

Analyzing Community Building Among First-Year Students at WPI During the COVID-19 Pandemic in the Fall of 2020

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Report Submitted to:

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Abstract

COVID-19 has fundamentally changed nearly all aspects of our daily lives. Higher education institutions have experienced some of the most drastic changes. We analyzed changes in the first-year student experience at WPI by conducting focus groups, identifying key findings, and distributing surveys. We found that safety guidelines have limited spontaneous social interactions and that students find non-academic interactions meaningful to the college experience. We recommend increasing opportunities to interact such as cross-dorm activities, major-specific events, and creating casual online spaces to connect.

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Glossary

Terms:

A-Term - A term is the first of four seven-week terms in an academic year at WPI, beginning in late August and ending in mid-October.

Asynchronous - A course that offers teaching to students via uploaded videos and assignments rather than face to face interaction. Asynchronous learning provides a lot of flexibility to students' schedules but does not offer the real time teaching that can be given either in person or in real time lectures.

Canvas – a course management system that supports online learning and teaching. It allows professors to post grades, information, and assignments online.

Community Advisor (CA) - a student who plans and leads social events and educational programs for the insight group they advise.

De-Densify - to reduce the capacity of spaces; on the academic side of the house, this could include reducing face-to-face class sizes, mandating in-class physical distancing, offering online or hybrid courses, and changing class schedules to stagger start and end times.

D-Term - The last of the four seven-week terms in an academic year at WPI, typically beginning in mid-March and running to the end of April or early May.

Gap year - typically a yearlong break taken before or after college during which students engage in various educational or development activities

Hybrid classes - The course will provide a blended experience —face-to-face meetings *and* online classes—for students on campus while assuring that remote students have full access to content. The details will vary by course, but one example has online lectures with scheduled small-group meetings with faculty and teaching assistants on campus. In another example, the faculty will divide their students into cohorts and hold face-to-face meetings with one cohort while the other cohort participates online.

Insight Advisor - faculty or staff member who meets regularly with your group in a social setting to provide academic guidance.

Insight Team - a group of students and advisors who will help first-year students to adjust to college life and get acquainted with everything WPI has to offer.

In-person - The course *has a required on-campus component*. Students who do not plan to come to campus will not be able to complete these courses in the fall terms. Most courses in this category have a lab component that cannot be completed away from campus.

Online-classes - The course will be *fully online with no face-to-face meetings* on campus. These classes are accessible to all students, on-campus and remote. Some will have scheduled meeting times (online) and we will work to ensure that students have access across all time zones.

Remote classes - Remote classes are those that do not meet in a traditional classroom setting, where the students and instructors are physically separated. Classwork and information are relayed online, either synchronously or asynchronously.

Resident Advisor (RA) - a student who lives in your residence hall that will help first-year students with any personal concerns and promote policy awareness.

Senior Community Advisor (SCA) - serves as a valuable resource for new and returning CAs. Senior Community Advisors assist WPI administrators with planning and facilitating numerous parts of Community Advisor training.

Social Distancing - The practice of maintaining a safe distance between yourself and other people who do not share a living space with you.

Synchronous - A course that offers teaching to students via online, real time lectures. Synchronous learning is more similar to typical classroom learning and many students prefer it as they find it easier to focus on.

Teaching Assistant - A student, usually a graduate student, who holds office hours and assists professors with running the class.

TechFlex - TechFlex is WPI's reworking of teaching and learning to support online, in-person, and hybrid classes while maintaining WPI's distinctive teaching style.

TechSync - TechSync is an online resource that WPI uses to centralize information about campus activities. On TechSync, students can find campus events and organizations, as well as track their involvement in both.

Zoom - a video communications app that provides videotelephony and online chat services through a cloud-based peer-to-peer software platform and is used for teleconferencing, telecommuting, distance education, and social relations.

Executive Summary

January 20, 2020 marked the first case of COVID-19 in the United States, beginning what would become a worldwide pandemic that has continued to affect the world months later. The rapid spread of the deadly pathogen forced the world to quickly adapt in an attempt to control the spread. In the United States, businesses and public places shut down for months and many people lost their jobs. As the number of new cases slowed, the United States eased into a new mode of living, slowly transitioning back to normal activities with additional safety restrictions. With the virus still lingering through the summer, schools had to decide how they would run the start of the new school year. Many decided to completely transition to an online learning environment while others tried to allow students to return to campus in the fall.

Worcester Polytechnic Institute (WPI) decided to open as scheduled; however, the learning environment would be greatly changed. WPI offered classes in person, online, or a combination of both, allowing students the flexibility to do what made the most sense for them; however, for those returning to campus, strict safety regulations were put in place to ensure everyone's safety. Weekly testing, limited social contact, and wearing masks were effective at keeping the virus at bay. In-person social events and parties were banned with the possibility of removal from campus. While necessary, these restrictions significantly hindered students' ability to socialize and make new connections. This was especially detrimental to first-year students who are new to campus and are anxious to make new friends.

Our project focused on understanding the sense of community felt by first-year students at WPI. We partnered with the WPI Undergraduate Studies Office to gather opinions from first-year students to help us understand their experience as new students during the age of COVID-19. Our aim was to understand how the "new normal" is affecting first-year students' ability to meet people and integrate into the WPI community, both academically and non-academically. The goal of our project was to highlight areas for improvement related to increasing the sense of community formed during the first-year student experience at WPI

We completed the following four objectives to reach our goal.

- 1. Gather first-year students' and student leaders' opinions, insights, and examples of their experiences forming community and integrating into the WPI community
- 2. Identify common themes and areas for improvement and growth within the first-year experience
- 3. Survey first-year students on proposed changes and specific preferences regarding community integration
- 4. Form recommendations to the WPI Undergraduate Studies Office

Methodology

Figure i outlines the steps we took to complete our objectives. The blue boxes represent our objectives, the yellow diamonds represent the steps, and the green boxes represent our outcomes. These steps and outcomes culminate in our deliverable: a set of recommendations to the WPI Undergraduate Studies Office on how to make the first-year student experience as positive as possible.

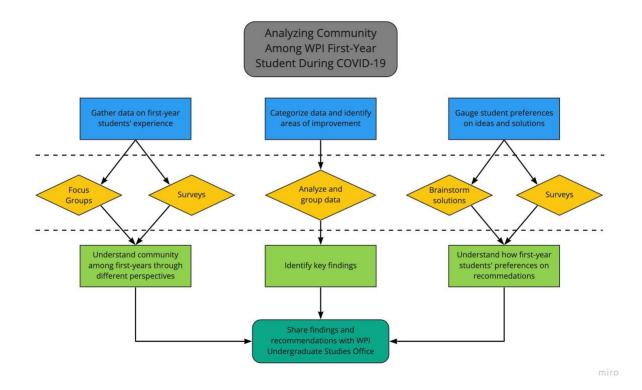


Figure i: Methodology Roadmap

In order to determine how the virus has affected first-year students, we gained an understanding of what the first-year student experience is. We collected data from both first-year students and community advisors. We asked first-year students to describe their experience thus far and give examples of different situations; we asked community advisors (CAs) about their experience as first-year students, the tools and methods they used to connect with people, and asked them to share feedback from the students they advise. We wanted to understand how students meet people and form connections, both inside and outside of the classroom, while behind a mask and remaining six feet apart.

To gather this data, we held several focus groups. These groups were led by a moderator to guide the discussion with a list of meaningful questions. We gathered opinions, insights, and examples of the first-year student experience from these focus groups, doing our best to eliminate our own personal biases as WPI students. We distributed a voluntary demographic survey after the focus groups as well to gather information from the respondents.

We analyzed the focus group data and identified common themes among our respondents. After identifying gaps in the first-year student experience this year, we brainstormed several ways to potentially mediate some of these issues. We then developed and distributed a survey to a larger population of students. This survey asked students about their experience thus far at WPI and gauged their opinions about several proposed ideas to increase community on campus.

We used the survey results to further develop ideas that could be implemented to help bolster community on campus at WPI this year. We synthesized our findings into a comprehensive report and made recommendations to the Undergraduate Studies Office.

Findings

Based on the data gathered front the surveys and the focus groups, we identified five key findings from the focus group data, summarizing how first-year students interact with peers and integrate into the broader WPI community. The five findings are:

- 1. There is a lack of spontaneous social interactions and few opportunities for social interaction
- 2. Non-academic interactions and extracurriculars are valuable to the college experience
- 3. Online formats cannot replicate the in-person experience
- 4. Students experience Zoom fatigue
- 5. Casual online social platforms have been popular among first-year students to build community

The largest area of concern among students was the lack of spontaneous social interactions. For first-year students at WPI, these interactions would usually take place in dorms and common spaces, inside of classrooms, dining halls, and outdoor spaces. Due to the virus, all of these spaces were closed, greatly restricted, or reconfigured to maintain social distancing guidelines. These restrictions limit the opportunity for face-to-face interactions between students. Furthermore, when asked how comfortable they were introducing themselves to others, all first-year students we spoke to mentioned they felt more reserved and less outgoing than they usually are, due to the virus. This kind of impromptu social action has not transitioned to the online environment very well and as a result, is simply not a part of the first-year student experience this year.

Our second finding is that with the COVID-19 guidelines, non-academic interactions and extracurricular activities have not been as effective at bringing people together when compared to a typical year. Based on the results from our focus groups, we found that many students were struggling to immerse themselves in non-academic activities. The annual activities fair was held online this year and many students either did not attend or failed to connect with many clubs because of the online format.

"When you are talking to someone over Zoom who has their camera off, it feels like you are talking to a void. The passion people have for their club or group does not translate over Zoom very well. It would be much better in person" - WPI First-Year Student

While done in the name of safety, social distancing restrictions make clubs less effective at fostering friendships and connections between students; furthermore, the known restrictions coupled with fear of the virus might prevent students from joining in the first place, leaving students with very few outlets for desired social engagement outside of the classroom.

Our third major finding is that the current learning situation has not provided the same level of instruction as pre-pandemic, in-person classes provide. The primary issue students had with online classes related to labs. The purpose of labs is for students to gain hands-on, in-person experience related to the course material, something that cannot be provided by virtual labs to the same degree. Students also reported that receiving help was difficult. In asynchronous online lectures, this was very challenging; if students had any questions or concerns, they needed to message or send the professor an email to get questions answered. Even in synchronous lectures, students still found it difficult to ask the professor questions or get clarifying comments on the course material. Lastly, they did not feel like they really connected with their peers in online classes.

"If we were in class, at least we would be struggling together." - WPI First-Year Student

Additionally, students are experiencing Zoom fatigue. Constantly, spending time in front of a computer is tiring and is not very engaging. Several CAs we spoke to informed us the programs they run for their students have had less participation this year than past years, which they believe is due to the online format.

"[in] the programs I've put on it's the same three kids that come and I have like 60 students... the in-person [programs] have gotten a bigger turnout than the ones on Zoom." - WPI Community Advisor

The final finding, we gathered from our data, is that, despite Zoom fatigue, many students have turned to casual online social platforms to make connections. When asked about ways they have been able to connect with others on campus, many of them expressed disappointment in the new social atmosphere on campus resulting from the necessary social distancing measures; however, many also described being somewhat successful in finding friends on online social platforms. CAs also described witnessing their students turning to meeting friends virtually. Facebook groups, Reddit pages, and Discord servers have been useful tools for students to connect with each other online, outside of the classroom. One student said that joining "gaming calls," where multiple players can watch or play the same video game remotely, allowed him to connect with other students.

"The kids who are gaming and [are] online ... are doing a lot better this year." - WPI Community Advisor.

Conclusions

From our findings, we determined there are three routes of recommendations to pursue to improve the first-year student experience at WPI. The routes are:

- 1. Create more opportunities for students to connect and engage
- 2. Create a hub of information and resources for students to access
- 3. Identify typical struggles of students, determine the differences caused by COVID-19, and communicate struggles are normal to first-year students

Due to the time restraint on our project, we decided to focus our recommendations on the first route, creating more opportunities for students to connect and engage. We identified four recommendations based on this route, summarized in table i below.

Table i: Recommendation Matrix

Recommendation	Description	Where it Fits
Student Matchmaking	Use a preference survey to match students with similar interests	Can be adopted by different offices or organizations
Major Specific Events	Mentorship pairings, online major fairs, major related discussion channels	Undergraduate Studies Office Academic Advising Office Major Departments Student Activities Office / Clubs
Cross-Dorm Activities/Events	Game shows, video games, trivia, and peer matching	Insight Program/Student Activities Office
WPI Discord Server	Discord server with various channels for topics and organizations	Student Activities Office

Student Matchmaking

Similar to speed dating, the idea is to meet up with another student who you have never met before and have a meaningful conversation with that person. Data that we have gathered has found that students are having trouble finding ways to connect with new people, outside of a classroom setting and within their own dorm. As in-person gatherings are not currently possible, student matchmaking allows students to meet more people online. Surveys will be used to match students with others who have similar interests. The student matchmaking can be expanded to be a major specific activity as well, making it easier for the Undergraduate Studies Office to become involved in organizing the event. Furthermore, when this idea was presented to students via a survey, it was met with high favorability.

Sponsor Major-Specific Activities

With the second highest amount of favorable responses, major-specific activities, programs, and events are something first-year students are looking for. One such event that we recommend is a mentorship program that pairs first-year students and upperclassmen within their major. As was discussed in our findings, first-year students have struggled to connect with others in their online classes. Events that encourage connection-building within first-year students' field of study may help them make up for lost interactions. Another possibility is a major fair in which first-year students could speak with professors or upperclassmen in different departments. This type of event could be hosted online, and would allow first-year students to explore their own major or different majors they might be interested in. An academically geared event of this sort could help freshmen build a network with other first-year students, upperclassmen, and professors in their majors which may help them compensate for the lost

interactions in the classes. Major based forums located on discussion boards could also be of use to first-year students.

We also recommend holding social events targeted at a specific major or field. For example, computer science majors may be interested in an online hackathon. Interactive Media and Games Development majors might be interested in a video games showcase. The enthusiasm expressed by participants in our survey indicates that this is something first-year students are looking for and would eagerly participate in.

Cross Dorm Activities

WPI has barred students living on campus from having visitors in their dorms, whether they are from inside or outside of the WPI community. Our findings showed that students want more opportunities to connect with students in other dorms and meet people outside their current bubble. The data also suggests that, if offered, students would be eager to engage in activities with other dorms. We recommend that WPI offers more events and activities between different dorms on campus, to allow students to expand their social networks. To achieve this interaction, we recommend that WPI organize a cross-dorm competition such as "Jeopardy!", "Family Feud", or "The Price is Right". This competition could be organized in conjunction with the WPI Insight Program and could be led by senior community advisors. Students would be able to form teams with students on their floor and compete against teams from other floors and dorms. The competition aspect will keep students engaged and invested in the event and garner good participation; there was not one absolute negative response to this idea on the survey.

Discord as an Online Alternative for Connecting with Others

With the necessity to have most interactions taking place online, we have found that students are looking for ways to talk with other students in a non-academic setting. Students in our focus groups indicated that Discord was an effective platform for achieving such communication; therefore, we will be focusing on Discord as an online alternative for connecting with other students.

Discord is a free voice, video, and text communication application used by over 100 million users worldwide and allows for the creation of servers. These are invite-only channels where users can chat with each other. We recommend that the Student Activities Office work with student clubs and organizations to create a Discord server where information about clubs and organizations would be centralized. There could also be open channels based on different activities/interests or majors.

Limitations

Our project had several limitations, due to the short time frame, that should be acknowledged. Our sample size for both the focus groups and surveys was limited to students attending WPI, and we did not receive many sign-ups for the focus groups. It should not be assumed that our findings are representative of the entire first-year class. Additionally, each individual focus group had few participants, so they were more akin to interviews rather than focus groups. Also due to the time constraints, we did not have an opportunity to analyze our demographic data, which is a step we would have preferred to complete. We also recommend that a future project focus on methods of communication between the administration, students, and student organizations. We noticed that often there was a

disconnect between available resources and first-year students' knowledge of those resources, resulting in a lot of helpful and important resources being unknown and unused.

Chapter 1: Introduction

In the late winter and early spring of 2020, the World Health Organization declared the COVID-19 outbreak a pandemic as the virus swept across the world. The unexpected arrival of the virus exhibited an infection rate that had not existed since the 1918 flu pandemic. The disease is highly contagious and greatly affects specific at-risk groups, including the elderly and those with pre-existing health conditions and comorbidity. Due to inconsistent attempts to reduce the transmission of the virus, the repercussions were harsh and caused most states to shut down. COVID-19 fundamentally changed how we interact, how businesses operate, and many other aspects of daily lives in 2020.

The pandemic impacted higher education and forced universities to adapt to new conditions rapidly. Due to the rapid spread of the disease, colleges and universities throughout the world sent their students home and delivered classes remotely. This created a challenge for students and educators across all disciplines. As we transition into Fall 2020, the pandemic continues to greatly affect education. While many universities welcomed students to campus again, they had to put protocols in place to keep their students, faculty, and staff safe. These safety measures have dramatically changed college life—with classes partially or completely online, masks worn on campus, and socially distanced study spaces.

The long-term impact that these changes will have on students' college experience is not well documented; however, we know that how students are receiving education and interacting with each other are dramatically different this academic year.

One of the most impactful parts of college is social interaction (Brown & Burdsal, 2012). Students rely on university sponsored resources for social interaction to ease the transition to college. They can commonly feel marginalized and have trouble fitting in during their first year (Schlossberg 1989); this affects their chances for a successful college career. Finding communities within the new environment is a critical step during the first weeks as a new student.

Community is a support network of people with common interests and goals. Communities in college come in many different forms and help first-year students transition to the new environment. While there are resources available for them, often the most helpful and comforting tool is a strong community and network of people to rely on. The transition to college can be challenging for first-year students in a normal year (Henry, 2012), but the pandemic only serves to increase the difficulty of meeting people and having meaningful interactions. First-year students who are experiencing this new environment for the first time are the most affected by the social repercussion of COVID-19. Finding avenues of support and escapes from daily routines and struggles is crucial to the success of students.

Worcester Polytechnic Institute faced the same challenges that other universities faced during the COVID-19 pandemic. WPI has a strong commitment to providing all students, especially first-year students, with a rich academic and social experience. COVID-19 has affected students' experience and, for first-year students, made it different from that of previous first-year classes.

The goal of our project is to highlight areas for improvement related to increasing the sense of community formed during the first-year student experience at WPI; in this project, we will complete the following objectives to achieve our goal:

- 1. Gather first-year students' and student leaders' opinions, insights, and examples of their experiences forming community and integrating into the WPI community
- 2. Identify common themes and areas for improvement and growth within the first-year experience
- 3. Survey first-year students on proposed changes and specific preferences regarding community integration
- 4. Form unique recommendations to the WPI Undergraduate Studies Office

Chapter 2: Background

2.1 The COVID-19 Pandemic

In the spring of 2020, the world plunged into a global pandemic. The United States reported the first case of COVID-19 (a novel strain of the SARS virus that causes respiratory illness) in late January. Shortly after, the number of cases in the country increased exponentially. The virus was highly contagious between people in close contact and it spreads person-to-person via respiratory droplets ("How Coronavirus Spreads," 2020). By the end of March, there were about 50,000 reported cases and over 500 deaths from the coronavirus in the United States. Infections continued to rise, and by mid-August, the United States surpassed 5.1 million cases and 165,000 coronavirus-related deaths (Dong, 2020).

In response to the pandemic, businesses across the country shut down and schools had to transition to remote learning. Many states issued shelter-in-place orders, and as of Fall 2020, the virus continues to spread. Nevertheless, many of these orders were lifted, and businesses and schools began to reopen in varying capacities. Different institutions faced a great number of obstacles and challenges while balancing reopening and safety. The following sections discuss some of the challenges faced by different universities during their pandemic response, and the impact of this response and the virus itself on first-year students' socialization.

2.2 Impact on Education

Institutions of higher education underwent drastic changes during the pandemic. In March, the United States saw a large uptick of COVID-19 cases, and many institutions announced transition towards full online and remote delivery of classes (Crawford, 2020).

The shift towards remote delivery caused many changes in the learning environment. Many professors never taught online classes before, so they had to adapt, learn, and find new ways to teach their course material. Professors used different teaching techniques for remote learning. According to Johnson (2020) the most popular format was synchronous video lectures over technologies such as Zoom, GoToMeeting, Google Hangouts, and other video conferencing tools. The second most popular format was asynchronous/pre-recorded lectures, where students could watch at their own leisure. Additionally, class curriculums changed. In a survey by Johnson (2020), 93% of faculty reported making at least one modification to their teaching practice, and nearly half reported dropping some assignments or exams. Figure 1, below, shows the range of changes that faculty made to their courses when transitioning online.

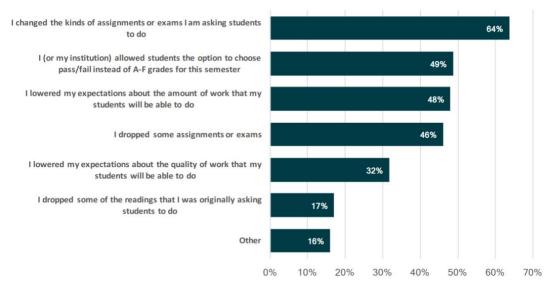


Figure 1: Changes Faculty Made to Their Classes by Moving Them Online (Johnson et al., 2020)

During the pandemic, interactions between professors and students had also changed. With nobody on campus, there have been fewer in-person face-to-face interactions. Having everything online coupled with the stress of being stuck inside due to quarantine led many professors to be concerned with how to best support their students and help them succeed (Johnson et al., 2020). With campuses closed, most aspects of student life, which would have normally helped build a strong community, also ceased. Collegiate sports shut down at most schools, eliminating sporting events, which usually serve as a strong way to build school pride and community (ESPN, 2020). Student-run clubs also could no longer meet in person, and club leaders scrambled to find ways to continue club activities online, or sometimes halted club activities entirely if it was not feasible to hold club activities online.

2.3 The Importance of Social Interaction at College

The first year at college is an exciting and new experience for college students. For many, it is their first time living on their own and really making their own decisions. A student's first year is about adapting to change and starting fresh. Learning how to make friends and establishing connections is part of this exciting experience. Meeting new people can be difficult under normal circumstances, but the pandemic made it even more of a challenge. The COVID-19 pandemic has been isolating for many people. Measures, such as social distancing and quarantines, have been effective in slowing the spread of the virus; however, the threat of the virus remains, forcing society into a new normal.

2.3.1 Importance of Community Among College Students

Community is a huge part of college life, not only in clubs and sports but in academics as well. Psychological sense of community is defined as the "perception of similarity to others; an acknowledged interdependence with others; a willingness to maintain this interdependence by giving to or doing for others what one expects from them; the feeling that one is part of a larger dependable and stable structure" (Sarason, 1974). In order for a community to impact an individual student, the student must perceive him- or herself as part of that community (Brown & Burdsal, 2012). Studies have shown that students who are actively involved and engaged in their community at college typically do better than

those who do not. Johnson and Romanoff (1999) studied the Russell Scholars Program at the University of Maine, a residential learning community where students lived together and regularly met with faculty for mentoring to ensure the academic success of the entire community. The results showed that those who participated in the learning community earned better grades than students in a control group, suggesting that students who become involved in the community at college do better than those who are more isolated. Although a student's sense of community is difficult to quantify, it appears that active involvement in community activities on campus helps students to succeed.

Having people to rely on and feeling a part of a community is important. The expectations of a college student are so much beyond high school that students often need help. Professors and teaching assistants (TAs) are a resource, but other students can also provide much needed assistance. Having other students to turn to can help in understanding course material and completing difficult assignments. Students who have a large network of friends in their classes typically have a higher GPA than those who are less connected. This is because "in-school friends are more likely [than friends outside of school] to be achievement-oriented and share and support school-related activities, including studying, because they are all in the same environment" (Witkow & Fuligni, 2010). It is for this reason that becoming involved on campus and becoming a part of the community is so important for college students. Having people to rely on can make many of the struggles presented to first-year students easier to overcome.

2.3.2 The Typical Challenges of a First-Year Student

The transition to college life is a big one and there are many new concerns that come with that transition. One of the largest problems that comes with a student's first year of college is feeling lonely or homesick (Thomas, n.d). For most, this will be their first time living on their own and living in a new location with no close friends or family can be very difficult.

The rigorous classes that are presented in college are more challenging than high school level classes. Students who coasted through high school with little effort often struggle to adapt to this new change. Finding ways to manage time and stay organized is crucial to success in college. Financial issues are also quite common for college students as the price for tuition at colleges and universities nationwide continues to climb. Everyone's financial situation is different, and the idea of enormous amounts of debt certainly do not make the transition to college any easier.

Roommate issues can also be a major point of focus for first-year students (Wendy, n.d.). For some students, their first-year roommate assignment works well, but for others it can be a nightmare. Many students have never had to share living spaces before and as a result it can be quite difficult to live with. Differences in sleep schedules can leave one or both students to become sleep deprived, making learning much more of a challenge. Lack of space can also be a point of agitation between roommates. When living with someone, it is important to learn how to make compromises, however this is often easier said than done.

Another challenge first-year students are faced with is pressure to choose a major (Thomas, n.d). Choosing a major is a daunting task and it is quite common for students to not know exactly what they want to do when they arrive at college. Deciding on what path to take through college can be tricky and it is something that all first-year students need to go through. Challenges faced by first-year students can

lead to a buildup of general stress. It is important for students to find a way to relieve this stress and to not let it build as it can make all other tasks much more difficult. Schlossberg (1989) also says it is not uncommon for a person to feel marginalized or for young people to report feeling "out of things" when they head off to college. Fears of not mattering, or fitting in are common, yet rapid social integration can usually quash these negative ideas (Schlossberg, 1989). With everyone anxious to make new friends, meeting people and finding friends typically becomes easier; however, the COVID-19 pandemic has made the first-year experience anything but traditional.

Under normal circumstances, the transition to college can be a tumultuous time for freshmen as they simultaneously adjust to rigorous academics and an unfamiliar social atmosphere (Henry, 2012). As the coronavirus continues into the fall and winter of 2020, an entire class of first-year students are facing these normal first year struggles in addition to the pandemic. The mix of typical first year struggles and coronavirus related complications, such as the risk of illness, possible isolation in online class, requirements for social distancing and mask-wearing, may cause first-years to struggle to form the connections that are vital for their social well-being and academic success (Wang & Wilhite, 2012).

2.3.3 The Coronavirus May Impact the Social Interaction of First-Year Students

Due to the health risks the pandemic poses, some students entering their first year in the fall of 2020 have made the decision to stay at home and complete classes remotely. Many of these students planned to be completely in-person, full time students. Many other first-year students, however, have decided to come to campus despite the pandemic (Dickler, 2020). The students who are completely online may have no interaction with other students outside of their class. Those who are on campus have more chances to meet people, but it still is a challenge as the safety guidelines most colleges have implemented have vastly changed the social landscape. Many of the hallmarks of first-year college life have been altered due to the pandemic. For example, many clubs and sports teams are no longer operating. Some dormitories may not allow visitors, if they are open at all. Most Greek organizations are no longer able to host parties or large gatherings. The virus has also affected many students' confidence levels in interacting with others; consequently, they may keep their social circle small and be less open to meeting new people (Dickler, 2020).

For students who are not fully remote and attend classes, it is unlikely that their universities will allow them to sit directly next to their peers. Many universities have de-densified classrooms and lecture halls that students remain six feet apart at all times. Small things such as whispering a question to the person sitting next to you is no longer an option when a class is delivered remotely or in a socially distanced classroom. This altered level of social and academic interaction may not be as large of a problem for upperclassmen who have had a year or more on campus to form connections. However, first-year students might not know anyone at their university and may find themselves with no peers to turn to. If first-year students struggle to form bonds and experience a sense of community with their peers, they could suffer academically and socially. The relationships that students develop can impact the activities they explore while at college (Wang & Wilhite, 2012), as well as influence their decision to continue to pursue post-secondary education (Wayt, 2012).

Community and social bonds between first-years are crucial and can be difficult for some students during normal times; however, the coronavirus pandemic may make this crucial aspect of college

life even more complicated and challenging (Dickler, 2020). Given that social interaction may decrease as a result of remote and socially distanced learning, the impact on first-year college students could be significant. The long-term effects of these changes, as well as the length of time that they will remain in place, remains to be seen; however, we anticipate that these measures will impact the ease of transition for first-year students in respect to both their academic and social lives.

2.4 University Responses to COVID-19 in Fall 2020

As the 2020/21 school year began, university responses to the pandemic varied. Some schools decided to continue to hold classes online through the beginning of 2021, and others decided to bring back in-person classes. As a whole, higher education struggled to adapt to the new normal. Colleges around the world constructed new learning environments to ensure the safety of their students, faculty, and staff.

While many schools made the transition to online learning, many incoming and current students decided to enroll in community colleges, in-state public schools, or even take a gap year as they feel that remote learning is not worth the cost (Dickler, 2020). The schools that decided to bring back in-person classes did so with many rules and regulations in place. Most schools required students to observe social distancing guidelines and keep at least 6 feet of separation from others when possible. Some schools provided COVID-19 tests for students and required students to get tested as often as twice a week.

To better understand this landscape, we chose to look into how different universities are handling reopening in the fall of 2020. In the US, roughly 1,300 universities opened primarily or fully online, roughly 800 are primarily or fully in-person, and approximately 650 are offering hybrid courses (Korn, 2020). Many of the traditional expectations students have for college are now impossible due to the pandemic, but students do their best to replicate a sense of normalcy. One student at Whitworth University in Washington said he played a socially distanced game of poker, in which each student took turns going to the table to play their hand (Korn, 2020). However, there are limited social offerings from universities, as their main goal is to prevent the spread of the virus and keep their communities safe.

One unique program Massachusetts Institute of Technology (MIT) offers is the "Pod Program," which allows students within the same residence hall to gather in designated spaces without masks or social distancing ("Residential Pod Program," 2020). MIT is a private technical school located in Cambridge, Massachusetts. MIT has an undergraduate population of roughly 4,500 students and only a fraction of those students will be allowed to return to campus for the fall 2020 semester because the majority of instruction is online this semester. (Dizikes, 2020). The pod program allows students in the same residence hall to form "pods" of up to six people. Since students are keeping a small bubble and all live within the same space, mask and social distancing is not required. The purpose of the pod is to better allow students to create community and engage in activity with a sense of normalcy. While the safety of the community is of the utmost importance, there are steps that can be taken to safely engage with other students in a more in-depth and meaningful manner.

These are just two examples of how different universities are reacting to COVID-19, but all are taking very serious precautions to prevent the spread of the virus.

2.5 WPI's Response to COVID-19

WPI's response to the COVID-19 pandemic reflects their commitment to the safety of their students, faculty, and staff. During WPI's academic year, there are four 7-week terms; when the pandemic hit, WPI was in the break between the third and fourth term of the academic year. Thus, WPI had the opportunity to delay D-term (the fourth term). WPI also decided to transition to remote class delivery, limited campus operations, and cancelled large events, athletics, and WPI-related travel ("Announcements," 2020). WPI quickly arranged for students and faculty to utilize Zoom and Canvas to deliver classes; with this rapid transition came a variety of class structures for students and faculty to adapt to, accompanied by steep learning curves for students and professors.

Following the end of D-term, the Undergraduate Studies Office distributed a survey and held several focus groups to gauge how students adapted and responded to the academic changes. Some common themes emerged despite the limited and mixed feedback. From the sample, the majority of students found that live, online lectures were easiest to adapt to and offered as normal of an experience as possible. Asynchronous formats had mixed reviews, but most found it required very good professor and TA communication to be successful. Most of the respondents found that self-paced courses worked well and enjoyed group work for the social aspect. Respondents felt online exams and discussions and labbased courses decreased in quality. Overall the respondents felt there was a huge lack of communication and sense of community. Nearly all participants felt the community was lost during D-term. Of course, this was only a small sample size and should not be taken as a universal opinion but may be a serious concern. Students, faculty, and staff expect and deserve better, and WPI is committed to providing this for the community as we navigate this new normal together.

Over the summer, WPI announced it would allow students, faculty, and staff to return to campus for A-term 2020 and would hold classes in an in-person/online hybrid fashion. With this news came the announcement of many new safety measures and regulations that would impact how members of the community would be able to interact with each other.

To be able to deliver WPI's distinct style of hands-on, project-based education, the school has offered various course delivery techniques. Courses offered in-person, online, and hybrid formats create the safest and most fulfilling learning environment. By using technology, flexibility, and problem solving, WPI can respond to changes due to the virus ("Academics," 2020). Depending on the class type and structure, WPI offers classes in-person (reserved for smaller discussion based and lab type classes), online (large lectures), and a hybrid of the two (classes offer both in-person requirements but also deliver a portion of material online). In fall 2020, 37% of classes were entirely online, 55% of classes were offered as hybrid formats, and 7.81% were in-person ("Course Types for Fall," 2020). In-person classes have reduced capacity and have been reconfigured to support physical distancing. There are also protocols based on different campus alert levels, which depends on the threat COVID-19 currently poses. These protocols allow for the option to scale back campus activity without disrupting the delivery of classes. WPI has labeled their response as TechFlex. These changes have been implemented to keep students safe while still providing a valuable education.

In addition to academic changes, the operation of campus itself has changed significantly.

WPI implemented a number of safety regulations including mandatory masks on campus, required social distancing of at least six feet, required weekly testing for all members of the community, and a number of changes in on-campus locations. Classrooms and hallways were reconfigured to accommodate social distancing guidelines ("Campus Operations," 2020). Furthermore, dining halls now require reservations and are only operating at one-third capacity, meaning many students have to pick up pre-packaged meals ("Dining," 2020). In addition, spaces on campus are cleaned regularly and sometimes closed altogether.

Residential life also looks dramatically different with many colleges reducing the number of students per room. WPI students are not allowed any visitors in dorms. All students are required to wear face masks and social distance inside dorms (but not in their rooms), and all common spaces are closed in dorms ("Residential Life," 2020).

These regulations, paired with the transition to college, can pose a challenge to first-year students trying to integrate themselves into the community. The Insight Program, Student Activities Office, and Academic Advising Office work closely with the first-year students to provide a smooth transition from high school to college and help students integrate into the WPI community. These offices help both academic and non-academic settings. However, safety regulations and comfort level students have to engage with strangers can reduce efforts students make to meet people; how they interact with peers in the classroom and how they meet and interact in non-academic spaces will be inherently different this academic year. By having classes online, students do not have the opportunity to make friends with their tablemates or may have reduced ability to ask questions and find study groups easily. Furthermore, while it is meant to keep students safe, taking away common spaces in dorms, restricting dining halls, and overall reduced level of comfort due to the virus, greatly changes how students meet and find communities. Our project focuses on understanding the first-year student experience in this "new normal" and seeks to identify if there are areas to be improved to increase the sense of community first-year students experience.

Chapter 3: Methodology

Goal Statement and Objectives

This chapter discusses the methods which we employed to achieve our goal. We have been sponsored by the WPI Undergraduate Studies Office and have developed a project to understand the first-year student experience. The goal of our project is to highlight areas for growth related to increasing the sense of community formed in the first-year student experience at WPI in A-term of 2020; we will gauge student opinions and their insights to areas of growth that they identified. We will interpret our data to form our own recommendations and share them with the WPI Undergraduate Studies Office, on how to make this experience as positive as possible.

We will achieve the following objectives:

- 1. Gather first-year students' and student leaders' opinions, insights, and examples of their experiences forming community and integrating into the WPI community
- 2. Identify common themes and areas for improvement and growth within the first-year experience
- 3. Survey first-year students on proposed changes and specific preferences regarding community integration
- 4. Form recommendations to the WPI Undergraduate Studies Office

Scope

Our project focuses on understanding the sense of community felt by first-year students at WPI. We partnered with the WPI Undergraduate Studies Office to gather opinions from first-year students to help us understand their experience during the age of COVID-19. Our aim is to understand how the "new normal" affects first-year students' ability to meet people and integrate into the WPI community, both academically and non-academically.

We want to gauge student opinions on how safety measures have impacted their ability to connect with other students and the broader WPI community. Additionally, we want to know in which areas the "new normal" is affecting students most. We will focus on learning how students are connecting with their peers and faculty in an academic sense; we will also focus our attention on how non-academic spaces such as clubs, sports, other hobbies, or even interactions in common areas are affected.

Methodology Roadmap

We have provided a roadmap for the steps to be taken to achieve the three main objectives, shown in Figure 2. The objectives are represented by the three blue boxes, with methods in yellow, and the expected outcomes in light green. The dashed lines separate our methods from our analysis. These steps and outcomes culminate in our deliverable: a set of recommendations to the WPI Undergraduate Studies Office on how to make the first-year student experience as positive as possible.

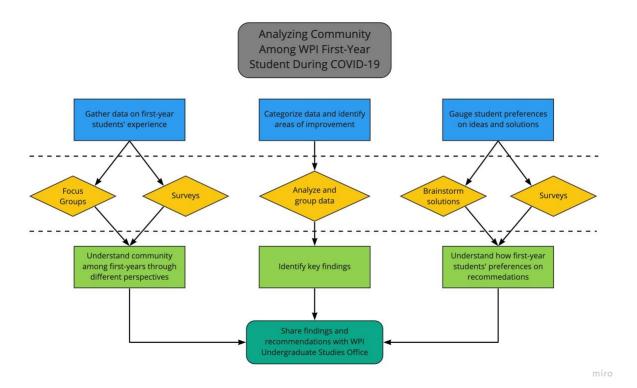


Figure 2: Methodology Roadmap

We will create a set of recommendations upon the completion of these steps. This report will provide a compilation of the research and outcomes of our process, while also providing a deliverable to our sponsors.

3.1 Develop an Understanding of the First-Year Student Experience

In order to understand the first-year student experience, we gathered data about how first-year students are meeting people, interacting, and integrating into the WPI community in order to identify common themes. To gather this data, we used focus groups and surveys.

We will collect data from both first-year students and community advisors. We will ask first-year students to describe their experience and give examples of different situations; we will ask CAs about their experience as first-year students, the tools and methods they used to connect with people and ask them to share feedback from the students they advise. We want to understand how students are meeting people and making connections, both inside and outside of the classroom, while behind a mask and remaining six feet apart. These conditions are still very new to people and make social interactions difficult. We want to hear about students' expectations, their highs and lows, and their sense of safety and comfort. We believe this data will provide the strongest base for our project and the best understanding for our team and the Undergraduate Studies Office.

To gather this data, we determined that focus groups will provide the most meaningful data. Focus groups are groups of people that assemble to participate in a directed discussion, led by a

moderator. This method poses advantages over other methods like surveys and interviews because openended responses can be collected, and a diverse group of people conversing can produce more unique results. This method may struggle to garner high participation because it is less convenient for the participants compared to other data collection techniques. During this data collection, we must also be aware of biases and eliminate our own personal biases. As WPI students we must reduce the influence our own past experiences have on the way we interpret data and ask questions. We hope to gather an array of opinions, insights, and examples of the first-year student experience from these focus groups. A list of the questions asked in these groups and consent forms are listed in Appendices A-D.

We will also use surveys to collect data. These surveys will have similar questions to the focus groups and will aim to collect the similar data and insights. Surveys will provide a larger sample, but less specific data.

We will gather demographic data which will help us understand the different backgrounds and motivations we are hearing from within the WPI community. This data will be gathered using a voluntary survey distributed at the conclusion of each focus group. We will also collect demographic data at the survey stage.

Together, the data gathered in this method will build the core of our data and develop the core of the data for our project to determine if there are areas to improve and adjustments to be made to better the first-year student experience.

3.2 Evaluate Data to Identify Areas for Growth

In order to propose a list of recommendations for events that might help the first-year students at WPI form connections, we must identify common themes among our focus group participants and categorize our data. We will accomplish this by comparing the responses obtained from each question and looking for similarities.

For example, when looking at the responses to the question that asked students to describe their initial experience at WPI in three words, we will note which words or sentiments (positive, negative or neutral feelings) are the most common.

Additionally, we will look for trends in the responses about where students felt the most sense of community and the least sense of community. We will discern what makes the environments and situations students described conducive or not conducive to building community. From there, we can see if the solutions we propose can spur community building.

In our final focus group question, we will ask students what they would change about their experience so far and if they have any solutions they would like to propose. While developing our recommendations, we will consider all of the data collected in our focus groups, as well as the ideas and solutions individual students have proposed to us. Subsequently, we will present our preliminary recommendations to a larger group of first-year students via a survey, as described in the next step of our methodology.

3.3 Gauging Preferences through Surveys

Once we have categorized the data and developed some preliminary findings, we will begin to brainstorm ideas and recommendations. Our goal is for our recommendations to be realistic and welcomed by the student body to ensure this project has a meaningful impact.

If we identify any gaps in the first-year experience, we will tailor our recommendations to fill those gaps to make the experience as positive as possible. The findings could range from students wanting to see more events on campus, more group work in classes, or more engagement in clubs. We will brainstorm ideas to supplement what students feel could be improved upon.

Once we form ideas and solutions for the first-year student experience, we will form surveys to gauge preferences and interest in our ideas. The surveys will ask students to rate their level of interest in ideas on a scale of one to five, with one being "not likely to participate" and five being "very likely to participate". The survey used can be found in appendix F and the consent form can be found in appendix E. Asking students to rank their interests will allow us to determine preferences between different ideas and provide a range, rather than a "yes" or "no" answer which is less meaningful. The surveys will be distributed to the first-year students who participated in our focus groups and sent to CAs who will be asked to distribute the surveys to their students. We will also reach out to club leaders to distribute the surveys to the first-year students in their respective clubs.

The data collected will be instrumental in finalizing our results and providing the remaining information necessary to move forward with our recommendations.

3.4 Recommendations for the Undergraduate Studies Office

Our final objective will be to synthesize our findings into a comprehensive report and make recommendations to our sponsor, the Undergraduate Studies Office. The report will summarize key findings regarding the first-year student experience and suggest solutions to fill in gaps in this experience identified by the student body.

We will use the information provided in our focus groups and surveys to formulate context-specific recommendations that are backed by research and the data we have collected. Once we have produced these recommendations, we will determine an effective and detailed implementation strategy to provide to our sponsor and any other WPI organization that may have a vested interest. We will reach out and collaborate with different offices to determine how to make the first-year student experience as positive as possible.

Chapter 4: Data Analysis & Findings

Over the course of our data collection, we conducted focus groups with five WPI first-year students and four WPI community advisors. We also distributed a survey, which 75 students responded to at the time of writing, to gauge interest in proposed solutions and ideas to create opportunities to interact with new people. The focus groups informed us of the general first-year student experience regarding social interactions and gave us two perspectives (those of first-year students, and those of community advisors). These two perspectives were very consistent with each other and allowed us to pinpoint the trends and common themes in the first-year student experience.

We identified five key findings from the focus group data, summarizing first-year students' interactions with peers and integrating into the broader WPI community. The five findings are:

- 1. There is a lack of spontaneous social interactions and few opportunities for social interaction
- 2. Non-academic interactions and extracurriculars are valuable to the college experience
- 3. Online formats cannot replicate the in-person experience
- 4. Students experience Zoom fatigue
- 5. Casual online social platforms are a popular tool among first-year students to build community

This section discusses and supports these findings with the data collected from our focus groups and survey. The survey found that first-years have mixed feelings about the sense of community, it has been difficult to meet people, and they are eager to interact with students in other dorms and students in their major.

4.1 There is a Lack of Spontaneous Social Interactions and Few Opportunities for Social Interaction

Our first finding is that there is a lack of spontaneous social interaction due to COVID-19 restrictions and precautions. We defined spontaneous social interaction as natural and impromptu interactions we experience in our daily activities. The spontaneity of seeing a friend across the quad, asking a peer a question in class, or meeting people on the quad has been greatly reduced or eliminated due to masks, social distancing, and reduced capacities indoors and on campus.

For first-year students at WPI, these interactions would usually take place in dorms and common spaces, inside of classrooms, dining halls, and outdoor spaces. The restrictions limit the opportunity for face-to-face interactions between students. Furthermore, all first-year students we spoke to mentioned they felt more reserved and less outgoing, due to the virus, when asked how comfortable they were to introduce themselves to others.

In the survey, we asked first-year students to rate how easy/challenging it has been to meet people. The results are below in figure 3; the "1" represented "very challenging" and the "5" represented "very easy".

On a scale of 1 - 5, how easy/challenging has it been to meet people? 75 responses

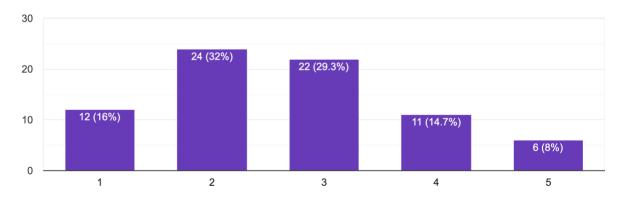


Figure 3: Difficulty of Meeting People

The graph shows that overall, first-year students find it more difficult, rather than easy, to meet people this year. This data is consistent with the information collected in our focus groups.

The focus groups conducted with CAs provided a broader sense of how students interacted with each other in years before the pandemic. The community advisors we talked to consistently reported that they made most of their friends by meeting and interacting with others on the quad, attending large events such as the student activities fair and Greek fair, or by getting involved with clubs.

"My main friends were from my dorm... I met a few people through classes, but they weren't close friends, and I was on the club frisbee team, so I met a ton of people there. Recruitment was the big thing for getting a bigger core friend group" -WPI Community Advisor

Through our conversations with CAs we found that they made friends through many different avenues. Their experience took a different shape than this year's incoming class. This year's first-year students struggle to meet people and have meaningful interactions with their peers and the broader WPI community. First-year students said they have not had many opportunities to meet outside of their dorms or classes. Additionally, many of the interactions and casual conversations about majors and hobbies do not materialize into friendships. Even after students have met others, it is difficult to recognize them again on campus due to masks.

Another shortcoming first-year students report is dining. The new restrictions put in place in dining halls reduce the opportunity to interact with others, especially those outside of one's bubble. The reduced capacity, required reservations, and social distancing make it difficult for students to engage with each other. One student in a focus group said:

"The biggest gripe I have is the dining system. Everything is spread out... the most people you can realistically sit and eat with inside is three, so most people take their food back to their room or eat outside" - WPI First-Year Student

This system takes out the spontaneity of meeting new people during mealtimes and casually dining with peers. The reservation system forces students to plan their meals and limits the opportunity people have to eat together. If you have a network of peers, then planning a meal is less of an issue; however, if you do not have a network of peers then the system makes it very difficult to find networks. The system will only become more challenging and limiting as the weather gets colder and people will not have the option to eat with others outside due to limited space inside. This lack of impromptu interactions is not supplemented with other social opportunities.

When we asked both first-year students and CAs to describe their initial weeks at WPI using three words, we heard a lot of the same words across both groups, but there were also some key differences. The word clouds in Figure 4 and Figure 5 show the words both first-year students and CAs used, respectively, to describe their first weeks at WPI.

A word cloud is a figure used to display words used to describe something; the bigger a word is, the more times it was used.



Figure 4: Words First-Year Students Used to Describe Their Experience



Figure 5: Words Community Advisors Used to Describe Their Experience

When looking at the first-year student descriptions we see positive words such as "exciting", "formative", "positive", and "safe". However, we also see words such as "challenging", "nervous",

"tiring", and "rigid". These are not necessarily negative and are common words used to describe college. CAs used the words "exciting", "engaging", "welcoming", and "overwhelming". When asked to elaborate on the final term, they spoke of how the high volume of people they were meeting, numerous events and activities offered, and the extracurriculars they were getting involved with, all coupled with schoolwork made the experience overwhelming.

This is a key difference in the two groups. In past years, students have had many more opportunities, beyond impromptu and natural interactions, to meet people. We collected two meaningful quotes in our focus groups from each group of community members.

"I would like to see more advertised in-person get together and events... small groups on the quad or during mealtimes and chances to meet people in other dorms" - WPI First-Year Student

"There are not many real events for students, so they need to make their own entertainment" - WPI Community Advisor

There has been a lack of social opportunities offered to first-year students this year due to the virus, and both first-year students and CAs have noticed this. First-year students are eager to meet other students, especially those in different dorms. They want to see opportunities and activities on the weekend and find a balance between classes and social life. The combination of less spontaneous and natural interaction and limited social events offered have made it very challenging for first-year students to build meaningful friendships and create larger networks among their class and within the broader WPI community; this will likely require various recommendations and plans to address both the community within the class and the broader WPI community.

4.2 Non-Academic Interactions and Extracurriculars are Valuable to the College Experience

Our second finding is that non-academic interactions and extracurriculars are not as effective at bringing people together as they were before COVID-19. Being successful in college requires more than simply mastering academic skills (Karp 2011). Based on the results from our focus groups, we found that many students struggle to participate in non-academic activities. Participants in the focus groups stated that minimal social interaction has made meeting new people a real struggle.

In the current learning environment on campus, students reported limited social interaction. Some students have been unable to make connections with other students beyond their roommates. Outside of the group settings created by student orientation, the largest area students identified as a way to meet new people was through their online breakout rooms or lab partners.

"A lot of time they do Zoom breakout rooms and you get to talk to people, but you don't really remember them after class ends." - WPI First-Year Student

While meeting others through class is good, the level of interaction between students achieve through class is often limited. Discussions solely about class material will not often foster a lasting friendship. Meeting people outside of the classroom is critical in creating lasting connections and can be crucial to a student's academic success. Typically, students will meet to study in groups or work on class work outside of class which can help create friend groups. There is much less of this happening this year as students try to adhere to the safety guidelines. On-campus activities can also help in this endeavor, however many of these activities are not operating or have been significantly modified.

A prime example brought up by several students was the activities fair that was held online this year. The online activities fair was successful in allowing students to view all the clubs offered on campus; however, the enthusiasm typically presented at the fair by the other club members was not conveyed well.

"The passion people have for their club or group does not translate over Zoom very well. It would be much better in person..." - WPI First-Year Student

The activities fair was held very differently this year. As it was described by the students, the activities fair consisted of a Zoom call with the organizers to answer any questions on the organization of the fair. Students were then instructed to scroll through TechSync to view all the clubs WPI has to offer. Each club then had individual Zoom links posted where students could join a call with members of the selected club. The activities completed in those Zoom calls were left to the discretion of each club, and some were run better than others.

"One of the fraternities had "Jackbox" set up where everyone could play, and it was pretty engaging." - WPI First-Year Student

We also found that there was reduced participation at the fair and many students did not attend. In a typical setting the activities fair is so large that it is hard to miss. It is usually held on the quad at WPI, hundreds of tables are set up to display all the clubs the school has to offer. However, as it was held online this year with no in-person activities, some students missed it, resulting in concerns from students who feared they missed the opportunity to join clubs. Although this is not the case, it demonstrates a lack of non-academic communication this year.

The reduced social interaction on campus has also led many students to spend a lot of time in their dorms, rather than socializing. When we spoke to the CAs, some had noticed that there are many students who are overly stressed about their classes. While stress about classes is common, the lack of social interaction among students might be a contributing factor. With fewer ways for students to unwind and to vent, it can be more difficult for a student to continue to perform well. There are many stresses that come with first-year students and social interaction outside of the academic setting can provide a necessary relief. What many students fail to realize is that they are not alone in their struggles. Although office hours and TA hours are available, it often helps to understand that there are other people, who might not be at office hours, are also struggling.

"Not able to make friends is a big one and everyone also feels constantly behind and when they catch up, they are even more behind because they don't have friends to talk to it about."- WPI Community Advisor on the most common point of feedback received from students this year

Conversing with other students at the library or in a common area about a class or lecture can often help with this realization and also lead to the creation of friends and networks. These friends can help students succeed in future endeavors at college, providing support and help when needed.

Sports and exercise can also be very useful tools for first-year students to relieve stress and build connections. Clubs often give students a sense of belonging among other members of the community. This year, many clubs are running at reduced capacity, if at all, and this is detrimental to first-year students at WPI. Club sports cannot effectively provide the outlet for students since social distancing requirements have currently hindered many clubs from doing more than running drills and in most cases have prohibited any contact between players and shared objects. While done in the name of safety, these restrictions make sports less effective at fostering friendships and connections between students. Furthermore, the known restrictions coupled with fear of the virus might prevent students from joining in the first place, leaving students with very few outlets for desired social engagement outside of the classroom.

4.3 Online Formats Cannot Replicate the In-Person Experience

Our third finding is that the current learning situation has not provided the same level of instruction as pre-pandemic, in-person classes would have provided. Each student we spoke to preferred in-person classes over online classes. In the case of synchronous vs asynchronous online classes, two of our students had strong, unprompted opinions against asynchronous online classes.

There were three main reported issues with online classes. First, online labs have not provided the same experience as in-person labs. Typically, the most important aspect of a lab is gaining hands-on, in-person experience related to the class. With virtual labs, you lose that hands-on aspect, and as a result, the lab class is nowhere near the same experience. One student said they were "extremely disappointed" when they heard that some of their lab classes were going to be virtual. Students also felt that asking for help from a TA during labs was extremely difficult compared to if they had been able to do the lab in person and simply call out to the TA whenever they encountered an issue. The second big issue with online classes was that students did not feel like they received all the necessary information when watching lectures online. This was a major issue especially when students had questions about the course material. Asynchronous online lectures were very challenging; if students had any questions or concerns, students needed to message or send the professor an email to get any questions answered. Even in synchronous lectures, students still found it difficult to ask the professor questions or get clarifying comments on the course material. Lastly, they did not feel like they really connected with their peers in online classes. One student mentioned that they were struggling in a class and felt like there was not anyone else to share that feeling with.

"If we were in class, at least we would be struggling together." - WPI First-Year Student

Some students felt like hybrid/in-person classes were better than online classes, though there was still a lot left to be desired. Many students reported that their in-person classes only met twice a week inperson, with the rest of the class meetings occurring online. For some, this meant that they were only spending two days out of their week taking classes on campus. Under normal circumstances, students would spend five days a week taking classes on campus; with the pandemic, students spend less than half the time on campus as they normally would. Furthermore, during in-person classes, the experience was still very isolating. One student said,

"[there] was not a whole lot of interaction between people [during class]." - WPI First-Year Student

These limitations have led many students to be frustrated with the class formats and longing for the return back to typical in-person classes.

4.4 Students Experience Zoom Fatigue

We have found that students are experiencing Zoom fatigue and are eager for in-person interaction. In-person activities have been forced to move online as best they can. Based on the students' experiences, this has resulted in Zoom being the most popular and most used platform for nearly all campus-affiliated communications (classes, club meetings, online campus events, etc.). Many students struggle to connect through their online classes. A large reason for this is that they felt like they lost any semblance of interpersonal connection when speaking over Zoom. One student reported:

"When you are talking to someone over Zoom who has their camera off, it feels like you are talking to avoid." - WPI First-Year Student

When the camera is off on a Zoom call, non-verbal communication and social cues are completely lost. This does not allow for a conducive learning environment and makes it harder to connect with peers, the professor, and the material.

Constantly spending time in front of a computer is tiring and is not engaging. Several CAs we spoke to informed us the programs they run for their students have had less participation this year than past years. Of course, the programs were hosted over Zoom, and CAs believe the online format to be the main reason for the lack of participation.

"[in] the programs I've put on it's the same three kids that come and I have like 60 students... the in-person [programs] have gotten a bigger turnout than the ones on Zoom." - WPI Community Advisor

Overall, most of the students we talked to wished that there could be more things going on where they could meet others. Most of the students had a preference for more in-person interaction and are eager to meet new people. They would also like for the Zoom meetings and events to be more interactive and engaging if in-person interactions are not an option.

4.5 Casual Online Social Platforms Have been a Popular Tool Among First-Year Students

Despite the Zoom fatigue students are experiencing, we found that casual online social platforms help first-year students connect with each other. With in-person interaction severely restricted and limited, many first-year students turn to virtual methods when searching for connections. We also found that this online communication may partially bridge the gaps in typical first-year interactions caused by the COVID-19.

In our focus groups, we asked several first-year students to describe times they had been successful in meeting new people over the course of this term. Many of them expressed disappointment in the new social atmosphere on campus; however, many also described being somewhat successful in finding friends on online social platforms. Many CAs also described witnessing their students turning to meeting friends virtually. One community advisor told us:

"The kids who are gaming and [are] online ... are doing a lot better this year." - WPI Community Advisor.

Some of these virtual tools are sponsored by WPI, such as online club meetings. Other methods, such as websites and forums, are geared towards WPI students, but not run by the university itself, such as Facebook groups, or Reddit and Discord pages dedicated to WPI.

We found the instant messaging platform Discord, mentioned above, to be popular among WPI first-year students looking to connect with each other. Discord is a free messaging application where users can create and join discussion-based communities centered on nearly any topic. One student told us that the site has been very helpful in helping him connect with people with shared interests, such as video gaming.

"A lot of times, a lot of people I met are getting together to play video games and talk over discord online." - WPI First-Year Student

Discord allows first-year students to connect virtually. The CAs we spoke to have noticed this as well. One CA even described how one of her students has met new friends by acting as an administrator for a Discord page dedicated to the WPI freshman class.

In addition to online discussion forums, many students use multiplayer video games to connect with other students. One student said that joining "gaming calls" - where multiple players can watch or play the same video game remotely - has allowed him to connect with other students. He explained that he has found some of these gaming calls on his own through non-WPI affiliated groups for students, such as a WPI "Dungeons and Dragons" gaming group; however, this student has participated in the online gaming calls and the Discord server of the WPI Video Games Club.

We also found that online platforms help supplement the peer interactions that are lost with online classes, reduced class meetings, and social distanced in-person seating. One student described how he met a close friend by reaching out to him on a Slack channel set up by his professor for his course. Slack is another, more business-oriented communication platform that allows users within a group to send direct messages or create topic-oriented chat rooms. This student recounted how this class Slack channel allowed him to connect with other members of his class. This piece of data not only illuminated how much social interaction is missing from classes, but also how this lack of interaction may be supplemented through class-specific discussion sites.

As a result of the success that students have found in joining these online social platforms, some first-year students interviewed and surveyed expressed that they would like to see more opportunities to meet others at WPI in this fashion. CAs also expressed to us that they believe their first-year students would greatly benefit from WPI creating and expanding online social platforms and networking opportunities for students.

Chapter 5: Conclusions and Recommendations

This chapter discusses our recommendations as a result of the data we collected and findings. Through the focus groups with first-years, focus groups with CAs, and surveys distributed to first-years we identified five key findings. These five findings are:

- 1. There is a lack of spontaneous social interaction and few opportunities for social interaction
- 2. Non-academic interactions and extracurriculars are valuable to the college experience
- 3. Online formats cannot replicate the in-person experience
- 4. Students experience Zoom fatigue
- 5. Casual online social platforms have been a popular tool among first-year students

From our findings, we determined there are three routes of recommendations to pursue to improve the first-year student experience at WPI. The routes are:

- 1. Create more opportunities for students to connect and engage
- 2. Create a hub of information and resources for students to access
- 3. Identify typical struggles of students, determine the differences caused by COVID-19, and communicate struggles are normal to first-year students

Each of these three overarching categories are very important to improving the first-year student experience at WPI. However, to create a valuable and effective deliverable, we have decided to focus on the first route because it falls most in line with our scope. Table 1 provides a summary of our recommendations.

Recommendation Description Where it Fits Use a preference survey to Can be adopted by different Student Matchmaking match students with similar offices or organizations interests Major Specific Activities Mentorship pairings, online Undergraduate Studies Office major fairs, major related Academic Advising Office discussion channels Major Departments Student Activities Office / Clubs Cross-Dorm Activities/Events Game shows, video games, Insight Program/Student **Activities Office** trivia, and peer matching WPI Discord Server Discord server with various Student Activities Office channels for topics and organizations

Table 1: Recommendation Matrix

5.1 Student Matchmaking

Speed dating is an idea that many students should be familiar with and is quite similar to what we propose. The idea is to meet up with another student who you have never met before and have a meaningful conversation with that person. Data that we have gathered has found that students struggle to find ways to connect with new people outside of a classroom setting. Based on those results, we concluded that student matchmaking would be an effective way to address the issue. Furthermore, when this idea was presented to students via a survey, it received high favorability.

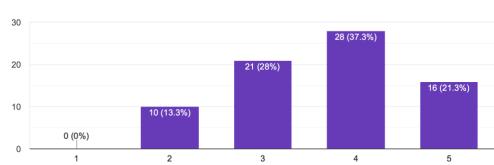
Much of the data we gathered showed that many students would like to see more in-person activities. However, given the special circumstances regarding the pandemic, it is not possible at this time to organize a strictly social in-person event that is designed for many people to attend. Therefore, we plan on taking a hybrid approach via online student matchmaking with the possibility for in-person interaction at students' discretion.

This matchmaking will not be completely random; participating students will fill out a short preference survey (sample listed in appendix G) that will gauge their interests and personality types. The results of the surveys will be used to match students with others who share similar interests. In this way there is a greater chance that those matched with each other will have a more meaningful conversation that will hopefully develop into a lasting relationship. After meeting several students, those who have a good experience with another student will likely exchange contact information and can choose to meet up with them in person at a later date. In this way students will be able to not only meet more people that they might have never met otherwise, but also can choose to meet with them in person if they decide that is what they both want to do. This activity can easily be organized multiple times or even regularly depending on student participation and effectiveness.

The student matchmaking can expand into major specific activity as well. Students could pair with other students within their major or students from other dorms. In this way, students can meet new people within their discipline who might help them with course work in the future. By being a major-based event, it would be easier for the Undergraduate Studies Office to become involved.

5.2 Sponsor Major-Specific Activities

With the second highest amount of favorable responses, major-specific activities, programs, and events are something first-year students are looking for. In our survey of 75 students, 44 responded positively, 21 neutrally, and only 10 negatively when asked if they would participate in major-specific virtual events. The corresponding graph is shown in figure 6.



How likely would you be to participate in major-specific online events? 75 responses

Figure 6: The likelihood of first-year students to participate in major-specific online events

Consequently, we prioritize this recommendation. Out of our four groups of recommendations, we believe sponsoring the major specific activities discussed below and hosting the cross-dorm activities detailed in Section 5.3, will be the most efficacious in fostering connections and community between first-year students. Below we recommend multiple major-specific activities, programs, and events. More detailed information on how major-specific recommendations may be implemented can be found in appendix H.

Firstly, we recommend a mentorship program that pairs first-year students and upperclassmen within their major. We asked our survey respondents to identify their interest in having an upperclassmen mentor within their major, and 55 responded affirmatively, shown here in figure 7.

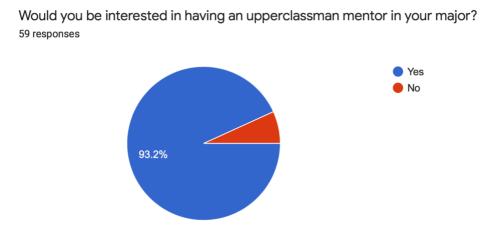


Figure 7: The level of interest in upperclassmen mentorship among first-year students.

The ongoing sophomore mentorship program organized by the Undergraduate Studies Office could be expanded to include first-year students. As discussed in sections 4.1 and 4.3, first-year students have struggled to connect with others in their online classes. Being paired with an upperclassman mentor,

would encourage connection-building for first-year students, and may help them make up for lost social and academic interactions.

In addition to a formal mentorship pairing, students could benefit from being paired in a more casual way with other first-year students of their same major. As discussed above in Section 5.1, student matchmaking events may help first-year students connect with others that they may not have met otherwise.

Another possibility is a major fair in which first-year students could speak with professors or upperclassmen in different departments. This type of event could be hosted online and would allow first-year students to explore their own major or different majors they might be interested in. An online major fair could also show students different paths in their major or research interests that they may want to pursue. Additionally, an academically geared event of this sort could help freshmen build a network with other first-year students, upperclassmen, and professors in their majors which may help them compensate for the lost interactions in the classes.

Discussion boards or Canvas sites for specific majors, as well as professional groups (such as prelaw, pre-health), could be another way for students within the same major or field to connect with one another. In our survey, 50% of respondents indicated that they would be likely to join a discord server for students with similar interests. After this question, participants were given an optional space where they could volunteer topics they would be interested in, and 24 wrote they would be interested in "major based" forums. A discussion site where students of the same major can interact could be especially beneficial for first-year students who are looking to connect with others and form a network of social and academic connections. These major-specific channels or sub-groups could be a part of the larger discussion website we will propose subsequently in Section 5.4.

Additionally, we recommend holding social events targeted at one major or field. For example, computer science majors may be interested in an online hackathon. Interactive media and games development majors might be interested in a video games showcase. The enthusiasm expressed by participants in our survey indicates that this is something first-year students are looking for and would eagerly participate in. Many groups and offices on campus may have interest in the events mentioned above; therefore, we recommend that the Undergraduate Studies Office collaborate with these groups for these events (Table 1).

5.3 Create More Cross-Dorm Activities

WPI does not allow any visitors, whether inside or outside the WPI community, in dorms. As our findings show, students want more opportunities to connect with students in other dorms and meet people outside their current bubble. The data also suggests that, if offered, students would be eager to engage in activities with other dorms. On the graph below, the "1" represents "not likely" and the "5" represents "very likely".

How likely would you be to participate in advertised dorm get-togethers (cross-dorm and within your own dorm)?

73 responses

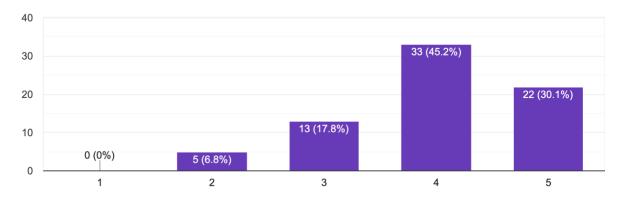


Figure 8: Likelihood to Participate in Dorm Activities/Events

Figure 8 survey shows that the majority of the students would be likely to participate in both cross-dorm and in-dorm activities, with only a few neutral responses and even fewer negative responses.

We recommend that WPI offers more events and activities between different dorms on campus to allow students to expand their social networks. We believe this recommendation should take high priority, along with major specific activities, to create a space for students to connect in a non-academic setting and allow connections to be made outside their current bubbles.

One way to achieve this is utilizing the student matchmaking technique we mentioned in the prior section. Students could be matched with students in dorms different from their own to help students make connections with people on other parts of campus that have slightly different experiences and perspectives from their own.

We also recommend that WPI organizes a cross-dorm competition via online game shows. An online game show competition such as "Jeopardy!", "Family Feud", or "The Price is Right" could be organized in conjunction with the WPI Insight Program and led by senior community advisors. Students would be able to form teams with students on their floor and compete against teams from other floors and dorms. Other activities could include competitions like "Kahoot!" where organizers could choose relevant topics to increase participation, or popular video games to engage students in different dorms. The best approach to increase participation and engagement is to choose activities that students are excited about. We know first-years are eager to interact with new people, but prevalent and engaging activities are crucial to foster community.

Despite being online, these events would allow students to engage with each other, who have previously not had opportunities to meet. The competition aspect will also keep students engaged and invested in the event and garner good participation; there was not one negative response to this idea on

the survey. Depending on the reception and participation for the first event, this activity could be organized again with a different game show, competition, or activity. Further details on the resources, steps, and implementation are listed in appendix I.

5.4 Discord as an Online Alternative for Connecting with Others

With the restrictions on in-person activities, there are limited opportunities for first-year students to meet others in person. Online spaces can provide students with additional opportunities to connect with others. Based on data collected in our survey, shown below, we recommend that WPI implements a Discord server for students.

How likely would you be to join a discord server with people that you have shared interests with? 74 responses

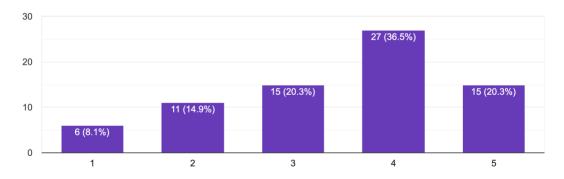


Figure 9: Likelihood to Join a Discord Server "1" represents "not likely" and "5" represents "very likely"

Figure 9 shows that most students surveyed would be eager to participate in a discord server with people of shared interests. Discord is a free voice, video, and text communication application used by over 100 million users worldwide. Discord allows for the creation of servers. These are invite-only channels where users can chat with each other. Different chat and voice channels can be created within a server, as well as assigning permissions for which users can post or speak in certain channels. The server owner can also assign custom roles to users in the server.

We recommend that the Student Activities Office work with student clubs and organizations to create a Discord server where information about the aforementioned clubs and organizations would be centralized. Many student organizations already have their own Discord servers, so this main server could have a "general information" channel where the student organizations could link their own servers. Having this central Discord server would be important because having many different servers would be difficult for students to keep track of. Within this central server, there could also be open channels based on different activities/interests or majors. One example channel could be a gaming channel where people could find others to play video games with, and another could be a channel where students could look for others who might be interested in going out to the quad and playing some lawn games such as "Spikeball."

Creating a Discord server has a few issues/limitations. One issue would be ensuring that students were comfortable with the content being posted in the server. We recommend, trusted users, such as presidents of student organizations could be given moderator powers. New members to the server could be also restricted to only posting in more general chat channels. Members of clubs could be given roles indicating what club they were a part of, and thus get access to club specific channels. Another limitation could be that it would be difficult to organize all of the clubs and coordinate with them for the creation of the server. Further details regarding the implementation of this recommendation can be found in appendix J.

5.5 Future Work

As mentioned, we identified two other routes of recommendations and work to be done to enhance the first-year student experience and replicate the feeling of community in areas that have been affected due to COVID-19. The two routes are expanding resources for students and identifying what is truly different due to COVID-19.

Creating A Central Hub of Information and Resources

Firstly, we believe that students experience an overload of information which can be overwhelming and reduce the effectiveness of the information being spread. Academic offices, administrative offices, and student organizations all send out multiple emails per week with academic offerings, events, and activities. When students are constantly receiving all of these notifications, individual messages can be lost. Furthermore, students may feel overwhelmed and choose not to read emails, especially when some contain irrelevant information to particular students.

Many times, students also do not know where to look for resources and information outside of emails. Resources such a tutoring and club events can be hard to find and are listed in different places. Often students will have to search several pages before finding the information they are seeking. We recommend that a central hub of information be created on a universally used platform such as Canvas. WPI website pages and TechSync are not universally used and can be difficult to navigate. Having all the information listed in one place on a commonly used platform will streamline the process for both students and organizations. Events and information can be posted in one place and external links can be used for more specific information if necessary. The platform could also feature informational tips and videos to help first-year students navigate WPI and their college experience. We believe this will help with the overload of information students receive and make it easier for both organizations and students to share events and information.

Identifying the True Differences due to COVID-19

Another route we believe will be beneficial to first-year students is to understand what is truly different about their experience due to COVID-19. Many students feel overwhelmed, stressed, and have difficulties integrating into the community. Many of these issues are issues all students faced in past years without the presence of COVID-19. Students are quick to assume the problems they are facing are due to COVID-19 and assume there are not resources in place to deal with these issues. We believe it would be helpful to communicate to students that the issues and fears they are facing are normal in every academic

year to help ease pressure. Additionally, we believe it is important to determine what experiences are truly differing due to COVID-19. This will require more research and gathering information from the student body.

Both of these routes are outside of our scope and would require more time to complete these recommendations properly and effectively. We have also found that students want face-to-face interactions and are eager for in-person events. While the current health climate and safety guidelines do not allow for these activities to be implemented yet, we believe there are in-person elements that can be replicated virtually. We must find a way to bridge online and in-person interaction to create an online form of interaction that offers the in-person elements people desire. This would make online meetings more engaging and return a hint of normalcy to our daily lives. We believe these ideas could be studied and effectively implemented by future IQP groups.

5.6 Limitations

Our project did have some limitations. Our sample size for both the focus groups and surveys was limited to students attending WPI, and we did not receive very many sign-ups for the focus groups. It should not be assumed that our findings are representative of the entire first-year class. Additionally, during our focus groups, each individual focus group had few participants, so they were more akin to interviews rather than focus groups. Since our project was focused on building community at WPI, our findings and recommendations are limited to WPI.

Looking back, we have suggestions for researchers attempting a similar study in the future. Firstly, we recommend that they gather data from a larger sample size. To accomplish this, they could choose a data gathering method which requires less commitment from subjects, as we experienced a few instances where students did not show up for their scheduled focus group; they could also collect data for a longer period of time. Late in our project, we worked with Jessica Karner, in Academic Advising, to send out a survey to first-year students. This proved to be a lot more successful than our previous attempts, so we would recommend that any future group attempting to gather data from first-year students at WPI take a similar approach. We noticed that often there was a disconnect between available resources and first-year students' knowledge of those resources, resulting in a lot of helpful and important resources being unknown and unused.

Finally, we collected the demographic data of the students who we held focus groups with and surveyed. We did not collect sufficient demographic data from our focus group, and we did not have the time to analyze the demographic data from our survey. Therefore, it is possible that there were some biases from our surveys that we did not account for and some student perspectives that we did not hear from.

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Appendix A

First-Year Student Focus Groups Consent Form

We are a group of WPI juniors who are currently completing our IOP. We are working with the WPI Undergraduate Studies Office to gather data on the sense of community first-year students feel; our aim is to understand how first-year students have been able to integrate into the WPI community given the new regulations and guidelines regarding COVID-19. We would like to ask you to participate in focus groups to hold meaningful discussions and listen to your voices. The data, opinions, and proposed solutions to any issues or areas for growth identified will be interpreted and used to form recommendations that will be shared with the WPI Undergraduate Studies Office to make the first-year student experience as positive as possible. A focus group consists of a group of people participating in a directed discussion and led by a moderator. Individual responses will be recorded but they will not be attributed to the speaker; all participants will remain anonymous in the published report. We would also like to ask each participant to complete an anonymous and voluntary demographic form at the end of the conversation so we as a group can ensure we are hearing from a wide range of students and voices in the conversation and include a note in our report. With the participants' permission, we would like to record these discussions so each group member can listen if not present during the conversation; these recordings will not be published. This process is entirely voluntary and if you choose to participate please know that you do not have to answer any questions you are not comfortable answering. Additionally, if you would like to be recognized for your participation by the Undergraduate Studies Office please let us know so we can record your name and participation; in doing this your individual contributions will not be attributed to you and remain anonymous in our report.

For more information about this research or about the rights of research participants, or in case of research-related injury, contact: WPI IRB Chair (Professor Kent Rissmiller, Tel. 508-831-5019, Email: kjr@wpi.edu) and the Human Protection Administrator (Gabriel Johnson, Tel. 508-831-4989, Email: gjohnson@wpi.edu)

Appendix B

First-year Student Focus Group Script

Introduction:

Welcome everyone and thank you for attending this focus group. Before we start, I would like to tell you a little more about why you are all here. We are currently working on our IQP in collaboration with the WPI Undergraduate Studies Office. College is a new and challenging experience for all of us. WPI strives to make the experience and transition as positive and supportive as possible, and there is always room for improvement. Our project aims to gauge first-year students' opinions about their learning experience in this new hybrid environment. The data we gather from you today will be used to help determine our next steps moving forward in our project. We will then interpret this and combine with other data to form our own recommendations, to be shared with the WPI Undergraduate Studies Office, on how to make this experience as positive as possible. We will be recording this session and may also use some of your individual responses in our study, while keeping them anonymous. If there are any concerns about this, please let us know.

Main Questions:

- 1. When thinking of your first couple of weeks at WPI, what are three words that come to mind that you would use to describe your experience thus far?
- 2. Could you please talk about an experience when you felt most supported by others or most part of a community?
- 3. Now could you talk about your worst/most frustrating experience connecting with others?
- 4. WPI is trying very hard to keep students safe and on campus; how have the safety guidelines affected how you have been meeting and connecting people?
 - a. Do you feel safe on campus?
 - b. Do you think more needs to be done?
- 5. College life is a new experience for everyone and oftentimes the transition can be difficult. Meeting new people and making friends can be a challenge. How have you been able to interact meaningfully with other members of the WPI community?
 - a. In what ways have you tried to connect with others on campus?
 - b. Have you been able to form any connections with peers in your class?
 - c. What has been effective? (Canvas/a course website, physically in class, group work, clubs)
 - d. Have you been able to connect with other students who are outside of your classes and your dorm?
- 6. If you had a magic wand and could change anything about your experience / transition / integration into the WPI community, what would you change?

Other Questions:

- 7. When you were applying to WPI, long before the pandemic, what expectations did you have for what your first year of college would be like?
 - a. What assumptions/expectations did you make about your first year living on campus?

- b. Where did these assumptions come from?
- 8. When you first learned that WPI was returning to campus in the fall via hybrid learning, what did you expect?
 - a. How has your experience thus far compared to your expectations?
 - b. In what ways has WPI either failed to meet or exceeded your expectations?
- 9. How challenging have classes been?
 - a. Is it easy to reach help when you need it?
 - b. Do you find it easier to ask the professor questions over Zoom?
- 10. Did you attend the virtual activities fair?
 - a. What were your thoughts?
 - b. Did you join any clubs?

Conclusion:

Thank you everyone for taking your time to participate in our focus group. We value your opinions and discussion greatly. Your participation is of great help to the progress of our IQP and valuable to the Undergraduate Studies Office and the administration's attempt to make the first-year student experience the best it can be. If you have any questions, at any time, please feel free to reach out to us @gr-sedc-dk_a20@wpi.edu.

Appendix C

Community Advisor Focus Group Consent Form

We are a group of WPI juniors who are currently completing our IQP. We are working with the WPI Undergraduate Studies Office to gather data on the sense of community first-year students feel; our aim is to understand how first-year students have been able to integrate into the WPI community given the new regulations and guidelines regarding COVID-19. We would like to ask you to participate in focus groups to hold meaningful discussions and listen to your voices. The conversation will be focused around your first-year student experience and the experience of the students you advise. The data, opinions, and proposed solutions to any issues or areas for growth identified will be interpreted and used to form recommendations that will be shared with the WPI Undergraduate Studies Office to make the first-year student experience as positive as possible. A focus group consists of a group of people participating in a directed discussion and led by a moderator. Individual responses will be recorded but they will not be attributed to the speaker; all participants will remain anonymous in the published report. With the participants' permission, we would like to record these discussions so each group member can listen if not present during the conversation; these recordings will not be published. This process is entirely voluntary and if you choose to participate please know that you do not have to answer any questions you are not comfortable answering.

For more information about this research or about the rights of research participants, or in case of research-related injury, contact: WPI IRB Chair (Professor Kent Rissmiller, Tel. 508-831-5019, Email: kjr@wpi.edu) and the Human Protection Administrator (Gabriel Johnson, Tel. 508-831-4989, Email: gjohnson@wpi.edu)

Appendix D

Community Advisor Focus Group Script

Introduction:

Welcome everyone and thank you for attending this focus group. Before we start, I would like to tell you a little more about why you are all here. We are currently working on our IQP in collaboration with the WPI Undergraduate Studies Office. College is a new and challenging experience for all of us. WPI is always striving to make the experience and transition as positive and supportive as possible, and there is always room for improvement. Our project aims to gauge first-year students' opinions about their learning experience in this new hybrid environment. The data we gather from you today will be used to help determine our next steps moving forward in our project. We will then interpret this and combine with other data to form our own recommendations, to be shared with the WPI Undergraduate Studies Office, on how to make this experience as positive as possible. We will be recording this session and may also use some of your individual responses in our study while keeping them anonymous. If there are any concerns about this, please let us know.

Questions about CA First-Year Experience:

- 1. When thinking of your first couple of weeks at WPI in your first year, what are three words that come to mind that you would use to describe your experience?
- 2. Could you give an example during freshman year when you felt most supported or part of a community?
- 3. How did you meet/connect with people in academic and non-academic settings?
- 4. WPI is trying very hard to keep students safe and on campus; how have the safety guidelines affected how you have been interacting with people?
- 5. Is this your first year as a CA/RA?
 - a. If not, have you noticed a significant difference in how your students have been able to meet and interact with others?
 - b. CA: What changes were made to the insight program? Do you think these changes have affected the efficacy of the program?
- 6. RA: Describe you think the limitation of dorm visitors and closure of common rooms has impacted how freshmen are able to meet others? How so?
- 7. RA: Have you personally suggested to your freshmen any ways for them to meet others? What have you suggested?
- 8. If you had a magic wand and could change anything about your experience / transition / integration into the WPI community, what would you change? / If you could propose a way for WPI to foster connection, what would you suggest?

Questions about students they advise:

- 1. What is the biggest / most common point of feedback you have gotten from your students this year?
- 2. What are the most common problems you have heard from your students this year?
- 3. Where have your students found success in meeting and interacting with people?

- 4. Are your students finding it harder to interact and meet people due to the safety regulations?
- 5. Have you students been able to form study groups and meet people in their classes with the online and hybrid formats?
- 6. What was the most common hope and fear students shared in that program?
- 7. In our focus groups with freshmen, we have been hearing (x). What do you think WPI could do to alleviate this?

Conclusion:

Thank you everyone for taking your time to participate in our focus group. We value your opinions and discussion greatly. Your participation is of great help to the progress of our IQP and valuable to the Undergraduate Studies Office and the administration's attempt to make the first-year student experience the best it can be. If you have any questions, at any time, please feel free to reach out to us @gr-sedc-dk_a20@wpi.edu.

Appendix E

First-Year Student Community Survey Consent Form

We are a group of WPI juniors who are currently completing our IQP. We are working with the WPI Undergraduate Studies Office to gather data on the sense of community first-year students feel; our aim is to understand how first-year students have been able to integrate into the WPI community given the new regulations and guidelines regarding COVID-19. We would like to ask you to participate in this survey to collect data. The data, opinions, and proposed solutions to any issues or areas for growth identified will be interpreted and used to form recommendations that will be shared with the WPI Undergraduate Studies Office to make the first-year student experience as positive as possible. Individual responses will be recorded but they will be completely anonymous, and no participants will be published in the report. We are collecting demographic information so identify different groups we hear from and to include a note in our report. This process is entirely voluntary and if you choose to participate please know that you do not have to answer any questions you are not comfortable answering. Again, this process is entirely anonymous.

For more information about this research or about the rights of research participants, or in case of research-related injury, contact: WPI IRB Chair (Professor Kent Rissmiller, Tel. 508-831-5019, Email: kjr@wpi.edu) and the Human Protection Administrator (Gabriel Johnson, Tel. 508-831-4989, Email: gjohnson@wpi.edu)

Appendix F

First-Year Student Community Survey Questions

Demographic Questions:

- 1. With what gender do you identify?
 - a. Male
 - b. Female
 - c. Prefer not to say
 - d. Other
- 2. Which of the following best describes you?
 - a. African American / Black
 - b. Asian
 - c. Caucasian / White
 - d. Hispanic / Latinx
 - e. Native American / American Indian
 - f. Pacific Islander
 - g. Mixed
 - h. Prefer not to say
 - i. Other
- 3. Are you a first-generation college student, meaning you are the first in your family to attend a 4-year college in the United States?
 - a. Yes
 - b. No
- 4. Are you a domestic or international student?
 - a. Domestic
 - b. International
- 5. What is your major?
- 6. Are you completing classes remotely or on-campus?
 - a. On-Campus
 - b. Remotely
- 7. Are you on a varsity sports team? If so, which one?
- 8. Are you involved in any clubs? If so, please list them.

Community Engagement Questions:

- 1. On a scale of 1 5, how well integrated do you feel in the WPI community?
 - a. 1 Not integrated
 - b. 5 Fully integrated
- 2. On a scale of 1 5, how much of a sense of community do you feel among your class?
 - a. 1 No sense of community
 - b. 5 Full sense of community
- 3. On a scale of 1 5, how easy/challenging has it been to meeting people?
 - a. 1 Very challenging

- b. 5 Very easy
- 4. How engaging have club meetings been?
 - a. 1 Not engaging
 - b. 5 Very engaging
- 5. Do you know what TechSync is and how to use it?
 - a. Yes
 - b. No
- 6. Do you read the weekly emails sent out about events and activities on campus?
 - a. Yes
 - b. No
- 7. Have you used the CORQ app to find events on campus?
 - a. Yes
 - b. No
 - c. I do not know what that is

Gauging Proposed Ideas and Solutions:

- 1. On a scale of 1 5, how likely would you be to participate in advertised dorm get-togethers (cross-dorm and within your own dorm)?
 - a. 1 Not likely
 - b. 5 Very likely
- 2. On a scale of 1 5, how likely would you be to participate in a WPI based trivia game?
 - a. 1 Not likely
 - b. 5 Very likely
- 3. On a scale of 1 5, how likely would you be to participate in cross-dorm game show competitions online?
 - a. 1 Not likely
 - b. 5 Very likely
- 4. On a scale of 1 5, how likely would you be to join a discord server with people that you have shared interests with?
 - a. 1 Not likely
 - b. 5 Very likely
- 5. If you were to join a discord server, what kinds of discussion topics would you be interested in joining? (ex. discord for skiers, gaming, major based, etc.)
 - a. 1 Not likely
 - b. 5 Very likely
- 6. On a scale of 1 5, how likely would you be to participate in an event where you were paired with a student you haven't met and had a discussion or meeting with them? (ex. a virtual cup of coffee to share updates or "speed dating" style events)
 - a. 1 Not likely
 - b. 5 Very likely
- 7. On a scale of 1 5, how likely would you be to participate or watch a talent show or show and tell?
 - a. 1 Not likely
 - b. 5 Very likely

- 8. On a scale of 1 5, how likely would you be to participate in major-specific online events?
 - a. 1 Not likely
 - b. 5 Very likely
- 9. Do you have any ideas for major-specific events?
 - a. 1 Not likely
 - b. 5 Very likely
- 10. Would you be interested in having an upperclassman mentor in your major?
 - a. Yes
 - b. No
- 11. Would you use a Canvas page that offers a hub of information for extra-curricular activities and events? (club events, Greek-organizations, fundraisers, weekly email information)
 - a. Yes
 - b. No
- 12. Do you have any additional ideas or changes you would implement?

Appendix G

Student Matchmaking Detailed Implementation

Creating new ways for students to meet and interact with one another is more important this year than it has ever been. Implementing a student matchmaking activity would be a relatively easy thing to accomplish. The first thing that needs to happen is to spread word of the event. Getting students attention can be difficult with the large volume of emails that they receive every day. Community and resident advisors can work in conjunction to help spread the word. Posters can be spread around campus similar to how word is spread about the career fair.

Following that, students need a way to sign up. A google form can be set up where they can enter their names and student email addresses. On this sign up form, students will be asked to answer a short survey to aid in the matchmaking process. The survey will be optional of course, and students will be asked to submit their surveys a day in advance. An example of a preference survey that could be used is included below. Upon completion of the survey, students will receive an automated email containing the Zoom link and a password. Zoom will be used as it is a platform all the students should be comfortable using as it is how they have been taking their online classes.

After all the surveys have been submitted, the organizers will use the responses to match students accordingly, it is important to note that the survey is simply a guide to aid in this process. It is our recommendation that students should leave the event having met at least 5 new people. Students should be matched with 5 other students ahead of time to ensure efficiency (i.e. 5 separate interactions). Depending on the volume of participants, more Zoom calls and organizers may be necessary. When the event starts, students will be split up into separate breakout rooms. Students should be allowed to remain in the breakout rooms for 8 minutes and then return to the main meeting room. After the students return, they will then be split up again to meet up with another student for another conversation. In the event of students not showing up after signing up, the organizers should match the student with any other student who also does not have a partner, regardless of their survey results. If there is an odd number of students, the organizers should add the student to a breakout room that already has two students. After adding the student, the organizer should briefly join the breakout room to explain what happened to avoid confusion. The event should last roughly an hour, including time added for technical issues and waiting for students to join.

After the event, participants should be sent a follow up survey to gauge opinion on how the event went. An example of the follow up survey is included below. Based on the results from the survey, the event could be organized again later in the year.

Sample Preferences Survey Questions:

- 1. What is your intended major?
- 2. What is your favorite pastime?
- 3. How might others describe you?
- 4. Do you play any sports?
- 5. Are you comfortable meeting in person?
- 6. Are you comfortable exchanging contact information with another student?

Sample Follow Up Survey:

- 1. On a scale of 1-5, how effective was the student matchmaking event?
- 2. Of the students you met, how likely is it that you will talk to them again?
 - a. Very likely
 - b. Likely
 - c. Neutral
 - d. Not likely
 - e. Definitely not
- 3. If this event were to be organized a second time, how likely is it that you would attend?
 - a. Very likely
 - b. Likely
 - c. Neutral
 - d. Not likely
 - e. Definitely not
- 4. Would you recommend this event to a friend as a way to meet new people on campus?
 - a. Yes
 - b. No
- 5. If no, why not?
- 6. If you could change one thing about the student matchmaking activity, what would it be?

Appendix H

Major Specific Events Detailed Implementation

Our survey showed how first-year students are looking to connect with others in their major in online settings; therefore, we recommend holding major-specific activities, programs, and events that may help freshmen build a network with other first-year students, upperclassmen, and professors in their majors which may help them compensate for the peer and professor interactions lost in online classes. We have detailed below the steps the Undergraduate Studies Office may need to take to implement the three largest major-specific events we recommend. Such events may involve many organizations on campus, such as individual academic departments, major-specific clubs, the Student Activities Office, or Academic Advising Office to name a few.

Mentorship Pairing Program

Pairing first-year students with an upperclassman in their major would encourage social and academic connection-building; therefore, we recommend the Undergraduate Studies Office establish a first-year mentorship program. This could be done by expanding the ongoing sophomore mentorship program organized by the Undergraduate Studies Office to include first year students. The first step in this extension would be to distribute a survey to first-year students and upperclassmen to gauge interest in being a mentor or mentee. The survey should determine students' major and any minors or specific areas within their field they are interested in pursuing. The next step is to match each first-year student with an upperclassman of the same major, and then to connect each pairing via email. An additional step that might be beneficial would be to provide a list of suggestions for the mentor to encourage a beneficial relationship with their mentee.

Major Fair

We also recommend that the Undergraduate Studies Office collaborate with each academic department on campus, as well as the Academic Advising Office to host a major fair. This event could be hosted online and allow first-year students to speak with professors or upperclassmen in any major that interests them. The first step to hosting this event would be to reach out to department heads of each major, informing them of the fair, and asking that they forward the information to their student body. A handful of students from each major are necessary to form a panel, as well a 10-15-minute presentation from one or two faculty members from each department. After securing upperclassman volunteers and faculty presenters, the next step would be to inform the first-year student body about the fair, via email or flyers around campus. Each major would have a scheduled time and a respective Zoom meeting ID, allowing students to explore more than one major. This schedule and the meeting links need to be visible in the email to students. An additional step would be to instruct the faculty to use breakout rooms on their calls to encourage student networking.

Peer Matching

Our last large-scale recommendation is to establish a peer matching program to help first-year students make-up for the interactions that are not able to be replicated in online classes. The first step in establishing this program is to distribute an interest survey to first-year students that determines students'

majors, minors, academic interests, and preference to interact in person or online. The next step would be to match students who have the same major and similar responses, then to notify the students of their matches via email. It would also be helpful to include in the email suggestions and ideas for ways students could interact.

Appendix I

Cross-Dorm Activities Detailed Implementation

Creating cross-dorm activities for first-year students is of the utmost importance. First-year students have indicated they are eager for the opportunity to meet new people and need an outlet to step away from their academic commitments. There are several different activities that can be implemented, each with varying levels of resources and time needed. We believe each of the recommendations fit under the jurisdiction of the Student Activities Office or the Insight Program, with the latter being the better fit as there are senior community advisors and community advisors already in place who oversee dorms and have relationships with first-years.

Online Game Shows, Competitions, and Video Games

Organizing cross-dorm game shows, competitions, or activities for students could take many forms. There are games such as "Jeopardy!", "Family Feud" or "The Price is Right" to name a few, or other activities such as "Kahoot!", which could be implemented fairly easily. Online apps allow groups of people to play these games with each other, without. This would be very easy to implement as there is no need to create categories or questions. These activities could also be created by the organizers, so the game shows have certain themes, questions, or categories. This would create more work for organizers but may allow for the activities to be more relevant and therefore garner higher participation.

For these activities, students would create teams to participate. Teams would be formed with students from a single floor and compete against teams from other floors and other dorms. One way to run the competition would have each floor in a dorm compete against each other, then have the winning floor from each dorm compete in a final round. For example, each floor in the Sanford-Riley dorm would form a team and compete against each other; then the winning floor would compete against the winning floors from Daniels, Morgan, Founders, Institute, and the Stoddard Complexes.

At this point, the students would be able to interact with students in other dorms and engage in healthy competition. Depending on the competition chosen and the length of the game show, the event would either be run in one night, or different stages would be completed across several nights. The event could also be live streamed to the community to allow eliminated teams or students who chose not to participate to follow along.

For activities such as video games, CAs from different dorms could organize these games and have interested students participate. Popular games such as "Among Us" can be played on smartphones so everyone would have access to the game.

Cross-Dorm Peer Matching

Another way to create opportunities for students to meet each other is peer matching. This idea could be implemented into the Insight Program very easily. Students could be matched with students in dorms different from their own and conversate on common interest, academics, or anything of their choosing. This will help students to make connections with people on other parts of campus that have slightly different experiences and perspectives from their own.

These activities do not require a lot of resources and would serve as the platform for students to make new connections.

Appendix J

WPI Discord Server Detailed Implementation

Based on feedback from students we have found Discord to be a popular tool for first-year students to connect with each other. The RBE major has a Discord server which acts as a good example of how a Discord server can be successfully implemented in an academic/school setting. Many of these guidelines are based on the practices of that server. More general information about Discord can be found on their website, discord.com.

Guidelines for Implementation

We recommend that the server include a few main chat rooms. When students first join the server, they should be restricted to a read-only channel which includes all of the rules for the server. At the end of the list of rules, there could be some way that students could indicate their year. Choosing a role would also mean that they agreed to the server's rules and would receive access to the other main channels after choosing a role. Shown below is what the RBE Discord's role selection looks like. There are different Discord emotes for each of the roles, and by using one of those emotes as a reaction, new students to the server indicate what year they are. There will also need to be few users who are granted mod powers to ensure that students in the server are following the rules.

Channel Ideas

We will now discuss some possible chat/voice channel ideas for a Discord server for students.

Additional Role Selection:

- This channel would be a read-only channel where students could react to messages to get even more roles
- These roles could be anything ranging from their major to what hobbies they are interested in Server Announcements:
 - This channel would be a place where mods or club presidents would be able to make posts about different events that might be going on or important announcements for the general student body

Server Feedback:

- This channel would be used as a place where students could provide feedback on how they thought the server was being run and any complaints or suggestions they had for how to improve the server for all

General Channel:

- Every Discord server has one of these. This channel would be where most of the general discussion would take place

Major/Club Specific Channels:

- These channels would be places where students could ask about things related to a specific major or club
- Ideally, there would be a different channel for each major and each club. To avoid too much clutter, club and major channels would start off hidden, and only be accessible to students who selected additional roles indicating that they were interested in specific majors/clubs

Meetups:

- This is a channel where students could try and find others who might be interested in meeting somewhere in-person

Miscellaneous/Fun Channels:

- These channels would be for non-school related activities such as watching sports, playing video games, memes, or discussions about TV shows or movies
- There could be a text channels where students could discuss sports and voice channels as well where students could use the Discord streaming feature to all watch a sports game together while all in a call
- There could also be gaming channels with different voice channels so students looking to find others to play with could post in the corresponding channel

Impact

Having a community Discord server will allow first-year students to more easily find and connect with other first-year students. It would also provide a platform where first-year students could find others who had the same interests and ask upperclassmen for advice on how to best proceed with their college career. Finally, the server would also act as a virtual gathering place where students could join a voice channel with each other and do activities like playing games or watching sports with each other.