

Olivia Lattanzi
Megan McCool
Nick Boggiano

Transitioning During COVID-19: Student Perspectives

Table of Contents

WPI Global Response	3
Did WPI Make the Right Decision?	6
Quality of Online Education	7
Impact of Learning Style	9
WPI Experiences Lost	12
Moving Forward	13

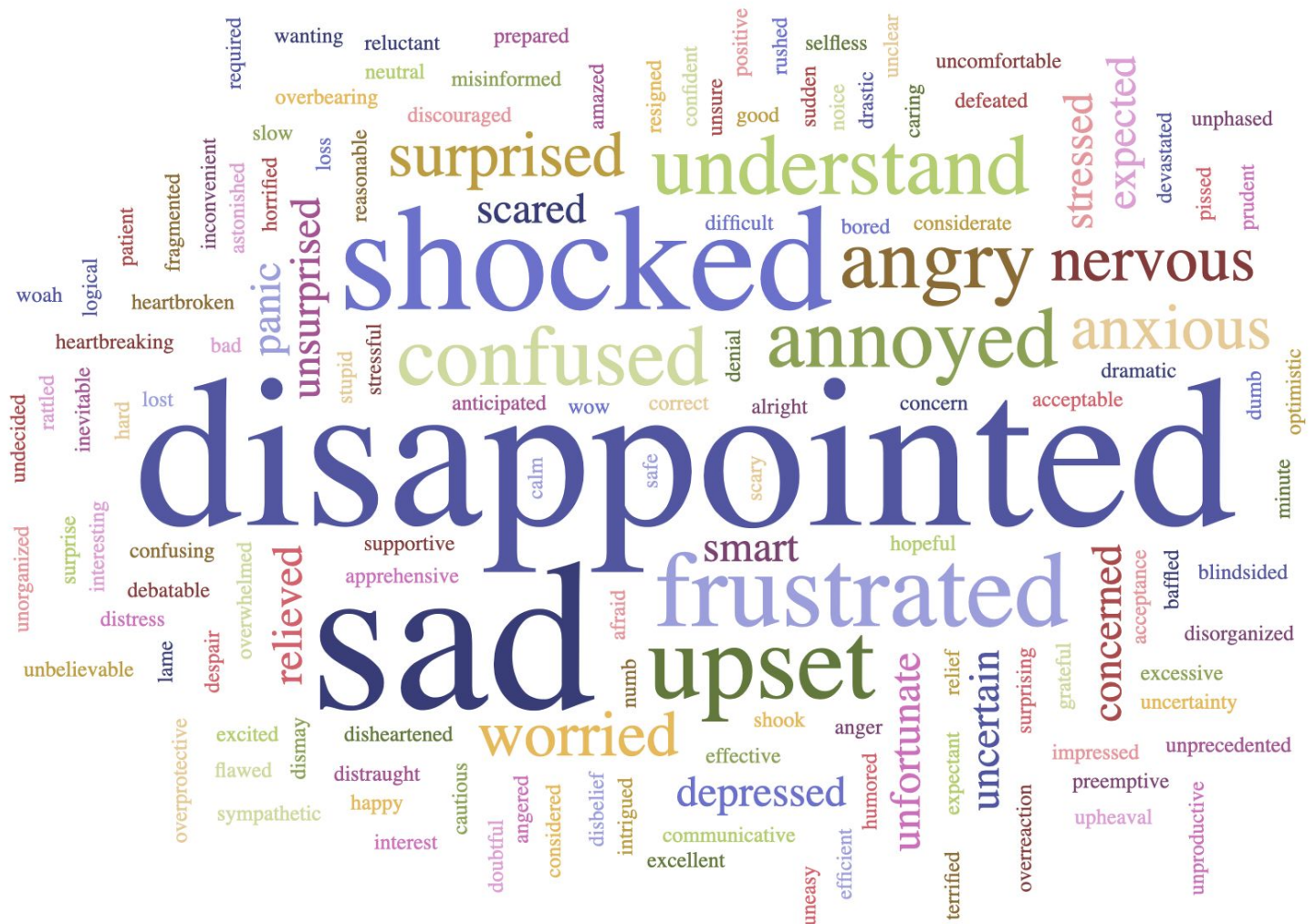
The Coronavirus Pandemic and Higher Education

The 2020 breakout of COVID-19 has forced universities to modify their classes to an online format in the span of only a couple weeks. Due to the suddenness of these changes, students have adapted their expectations of academics, living arrangements, and financial situations. This has had to occur nearly synchronously with the time at which decisions are made.

This booklet supplements our IQP report in analyzing survey responses of students at WPI, and interviews of students at other schools in New England. Our goal is to provide a comprehensive look at the student experience in higher education during this pandemic.



WPI students describe how they felt initially about university decisions made due to COVID-19.



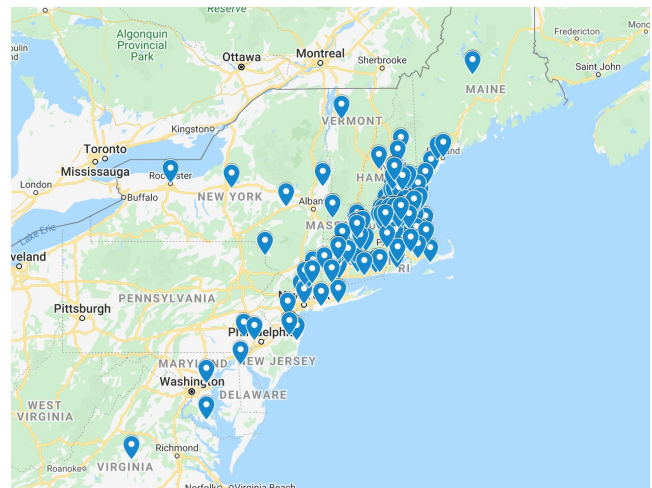
“Being at home provides a very different environment than being at school. I see a distinct negative change in my productivity and motivation levels, although I am actively adjusting and improving in that area. Being at school provides the best environment to facilitate my learning.”

-WPI Class of 2023
Biochemistry Student

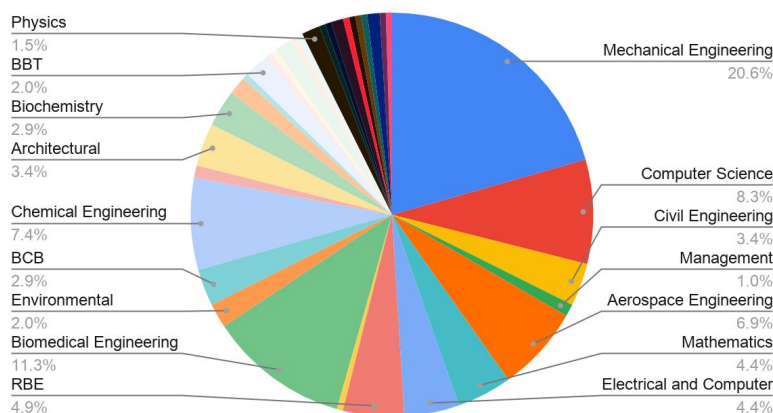
Global WPI Response During COVID-19



International programs being canceled didn't hinder our group's ability to understand the coronavirus from a global perspective. We collected data from nearly 300 WPI undergraduate students across the world on how they have adjusted to online learning and an absence of campus life. 35 unique majors were represented. Of that group, 20.6% were Mechanical Engineering majors, understandably so as that is what 18% of WPI undergraduates study. Biomedical Engineering and Computer Science majors followed, at 11.3% and 8.3% respectively.



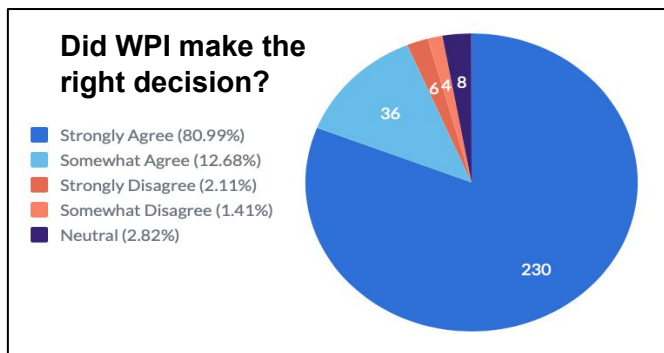
Majors Of Respondents



“*I want to be angry but I can't. Most of the current situation is no one's fault and I'm not just going to pick someone to be mad at for reasons that are unfair. A disease doesn't care if you're angry.”*

-WPI Class of 2022
Physics and ME Student

Did WPI make the correct decision? 94% of students agree, with 81% strongly agreeing. Regardless, some students took issue with how updates were made to the WPI community.



“WPI did what it needed to do for all things COVID. What WPI did wrong, in my opinion, was prepare the students for possible decisions being made and then the initial follow up with resources... Since a lot of the emails had to be information based, they forgot to be compassionate and emotional at first and didn't advertise resources like the SDCC until later,” a Mathematics student from the class of 2020 expressed.

The frustration that many students feel is hard to reconcile with due to their understanding of the situation and its complexities. Everyone must find ways to transition into this new normal.

Challenges are faced by students and faculty alike. As there is no precedent for this sort of crisis situation, lots of unpredictability with learning online results. “I feel like I never know what is going on. I wake up every day to a slew of emails with all the day's work which is really frustrating because I have to change and adapt my plans so frequently just to cope,” a Biomedical Engineering student from the class of 2022 said.

This sentiment is not unique to WPI alone. Students across many schools are facing similar issues in learning online. An Elementary Education student from the class of 2020 at St. Anselm says she faces an “extreme lack of motivation”, alongside discrepancies in instructor expectations. “It's kind of hard for some professors to adapt to the changes because some want to give you more work and some will give you less,” she said.

As for the quality of education online, 82% of students disagree in some way that it is the same online as in person, with nearly 50% of respondents strongly disagreeing. A leading reason for this opinion can be attributed to the structure of classes. With laboratory courses in particular, while it was acknowledged that there may not be a better way to present these courses remotely, the online format takes out most of the hands-on components that define them. Seeing the labs done in video format may help the students understand concepts, but several other major components of completing a lab, including failure as a learning tool, are lost.

“Taking a chem lab is very interesting and unfortunate in these conditions. I wanted more lab experience since I'm not particularly great at lab work and I don't get it this term,” a Bioinformatics and Computational Biology (BCB) student from the class of 2022 wrote.

Is the quality of education the same online as in-person?



A class of 2021 student at UMass Lowell has also seen this scaling down of lab courses. Studying Exercise Physiology, her courses are inherently hands-on. What used to be quite rigorous assignments now only require an hour out of her week, she said. “In a lab, you have to do certain exercises and go through certain things. Online, we're just teaching ourselves. It's not the same. I've had lab practicals that we would have to study day in and day out for and now we just don't have them.”

Regular lecture style courses are also impacted by the change in format, having taken many different forms depending on instructor experience and comfortability with online technology. This has ranged from Zoom lectures that take place synchronously, to recorded explanations of concepts, leaving students to their own devices when it comes to managing their work and keeping up with the pace of the course.

“ I really want this experience to lay to rest the idea that online classes are an equivalent substitute to in person learning. I think that online learning works for my non-major specific classes that I am taking just to get over with, but online classes do not work for classes I want to really engage with or more advanced major-specific classes that require more engagement than an introductory course does.”

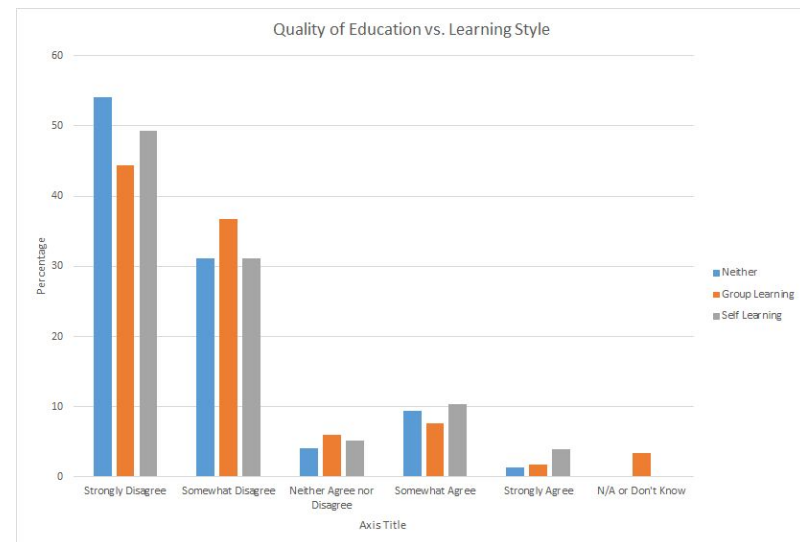
-WPI Mathematics Student
Class of 2021

What impact does learning style have on the student transition?

“They did the right thing by making us all leave but also, online classes don't work as well and they should have just clarified that no one should have the expectation that it's going to be as good or as rigorous,” a junior at Emerson College said, studying Theater Design and Technology. When asked about his transition online he said, “I definitely don't like online learning. I'd like listening and taking notes and not needing a whole lot of in person interaction. Usually during classes I didn't ask too many questions... It's not the worst, but also it would be a lot better to have that in person connection. It's just easier to focus and understand things overall.”

This student also identified himself as a self-learner, primarily working independently. Still, the change in environment has been a challenge to maneuver in setting his own schedule. Based on the data collected from WPI students, it is clear that there is an understanding across the board that the quality of

education is less, even if some students were likely going to have minimal interactions with their peers and instructors to begin with.



A 5th year biology student at Northeastern University cited much of her motivation coming explicitly from her peers, which adds another challenge on top of everything else to online learning: “It's harder because you don't have your classmates and your teachers. You don't have as much interaction and support of ‘you should be doing this’ because people care about how much effort you put into it. Now I don't see a single one of them... People are tired and stressed and don't know how to put effort in.”



Learning style, personality, and life experiences explain why some students may be at more of a disadvantage in an online setting over others.

The discrepancies in how students perceive the situation based on their own sources of motivation is no coincidence. There are many theories on learning, cognitive, and thinking styles that show how they are uniquely crafted based on a student's heredity, life experiences, and the influence of personality.

The theory of interest for our group as we spoke to students amidst the coronavirus pandemic was Witkin's theory of field independence and dependence. This theory is able to determine how apt an individual is in restructuring information based on particular cues and field arrangement. Witkin himself was one of the most cited psychologists of the 20th century, and one of the first to identify and study how personality reveals itself through the ways in which an individual perceives their environment.

Field-independent learners perceive objects as separate from their environment, imposing their own values and personal structures on situations. They set self-defined goals and often opt to work alone. They can process information more efficiently due to their narrow focus, but may miss a wider social context. They are motivated from within and do not rely on reinforcements from others in achieving their goals.

Field-dependent learners interact with their environments in a vastly different way, relying on the environment itself to give clues about an object. They prefer a provided structure, define their goals externally, and prefer to work with others. Class discussions and group work generally cater to the preferences of field-dependents.

Researchers have recently applied the implications of Witkin's work, which also covers racial and gender differences, to an online setting. The strengths of field-independent learners tend to be favored in an online setting, as their confidence and efficiency allows them to better navigate new technologies and environments.



“I hate how much I need to rely on a computer.”

-WPI Psychology Student
Class of 2020

One of the most significant drawbacks of online learning for field-dependent students is the lack of interaction and perceived support from their instructors. As they work better in groups and in an environment that fosters relationships, online education can be jarring.

Instructors must acknowledge these differences between students, as teaching style is also influenced by learning style. Field-dependent learners will need greater assistance outside formal class time if a professor uses field-independent techniques in their teaching. This would include the general lecture format, with a learning environment that is impersonal and lacks discussion or interaction.

Students at WPI have had mixed reactions to how well professors have adapted to online learning during the COVID-19 pandemic. “I have found that teachers have not adapted well to this change,” a Biomedical

Engineering student from the class of 2022 said. “There seems to be two types of teachers: ones that are lax and don’t prescribe as much work because things are online, or those that prescribe more work because we have more ‘free time’. I completely disagree with the notion that I have more free time, as I have to take a lot more time managing other things.”

Students are generally frustrated when professors assume they can assign more work and hold longer lectures while at home, and have an understanding of how their own preferences impact their success online.

“My learning styles relies heavily on bouncing ideas off people, which is increasingly difficult when learning remotely.”

“I focus better and I learn better in person, and I miss my friends who would help me study.”

“I am more of a traditional learner and I really value being able to interact with my professors and going to their office hours... My professors have been good at responding to emails but it still doesn't replace going to lecture and interacting with them in person.”

“As a very social person, I usually rely on friends and classmates to keep my spirits up and interact with in person.” -Various WPI Students



WPI Experiences Lost - Seniors and Projects

Nearly 30% of respondents were members of the class of 2020, with many describing how disheartening it is to not spend their last term on campus. *“I feel like I am not getting my money’s worth, and am disappointed to lose the end of my senior year,”* a Biology student wrote.

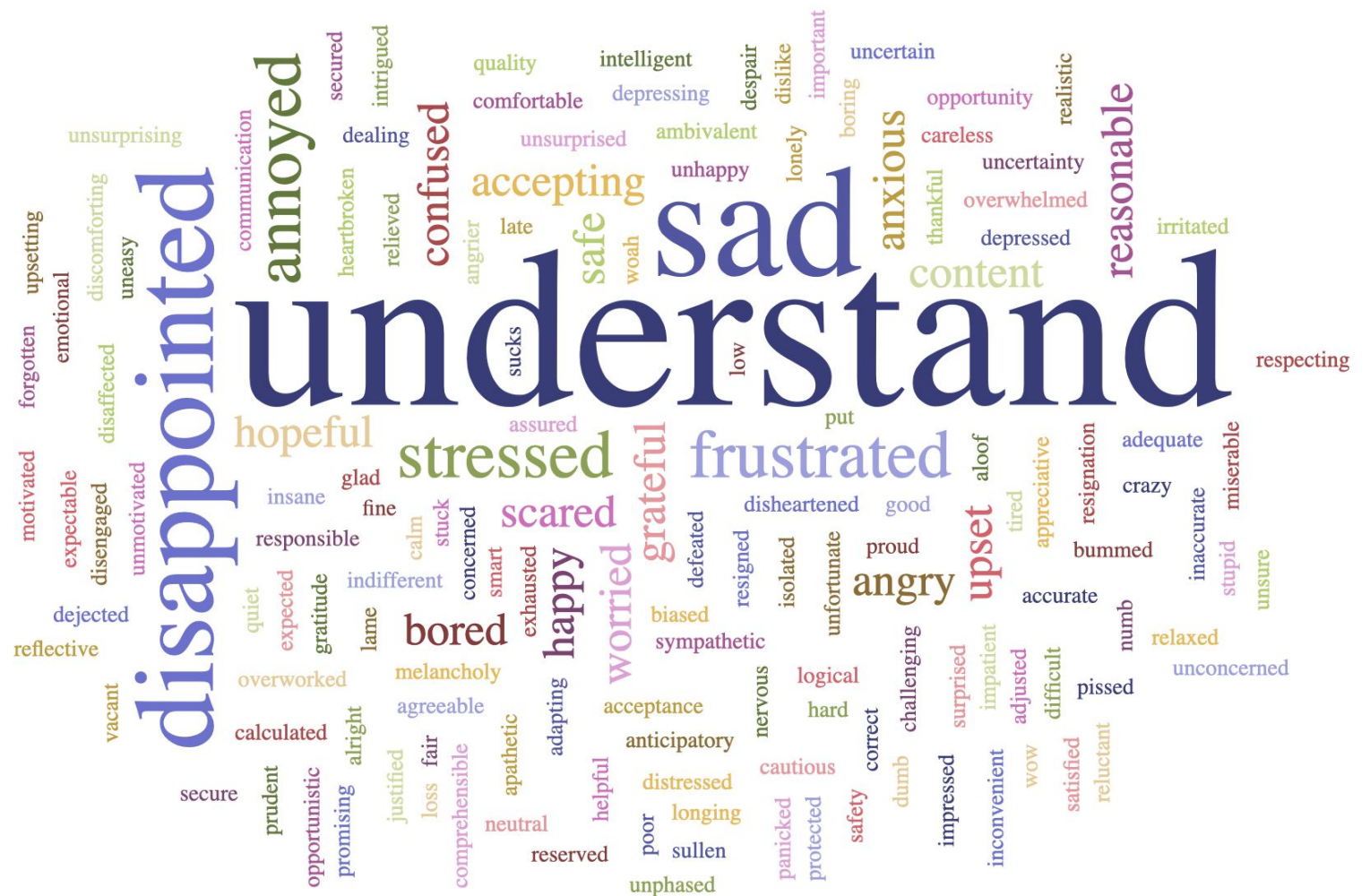
Another student, studying Civil Engineering, appreciated the efforts made to have a fulfilling end of year, even if their own expectations may need to be adjusted:

“I know WPI did everything it could for its seniors and I appreciate the work that has been done and being done to give us a commencement ceremony. Unfortunately, the reality is that what is done cannot replicate the expectations and hopes we all had for our final term at WPI. I will always be grateful for the 3.75 years I did have on campus.”

Loss of campus life has manifested in numerous ways for all students, whether it be the canceling of an international program, club competitions, theatrical performances, or capstone research experiences. “While staying home is definitely the safe decision right now, abroad IQP is one of the main reasons I came to WPI and I don’t know how I’ll ever make up that experience,” a Society, Technology, and Policy student from the class of 2021 wrote. “It’s not the school or anyone’s fault, but it’s still saddening to think about the fact that the global project program for IQP was one of the big reasons I wanted to come WPI, and now I’m never going to actually get to participate in it.”



Students describe how they felt a couple weeks later, now that they've had time to reflect on WPI's decisions and the situation.



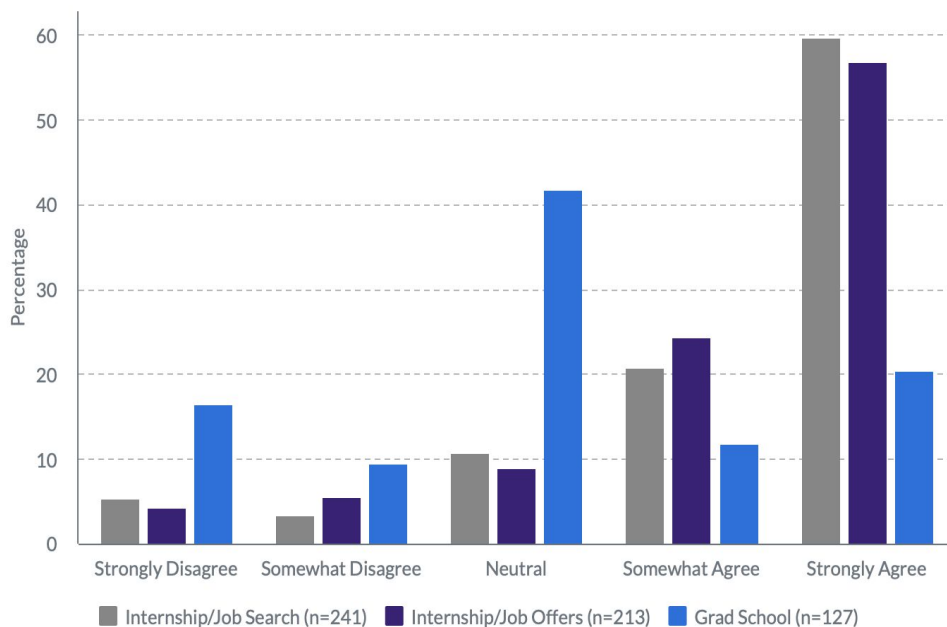
“Will I get to move back to Massachusetts in August? Will I actually get to work at my summer job? ... All of the unknowns are very stressful to deal with right now.”

-WPI Civil and Environmental Engineering Student Class of 2022

There is speculation from students and faculty alike on what the state of WPI work will be this fall. Many are skeptical of international projects going abroad, or even having campus function at full capacity. By this time, any changes that occur will likely not be a surprise to those working in higher education.

Moving forward, there are still many uncertainties on how life will go back to “normal”, and what that will actually look like, following COVID-19. Students have expressed their anxieties about how their future work and careers are inevitably impacted.

What is certain is that the current work of WPI students investigating COVID-19, the faculty who have transitioned courses, and the school administrations who made decisions to reduce the spread of disease, will not have gone to waste. This work has further prepared universities to tackle the challenges a transition back to “normal” will bring. Students and faculty continuing to make their work as meaningful as possible, even in these circumstances, has shed a light on the resilience of those in times of crisis.



Are any of the following future endeavors impacted by COVID-19?

References

- Anderson, J., & Adams, M. (1992). Acknowledging the learning styles of diverse student populations: Implications for instructional design. In L. L. Border, & N. Van Note Chism (Eds.), *New directions for teaching and learning* (pp. 19-33). San Francisco, CA: Jossey-Bass Publishers, Inc.
- DeTure, M. (2004). Cognitive style and self-efficacy: Predicting student success in online distance education. *American Journal of Distance Education*, 18(1), 21-38.
- Haaken, J. (1988). *Field dependence research: A historical analysis of a psychological construct*. University of Chicago Press.
- Leshin, L. (2020). Important COVID-19 update: D-term delayed; classes online; travel cancelled. Retrieved from <https://www.wpi.edu/news/announcements/important-covid-19-update-d-term-delayed-classes-online-travel-cancelled>
- Mestre, L. (2006). *Accommodating diverse learning styles in an online environment*. American Library Association.
- Secon, H., & Woodward, A. (2020). A map of the US cities and states under lockdown — and those that are reopening. Retrieved from <https://www.businessinsider.com/us-map-stay-at-home-orders-lockdowns-2020-3>
- Witkin, H. A., & Goodenough, D. R. (1977). *Field dependence and interpersonal behavior*. US: American Psychological Association.
doi:10.1037/0033-2909.84.4.661
- WPI Office of Institutional Research. (2019). *Primary major enrollment of all students in fall 2019..* Retrieved from https://public.tableau.com/profile/wpi.institutional.research#!/vizhome/Enrollment_15718046316670/Story1



WPI

*Our complete project report can be found at
www.sites.google.com/view/covidst*

*For more information about the projects program at WPI, please see
<https://www.wpi.edu/project-based-learning/global-project-program>*