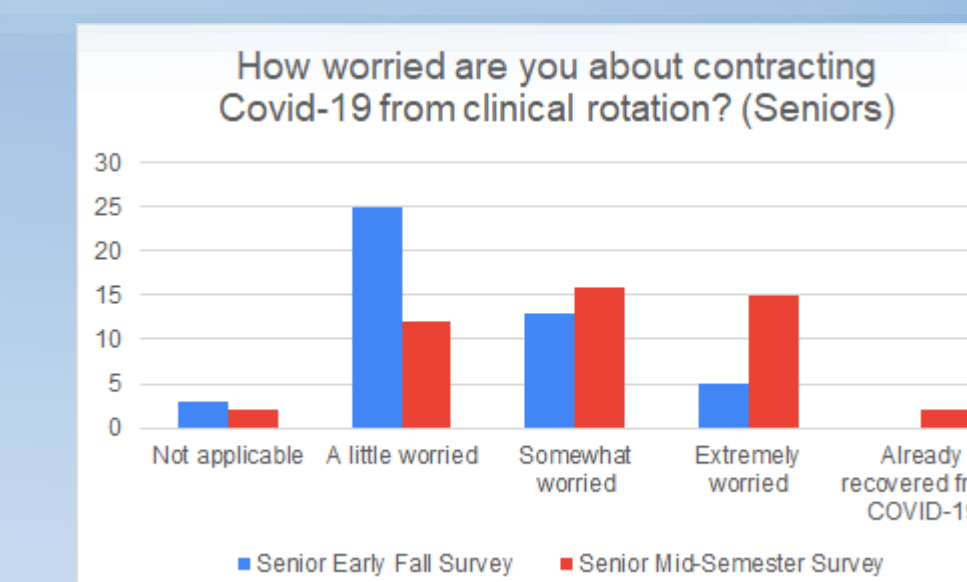
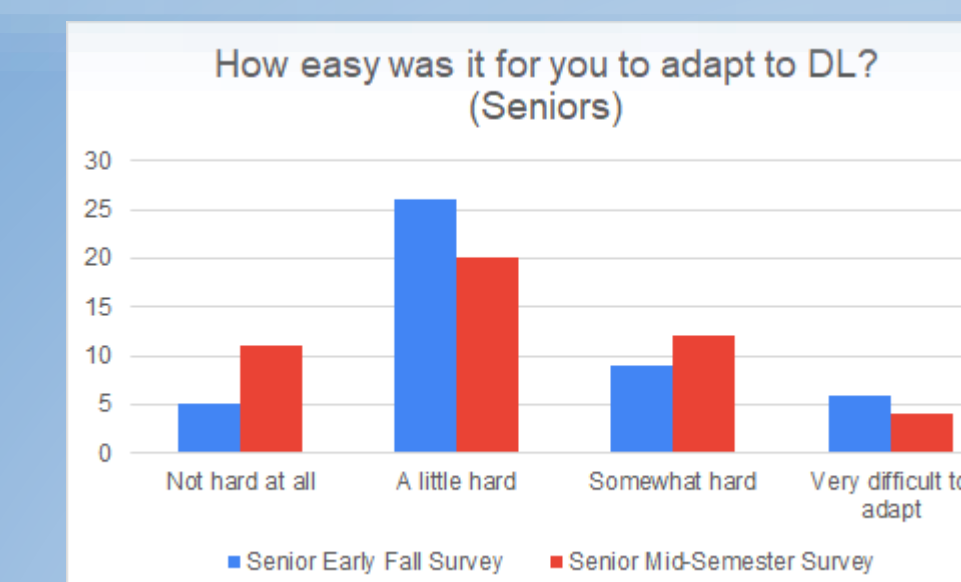


Student age correlates with working and caregiving responsibilities. Younger students may not need to work and may have less familial concerns in comparison to older students.

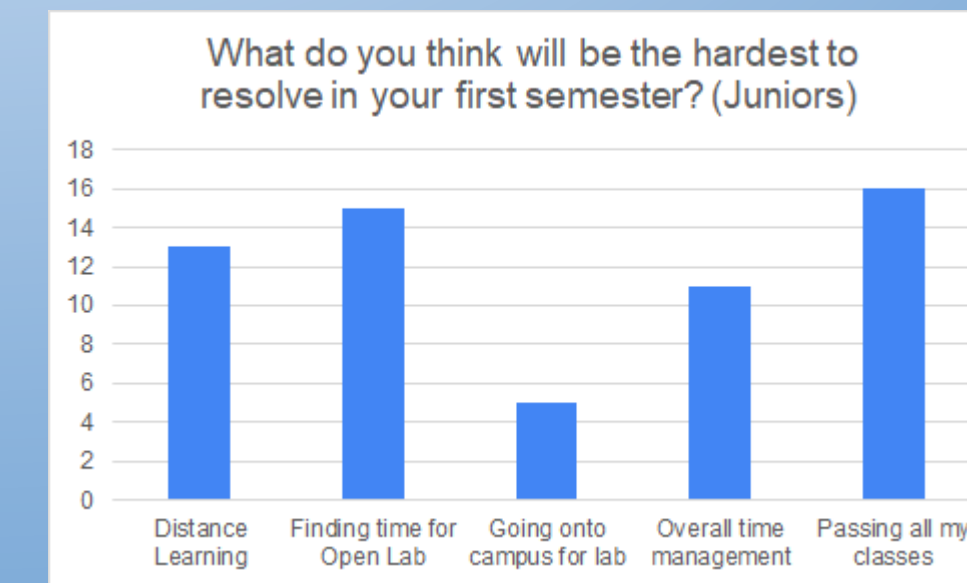
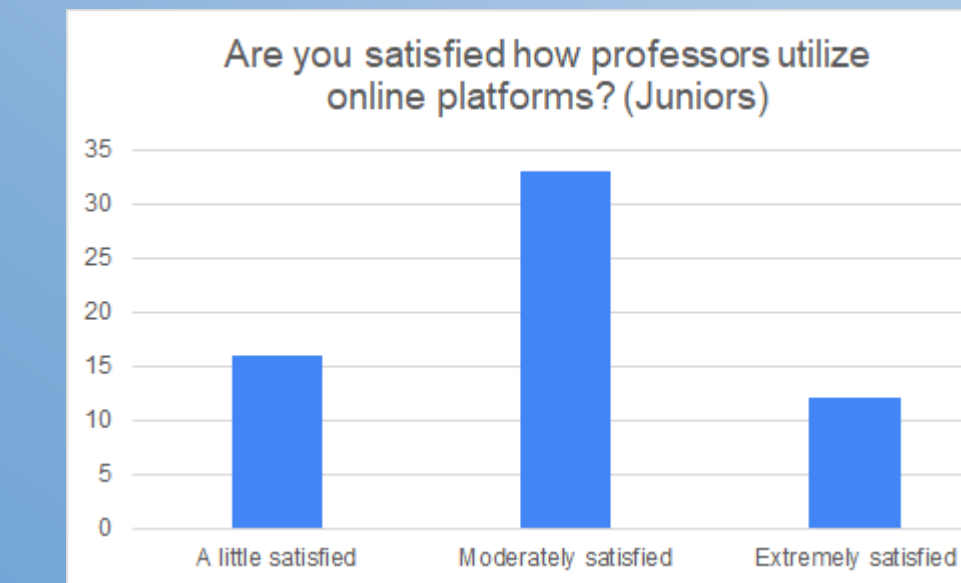
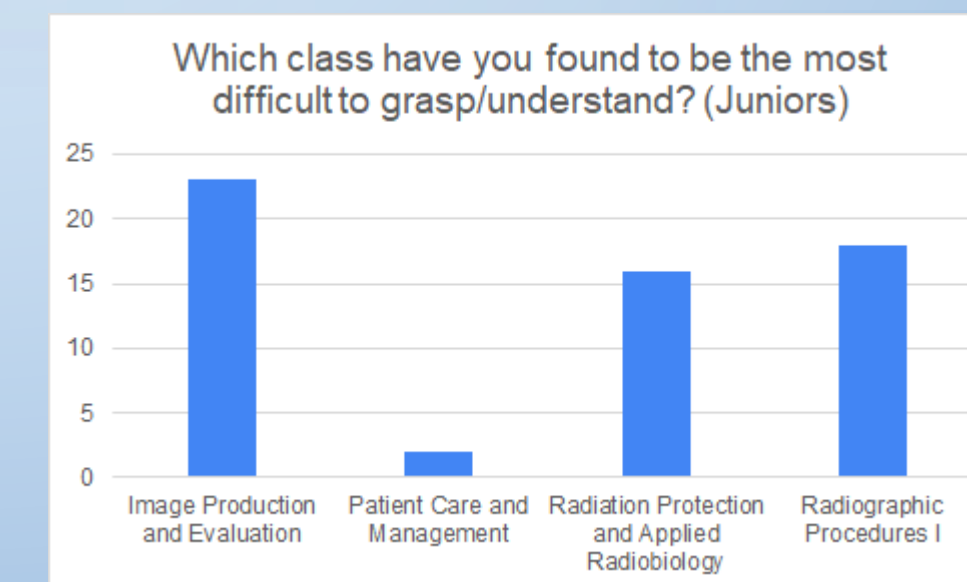
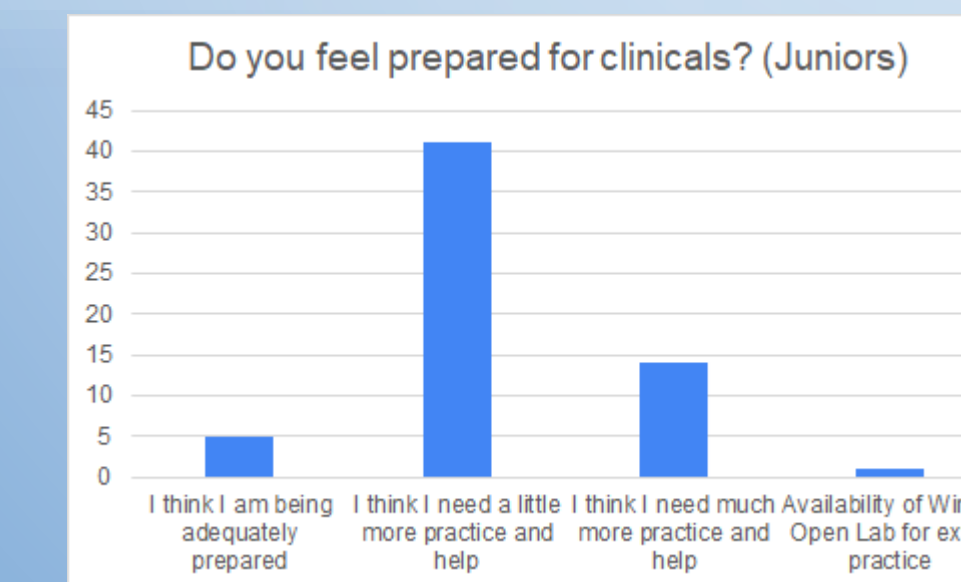
Students have varying opinions on the assignments and different degrees on motivation to study according to mid-semester survey. Many are fearful of what could happen in 2nd COVID wave.

Results continued

The seniors had concerns with finishing incompleting competencies from the previous Spring semester, plus an increased worry of contracting COVID-19 during clinicals.



The junior have concerns for the coming clinicals, in addition, to navigating the new didactic environment with modified labs and intense distance learning curriculums.



Conclusion

The mode of curriculum delivery does not change the goal and the quality of the program is maintained (Aaron, 2015). What changes are the students' perceptions and how to understand the material when the classroom is your home. There are differences between the two years as the juniors are focused on learning the basics in preparation for clinical rotation while the seniors are focused on competencies and preparing for the licensing exam after their final summer clinical rotation in 2021. We will continue to survey the students and monitor how the students are adapting to the current educational environment under the COVID-19 umbrella.

References

- Aaron, Laura. (2015) Distance Education Standards. *Radiation Therapist*, 24 (2), 220-222.
- Hassan, F., Vinokur, Z., & Lee, M. (2020). Correlation of Open Lab X and Students' Final Grades. Retrieved June 29, 2020, from https://academicworks.cuny.edu/ny_pubs/493/
- Ruiz, J. G., Mintzer, M. J., & Leipzig, R. M. (2006). The impact of E-learning in medical education. *Academic medicine: Journal of the Association of American Medical Colleges*, 81 (3), 207-212. <https://doi.org/10.1097/00001888-200603000-00002>