

# **Strengthening Virtual Programs for Voces Vitales Costa Rica Amidst COVID-19 Pandemic**

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*This report represents the work of one or more WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on the web without editorial or peer review*

## **Abstract**

In response to COVID-19 restrictions, Voces Vitales Costa Rica (VVCR) shifted their operations online. Our goal was to evaluate and identify improvements to their virtual mentorship program to provide the most benefits to their network. Through interviews and surveys, we gathered experiences with online mentoring and course structure to provide recommendations for VVCR's virtual mentoring and certification course. We then created a Virtual Mentoring Guide on conducting mentoring sessions online and provided recommendations that VVCR can implement to increase mentor retention and build a stronger network throughout the organization.

## **Acknowledgements**

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We would like to thank the Worcester Polytechnic Institute Student Development and Counseling Center, the Center for Women in Enterprise of Central Massachusetts, and Pathways for Change of Central Massachusetts for your willingness to participate in our research study through virtual interviews. The information gathered from the interviews contributed greatly to our recommendations and deliverables for VVCR.

We would also like to thank the Worcester Polytechnic Institute faculty and students who participated in an anonymous survey that contributed data to our study.

Lastly, thank you to Worcester Polytechnic Institute for making this project possible amidst the challenges of COVID-19.

# **Executive Summary**

## **Introduction**

Voces Vitales Costa Rica (VVCR) is a non-profit organization with a mission to encourage and facilitate the growth of female leadership. Voces Vitales focuses on empowering women through four avenues: human rights and domestic violence; political and civic participation, economic empowerment, and leadership development.

VVCR is a resource to connect women across the world and improves lives in communities across Costa Rica. To do this, VVCR holds training sessions, conducts mentoring programs, and helps women build networking communities. Their mentoring program is a valuable resource that connects women with certified mentors who help them develop the skills needed to become a successful leader. Mentors guide women to find the potential within themselves through a self-exploration process. The methodology for mentoring that VVCR has developed is the backbone of their organization.

## **Purpose**

In March of 2020, the COVID-19 virus resulted in a worldwide pandemic, meaning countries had to adapt and implement new policies in order to contain the spread of the disease, reduce strain on medical resources, and avoid unnecessary fatalities. The workplace changed drastically, as many businesses shut down or moved to remote “work from home” scenarios. In response, VVCR adapted by virtualizing all their in-person training and mentoring sessions through Zoom and other virtual platforms.

Although VVCR had already made important progress for transitioning to a virtual program, the nature of the pandemic forced them to create new systems with little time for

careful planning and deep thought. To improve their current systems, VVCR was seeking a strategic plan that included thoughtful research on virtual training and communication.

### **Goals, Objectives & Methodology**

The goal of the project was to evaluate the VVCR mentorship program in order to provide the most benefits to VVCR mentors and mentees. We evaluated the current successes of their virtual systems and programs as well as identified areas that could be improved. Our team focused on four objectives to achieve this goal:

1. Determining the best practices for online mentoring with a focus on human connection
2. Compiling information and techniques for delivering course content virtually
3. Creating a guide for virtual coaching and connection for the mentoring program
4. Identifying new virtual opportunities or features that would be beneficial to mentors

Working towards these objectives, our team conducted interviews with VVCR mentors, nonprofit organizations: Pathways for Change and Center for Women and Enterprise, and the Worcester Polytechnic Institute Student Development & Counseling Center (WPI SDCC). We also distributed surveys to VVCR mentors and mentees as well as WPI students and instructors.

### **Results & Analysis**

To analyze the current state of the virtual mentoring program, we surveyed VVCR mentees who had experienced the shift in programs from in-person to online. In comparison to in-person mentoring sessions, mentees felt that virtual sessions were not as beneficial. In terms of developing a personal connection virtually, the mentees found this to be somewhat easy or had neutral feelings. Overall, mentees were satisfied with virtual mentoring.

The next group was the VVCR mentors. We found several areas that were working well in a virtual setting. The increased flexibility of conducting sessions from wherever and whenever

was a positive, as well as the increased accessibility to those who may live far away or travel often. Lastly, the pandemic caused more people to stay open minded about virtual programs making the adjustment easier.

With converting mentoring sessions online, there were naturally some challenges that mentors faced. One of the biggest challenges was the lack of non-verbal communication that is usually used to read and understand the emotions of the mentee. Another challenge was environmental distractions due to not meeting and sitting in front of the other person. There were learning curves with using new technology, as well as internet connectivity issues. Another difficulty was finding a quiet place to conduct the meetings for the mentor as well as the mentee, when most people are at home with their family. Some mentors also expressed that developing a meaningful connection virtually was harder than if they were in person.

We collected tips and techniques mentors used in order to combat the challenges that came with virtual sessions. Mentors adapted by sharpening active listening skills to hear emotion because of the lack of visual communication. They suggested using video-calling whenever possible in order to see the other person's facial expressions and shared that practicing empathy with the other person was important. Another tip was to ensure that they, as the mentor, and the mentee were both ready to begin the session by calming their mind and body beforehand or engaging in small talk or a breathing exercise at the beginning of each meeting. Lastly, was to use the mentee's home environment as an advantage and ask questions about what they see or hear in the background of the meeting in order to better connect with the mentee's personal life.

The third subject group we talked to was the WPI SDCC who faced many of the same challenges when shifting their counseling sessions online. The counselors gave four pieces of advice for conducting virtual sessions. First, is to reassure the student that their meeting is still

private and confidential. Next, is to urge the student or mentee to find a quiet space where they can be alone in order to concentrate and have the privacy to open up. Third, is to embrace the awkwardness of virtual settings and to not be afraid of them because everyone is facing the same challenges when trying to learn this new environment. Lastly, is to focus on identifying the values of the student or mentee in order to give them guidance that aligns with their personal beliefs.

The last group we talked to was local nonprofit organizations. One of these organizations, the Center for Women and Enterprise, works in female leadership and entrepreneurship. There were two events this organization held that can be related to VVCR's mentoring program. The first program is "Coffee Hours" where volunteers and staff join to have more candid discussions, socialize, and share ideas. The second program that this organization has seen success with is conducting large convention-like virtual events that could be used for reference when looking to plan larger mentoring days at VVCR.

For the next objective of delivering course content virtually, we wanted to understand the overall opinions students had towards virtual learning. WPI students had mixed reactions noting that they had difficulty focusing and retaining information. They also missed the interaction with their peers and instructors. Some positives that students described were the increased flexibility and accessibility to their course materials.

We gathered survey responses from WPI faculty to better understand opinions from the instructor's point of view. Professors struggled with learning new technology and software along with feeling disconnected to their students. One positive they found was the ability for students to collaborate through chat features and small group discussions.

Through surveys of the VVCR mentors, we found this group was the most open to the idea of virtual courses and training. This is because mentors have other obligations and jobs that come before being a VVCR mentor. The flexibility and accessibility of online resources created convenience in the mentor's life. They enjoyed being able to connect with a wider range of attendees, now that there were participants from around the globe in the same class. The biggest negative for mentors was the lack of face-to-face networking and interaction opportunities. This is something they cherished in the past when large training sessions were in person.

We utilized the data collected from the three subject groups in order to determine tips and best practices VVCR could implement into their virtual mentor certification course. We found the best format to deliver content online is through multiple short lecture videos. Students start to lose focus after 10 minutes of lecturing, so it is better to have multiple short videos with interactive activities in between. Another key point is to have a high energy instructor or facilitator. This keeps the group engaged and focused on the material. Lastly, having chat features or creating group pages for participants will help achieve the personal connection that is lost due to the virtual environment.

With the survey and interview results we gathered, we were able to identify new opportunities that VVCR could implement virtually. These new programs or features aim to increase engagement within the VVCR community.

**Deliverables:**

Following the investigation, our team constructed and designed a virtual mentorship guide in addition to our list of recommendations. This guide is meant to be distributed to VVCR mentors in order to aid the transition and continuation of conducting virtual mentoring sessions. The guide includes advice and techniques from 24 VVCR mentors and 3 WPI SDCC counselors



that were collected during our study. It also incorporates previously established VVCR methodology for the program, such as objectives for the mentoring process, steps for how to conduct each stage of the process, as well as an outline for the required documentation.

### **Recommendations and Conclusions:**

After our thorough analysis of VVCR's programs, we compiled a list of recommendations for optimizing their virtual programs, as well as growing the connection between VVCR volunteers and strengthening the community. We recommend that VVCR:

- Distribute the virtual mentoring guide that our team designed to help mentors conduct virtual sessions.
- Organize their virtual certification courses to engage their trainees through meetings with cameras on, short videos, interactive discussions and activities, and chat features.
- Create more virtual opportunities for mentors to share expertise or ask for advice in order to increase interaction between the volunteers.
- Implement a version of "Coffee Hours" as another space for mentors to connect.
- Reestablish their newsletter and distribute an informal edition on a monthly basis to keep their volunteers up to date on events.
- Share information about relevant courses that are being offered outside VVCR that are recommended by mentors or staff members.
- Encourage mentors to host and conduct informational sessions on professional topics that they are skilled in.
- Develop a dashboard for mentors that holds information about their volunteering history.

## Authorship

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## **Chapter 1: Introduction**

Women across the world face unique challenges and barriers to gaining status and influence in their communities. In Latin America, there have been many initiatives put in place to combat gender discrimination and promote the empowerment of women. Voces Vitales Costa Rica (VVCR), or Vital Voices in English, is a non-profit organization with a mission to encourage and facilitate the growth of female leadership. VVCR works as a resource to connect women across the world and improve lives in communities across Costa Rica. To do this, VVCR holds training sessions, conducts mentoring programs and helps women build networks. The educational and mentoring sessions that VVCR provide help bring visibility and support to women who have great potential to be leaders, and who will one day nurture peace and prosperity for their communities using this training.

The COVID-19 pandemic resulted in a multitude of changes and uncertainty to many aspects of education, business, and life in general. In response, VVCR adapted by virtualizing all their in-person training sessions to be offered through Zoom and other virtual platforms. Although VVCR had already made important progress for transitioning to a virtual program, the nature of the pandemic forced them to create these new systems with little time for careful planning and deep thought. To improve their current systems, VVCR was seeking a detailed and strategic plan that included thoughtful research on virtual training and communication. Using their newly acquired training platform, they aimed to create a stronger, personalized, and more empathetic relationship with their beneficiaries and improve their workshops and mentoring activities.

In order to help create a thoughtful and professional plan for VVCR's virtual presence, extensive research was conducted to distinguish best practices for virtual training and how to implement them on the most applicable platforms. Our project worked to evaluate the efficacy of VVCR's mentoring program after its shift to a fully virtual model and ensured that current best practices were being utilized. Research towards the structure of online courses also assisted VVCR in developing the content for their virtual training courses and certification programs. Our goal was to evaluate the VVCR mentorship program in order to provide the most benefits to VVCR mentors and mentees. Based on our evaluations, we provided recommendations on the current successes of their virtual systems and mentorship program as well as areas that could be improved. These findings also included the creation of a mentorship guide tailored to a virtual environment. This was used to ensure human connection between the entire VVCR network was emphasized. We also suggested methods for VVCR to further connect and engage with their volunteers, and to encourage interaction between the mentors, in order to create a stronger sense of community within VVCR's network and increase retention rates for future projects.

## **Chapter 2: Background**

### 2.1 History of Women's Status in Costa Rica

The social and political status of Costa Rican women has been gradually making progress over the last decade. However, women are still faced with discrimination, economic inequality, and under-representation in upper-leadership roles.

#### 2.1.1 Historical Gender Discrimination

Prior to the 19th century, the role of women in Costa Rica was unique among Latin American countries. Women's legal status at the time protected their right to defend themselves in court and their right to retain their identity through marriage, without assuming their husband's name. Although women did not have full political equality, the laws in Costa Rica gave them much more freedom than those in most other countries in Latin America. This all changed as Costa Rica fell under stronger European influence from France because of continued European colonization of Latin America. French laws and culture had a great influence on women's status which resulted in much less legal protection. For example, by the end of the 19th century, women could be sent to prison for infidelity accusations while husbands could be involved in an affair for up to 12 months before the wife could take any legal action against him (Quesada, 1997). This legal inequality against women became more and more extreme, while educational opportunities for women were still advancing. This prosperity in education for women overshadowed the decline of women's legal status. Women in San José were seeing new economic growth due to the investment in education, however their social status was affected by



the French influence on Costa Rican culture. Travelers who came to San José discriminated against the women for acting in less “traditional” manners that were deemed inappropriate, such as spending time with young men alone or sitting behind male riders on their horses (Quesada, 1997).

### 2.1.2 Economic Inequality

There is a distinct disparity in the economic status of men and women in Costa Rica. A study on Costa Rican economics conducted by the London School of Economics in 2009 describes a pattern called the “feminization of poverty.” The phenomenon suggests that female-headed households have increasingly represented a larger portion of the population that is defined as poor, since the early 1990s (Chant, 2009). The Economic Commission for Latin America and the Caribbean’s executive secretary, Alicia Barcena states that, “poverty still has the face of a woman” and she clarifies that, “one third of Latin American women (29 percent) do not manage to generate their own income and nearly half have no ties to the labor market” (Pollmann, 2017).

The economic status for many Costa Rican women threatens their ability to be self-sustained. A clear wage gap between male and female workers can be partially attributed to the positions most commonly held by women. The jobs are most centralized in the lower paying sector which includes agricultural and domestic service jobs. These positions require less education and on average have limited benefits and inadequate labor contracts. The high paying jobs, which involve more technology and education, are generally filled by male workers. These jobs also usually have better working conditions and more benefits (Pollmann, 2017). This

imbalance is a product of women conforming to a traditional gender role, as well as discrimination against hiring women in male-dominated fields.

### 2.1.3 Female Underrepresentation

The lack of women in politics and high-ranking leadership roles is pronounced in many countries around the world. In a study about women appointed to ministerial positions in presidential administrations from Argentina, Chile, Columbia, Costa Rica, and the United States, trends regarding the first female elected were analyzed. It discussed social-control theory and how it predicts the way one group, white men, hold on to power through different administrations (Escobar-Lemon, 2016). Historically, white men have held most if not all positions in politics, which created the social norm that they are the people who are best qualified to fill those roles. The social-control theory predicts that the group that has traditionally been in positions of power will appoint people from the same group, unless it will drastically hurt their political standing to not elect a person of more diverse background. The study remarked that when someone outside of the typical group is appointed, they will be someone who very closely resembles the normal candidate. This is to prevent policy change that would hurt the privilege of white males (Escobar-Lemon, 2016).

In Latin America in particular, the percentage of women in high-level government positions does not exceed 30%. This disparity is being combatted through implementing quota systems for regulations on the legislative electoral lists. Quota systems are put into place in order to increase female representation and to promote gender equality in politics. These systems have been shown to be effective in legislative programs across the globe for electing more women. The average percentage of female representation in countries with quota laws is 20%, which is

almost 50% more than countries without quota regulations, which in turn have an average of 14% women (Pollmann, 2017). In Costa Rica, quota laws require their lower chamber electoral lists to be 50% women. This had resulted in 33.3% of elected lower chamber representatives to be female in 2017. This places Costa Rica in the highest category for well-designed quota laws in Latin America (Pollmann, 2017).

Female leadership in politics and positions of power are increasing in Latin America as a whole. There have been 10 women presidents in the entire region over the last 40 years. In 2016, Costa Rica ranked 4th in Latin American countries for percent of female participation in ministerial cabinets (Pollmann, 2017). There are women who are breaking out of the gender mold that has been a part of Latin American culture for centuries. These select women are reaching high positions of power, leadership, and influence. Politics are still very male-dominated, but advances have been made by these women setting an example and helping to normalize women in leadership roles. Female leaders are an important symbol for the continued success of gender equality initiatives (Pollmann, 2017). Women in leadership is an important step to bring overall prosperity and development to the region (Voces Vitales, 2020). The increasing support and acceptance of these women creates new spaces for young women to aim for these positions as well. These advancements are important to the continual push for economic, legal and social equality and prosperity of women in the region.

## 2.2 Voces Vitales Costa Rica

Voces Vitales Costa Rica (VVCR) is the Costa Rican chapter of the Vital Voices Global Partnership organization. The Global Partnership was initiated by former US Secretaries of State Hillary Clinton and Madeleine Albright in 1999. The organization now reaches 146 countries

and over 14,000 women across the world. Their motto reads, “Investing in women transforms the world” (Voces Vitales, 2020). Vital Voices focuses on empowering women through four avenues: human rights and domestic violence; political and civic participation, economic empowerment, and leadership development.

In May 2011, Alexandra Kissling, Gabriela Flores, and Karlaa González established the Fundación Unidas para Crecer, “United to Grow Foundation” in English, which became the official chapter of Vital Voices in Costa Rica in November of 2014. The non-profit has grown significantly since then, relying on strategic business planning. These skills that helped the company grow to what it is today will be very useful in finalizing and polishing a fully virtual business model. The mission of VVCR translated into English is to “identify, make visible, and invest in women leaders to develop their leadership skills, bringing peace and prosperity to the communities in which they live” (Voces Vitales, 2020). Out of the four main sectors of women empowerment that Vital Voices stresses, VVCR focuses on leadership development, which in turn helps drive economic empowerment. Their vision focuses on supporting women so that they can become agents of change in their own lives, their families’ lives, and those with whom they surround themselves.

VVCR has many different workshops, mentoring programs, and projects available to help transform women into the future leaders of their communities. Their mentoring program is a valuable resource that connects women with certified mentors who will help them develop more skills at being successful leaders. Mentors guide women to find the potential within themselves through a self-exploration process. The methodology for mentoring that VVCR has developed is the backbone of their projects. VVCR has a total of 750 certified mentors and has provided a total of 1050 one-on-one mentoring hours as of 2019. The organization also partners with 18

allied companies, providing women with greater opportunities for networking (Voces Vitales, 2020). VVCR is operated as a social business that focuses on their clients' experiences and the impact their programs have on Costa Rican women.

The mentoring program is one of VVCR's main projects. Mentees are paired with a personal mentor, who meet together one-on-one over a 5 to 8 week period. They typically meet for an hour each session and discuss areas the mentee would like to improve upon. Mentors help define goals and action plans for these women to develop leadership and personal skills.

All of the mentors involved in this program have gone through a certification course developed and conducted by VVCR themselves. Our sponsor offers several certifications and training programs in order for their volunteers to be the most equipped mentors for their beneficiaries. The courses are constructed by VVCR and made available for interested volunteers to enroll in. The trainees go through the courses at their own pace, through an automated system, until they complete the material and pass the certification.

### 2.3 VVCR Use of Technology

Over the past few years, VVCR has been developing more of an online presence and more comprehensive virtual interfaces for their programs. In the past year, the COVID-19 pandemic has forced the organization to relocate all their services into a virtual space. This includes all of their mentoring programs and certification courses as well as day-to-day staff operations. VVCR owns a website with background on the organization and the work they do. They also have social media and networking accounts on Facebook, Instagram, and LinkedIn. Their mentors also make use of their DropBox and Google Forms accounts as well as a program called Mentimeter, used for creating interactive polls that are helpful for seeing engagement at

large workshops. In their shift to move completely virtual, VVCR is currently utilizing four main platforms: Zoom; KuikMatch; Active Campaign; and De La Guayaba.

### 2.3.1 Zoom

Zoom is a video conferencing system that allows VVCR to hold virtual workshop events where mentors and mentees can sign onto a joint video call. VVCR currently owns one Zoom account, which only allows for limited use of the platform. A primary use of their Zoom account is on their Mentoring Days. For these events, there are several mentor volunteers that sign up to run a workshop for a large group of mentees. Zoom allows for meetings to be split into smaller groups called breakout rooms. VVCR utilizes this feature to split up the large group into rooms with one mentor and a small number of mentees for a one-hour workshop. The groups then rejoin the large meeting room for a combined panel to answer questions.

Zoom is also used as a platform to conduct mentoring sessions. This allows for mentors to connect with their mentee through video conferencing. In some cases, this is preferred over a voice-call as the attendees are able to see one another through the live camera feed and connect more through reading facial and body language.

### 2.3.2 Active Campaign

Active Campaign is a platform designated for marketing and communications. The platform allows for autonomous workflows to be created that will guide a user through a process. Currently, VVCR is running their mentor certification program through active campaign. Once an-aspiring mentor subscribes to the program, the site automatically guides them through the

various steps required to complete the certification. The workflow will continually communicate with the trainee through email notifications. This platform also allows VVCR easy avenues for direct marketing emails. Active campaign is managed solely by VVCR employees and the mentors do not have access to track their progress through the site.

### 2.3.3 KuikMatch

KuikMatch is a networking tool that has the capability to form community groups and post various courses. This software is currently in the developing stages and has not yet been released to the entire VVCR network. It is being used for VVCR's Brigadas de Escucha, or listening brigades. The listening brigades program was developed in response to the new challenges and struggles that resulted from the pandemic. It is a way of providing their clients with a resource for finding assistance during such uncertain times. Administration receives a notification when someone is requesting to speak with a volunteer. Then, administration contacts a mentor who is trained in psychological first aid to set up a meeting time with the person wanting assistance. KuikMatch has a community group for the brigade members and also a course on training mentors to become a brigade mentor. The platform can be used for people to connect with others inside their communities or to network with other communities once more groups are established on the site.

Once further developed, KuikMatch will be the hub for mentors and the VVCR network. Each mentor will be able to register and create an account. They can then be added to different community pages to network through and have access to the certification programs that are offered. This will give the user the opportunity to work through the mentor certification courses on their own pace and have access to previous information or units that are stored locally.

### 2.3.4 De La Guayaba

De La Guayaba is used as a data storage system. This platform holds information about VVCR's mentors, clients, events, fundraising, etc. The site compiles the data into a dashboard that shows visual indicators for different statistics. De La Guayaba provides an up to date database for VVCR achievements.

## 2.4 Leadership and Mentorship

Voces Vitales Costa Rica focuses largely on women's leadership training and their mentorship program. This is completed through training targeted towards women that specifically focuses on leadership techniques best fit for them. The fine-tuned approach is necessary since leadership can often be related to power which can be interpreted as male dominance (Sinclair, 2014). VVCRs personalized learning method for female leadership is aimed to help and increase engagement and retention (Fake, Dabbagh, 2020). A research study conducted by Fake and Dabbagh exhibited that enabling participants to choose among resources most aligned with their individual's personal preferences created higher training participation and in return increased their leadership abilities. Sinclair described leadership as not a position or a person but a process of influence, often aimed at mobilizing people towards change. This definition correlates to VVCR's mission as they strived to support women so that they can become agents of change (Voces Vitales, 2020).



### 2.4.1 Women's Leadership

Women's relationship to leadership is unique in that it builds upon the assumption of their subordination. In the past, female bodies have been scrutinized and routinely measured against gender stereotypes, which portrays them as weaker than males and therefore less capable. This treatment as a "sex object" has negatively impacted how women are seen and their experiences in public life and in turn affects their appetite for leadership (Sinclair, 2014). Still, women have a strong interest in the broader phenomena of influential positions.

Women tend to focus on adaptive leadership which involves less of an authoritarian relationship over others. They understand that this is not a position or a person but a process of influence, often aimed at mobilizing people towards change. This leadership style focuses on complex public policy and community problems. In detail, this means supporting groups and teaching them how to face realities and accept responsibilities, create opportunities, foster social learning and problem solving skills, and encouraging other leaders (Sinclair, 2014). These types of leaders work from within and empower others to act in their own interests, rather than one who forces others to behave in a manner consistent with the goals and desires of only the leader. This method was supported by a study conducted by Coaching and Leadership Initiative (CaLI) that found new perspectives, practices, and approaches that led to better communication and relationships, conflict resolution, and awareness of individual leadership practices (Dean, Myles, Parris, Spears-Jones, 2021). Working and coaching from within influence leadership behaviors of first and second-level leaders (Dean, Myles, Parris, Spears-Jones, 2021).

These ideas described have led to a new set of stereotypes in relation to women's leadership. They are based on the idea of relationships and personal connection. Women generally encourage participation, share power and information, enhance other people's self-

worth, and get others excited about their work (Sinclair, 2014). On average, they are more empathetic and people-friendly which is seen as transformative leadership. This empathy helps foster effective human cooperation and encourages society peace and prosperity (Calloway-Thomas, 2018). The transformative style utilizes individualized consideration, inspirational motivation, and intellectual stimulation. Women understand that leadership is not simply the way someone does a job or activity, but rather a series or ways of talking and understanding that is prefigured by relations of power and knowledge (Sinclair, 2014).

Leadership and mentorship skills must constantly be evolving and changing as new methods are created. These skills are a direct result of instruction in combination with practice. If these two methodologies are combined the output result would be increased over time. Experimental data collected indicated that in fact this directly results in leadership ability (Zeleny, 1941). As the instruction and practice increased it also expanded ability as well and skill sets advanced over time. This is important to note because if old leaders do not adjust to new methods and strategies, new leaders will be naturally chosen.

#### 2.4.2 Personal Connection

Personal connection is incorporated largely in leadership as well as the mentor mentee relationships. VVCR believes that this personal connection is extremely valuable to continue under the virtual settings due to the global pandemic (Voces Vitales, 2020). These connections are increasingly important among women as they place more emphasis on empathy and individual consideration. It is not only important when being taught leadership skills, but also within mentor/mentee relationships. Mentors provide guidance and personal connection to mentees through shared experiences. The combined efforts of human connection and empathy

are what binds individuals together. Empathy has helped shape communities through the arts in forms of music, drama, song, and dance, and to public policy (Calloway-Thomas, 2018). Once one understands the behaviors of others, they are able to enter their world and “see it” through their lens. This shared point of view is critical as women in Costa Rica face so many shared gender related disadvantages. It is important to continue to place focus on the human connection and empathy as the world has shifted to virtual platforms due to the ongoing circumstances.

### 2.4.3 Virtual Networking

VVCR had a large virtual network already, but it had become more dominant as in-person meetings and networking came to a halt due to the global COVID-19 pandemic. This idea of networking connects adult women together on a virtual platform to share ideas, experiences, and job opportunities. There are many forms of networking, some of which have already been described above, and which VVCR already utilized. The main goal of networking events is to connect people together over a similar cause or purpose. A key element to these events is to bring in a guest speaker who identifies with the theme of the event to help relate and unite the attendees through the main objective. This personal connection through networking is a major part of these events and it has become a challenge for VVCR to ensure that emotions and empathy are shown over virtual platforms.

## 2.5 COVID-19

COVID-19, also known as Coronavirus, is an infectious disease that affects the respiratory system with symptoms ranging from mild to serious illness (WHO). The first cases

that were detected before the disease was labeled as COVID-19 occurred in December 2019 in Wuhan, China. In January 2020, confirmed cases were being found in other countries as well, with the World Health Organization shortly after declaring a global health emergency. Once the symptoms were noted and it was confirmed that the disease can spread through human transmission, countries quickly reacted in order to protect their citizens. Depending on the medical state of the individual, people with underlying medical problems and/or who are older in age have a higher chance of severe symptoms. COVID-19 is generalized into 4 different stages when contracted. The first stage of the disease shows very mild to no symptoms, where many will not notice that they have contracted the disease. The second stage is when more moderate symptoms are present, ranging from a fever to shortness of breath and other common cold symptoms. Around 15% of people who contracted the disease are categorized into stage 3 where severe pneumonia and breathing difficulties become present. In the final and most severe stage, respiratory failure can occur as well as multiorgan failure (Bhidayasiri et al., 2020). When symptoms are severe, COVID-19 is known to be fatal and, as of this writing, has caused a global death toll in excess of 2.66 million. With the virus being able to spread rapidly, extensive measures have been put in place to reduce transmission and contain the spread of the virus. This has changed the everyday life of people around the world and brought the dawn of a new age of society requiring universal adoption of Coronavirus awareness.

### 2.5.1 Global Impact

The COVID-19 virus resulted in a worldwide pandemic, meaning countries had to adapt and implement new policies in order to contain the spread of the virus and reduce strain on medical resources and avoid unnecessary fatalities. One of the first major changes that occurred

was imposing travel restrictions in many countries. Travel was suspended in many places, airports shut down, and tourism was halted. Plans were constructed with new measures and restrictions in order to reduce the spread of the virus. The workplace also changed drastically, as many businesses shut down or moved to remote “work from home” scenarios. With the loss of jobs and income, tens of millions of people were at risk of falling into extreme poverty and not being able to support themselves or their families (International Labour Organization et al., 2020). Businesses that were no longer able to sustain themselves filed for bankruptcy, and the overall global economy suffered drastically due to the pandemic.

One of the most important global sectors that was impacted was the food system, from both the producer and consumer standpoint. Due to the creation of broader restrictions, suppliers were prohibited from purchasing goods internationally and producers were not able to sell their goods to foreign countries. Markets were restricted, making it even harder for producers to maintain a net-positive income and continue supporting their business and family. There were many agricultural workers who decided to work in unsafe conditions in order to continue supporting their business, creating increased risks of exposure to the disease. Some self-employed workers disregarded COVID regulations and continued working in order to provide for themselves, which resulted in many of those workers contracting the virus (International Labour Organization et al., 2020). Consumers also faced challenges such as food shortages and fewer options of goods at stores, especially in underdeveloped areas. This industry is an example of how global businesses and organizations were impacted by COVID-19 and the immediate resolutions needed in order to keep those businesses running and providing for those who rely on their goods and services.

## 2.5.2 COVID-19 in Costa Rica

The first cases of COVID-19 in Costa Rica occurred in March of 2020, with the trend of new confirmed cases steadily increasing in the following months (U.S. Embassy, 2020). International airports were shut down shortly after the first cases were confirmed and commercial flights were not allowed to operate until September of 2020. However, in the weeks following the reopening of travel, Costa Rica was still considered by the Centers for Disease Control and Prevention (CDC) to be at the highest level of risk. With confirmed cases being over 100,000, the CDC recommended that all nonessential travel should not occur. Unnecessary exposure due to nonessential travel, posed the risk of further outbreak that would put a strain on Costa Rica's limited medical resources (Centers for Disease Control and Prevention, 2020). As of December 4th, 2020, the majority of the confirmed cases were adults at 121,546, then minors at 11,905, and older adults at 10,134 (Ministerio de Salud, 2020). In addition to travel restrictions, reducing the spread of coronavirus also affected many businesses and the way they operated in order to reopen within guidelines set forth by the CDC.

## 2.5.3 Effect on Businesses

Businesses had to adapt rapidly to new COVID restrictions that were constantly changing and evolving based on the current global and local situation. In March, when confirmed cases started to appear over 100,000, many restaurant workers were out of a job. Around 40% of restaurants had to close down in order to follow the new restrictions that were in place to maintain a safe community (AFP & The Tico Times, 2020). These businesses no longer had a source of income and many of those that remained open had to lay off employees or cut hours

due to financial losses or social distancing regulations. The Costa Rican government aided businesses by putting a pause on payment of taxes and other charges, which alleviated some struggles but that did not solve their financial problems. Those that were laid off received some aid from the government in order to support themselves, but many still looked at the government for more help, especially the business owners that had no income. As of November 3, 2020, essential businesses were allowed to reopen as long as they followed and enforced strict safety measures to reduce the likelihood of spreading COVID-19 (U.S. Embassy, 2020). However, those deemed non-essential had to find alternative ways to continue their work and support their businesses while staying home. Like VVCR, many businesses had transitioned all activities to virtual platforms. With these changes in place, business operations for many organizations were interrupted or altered, but they were able to continue working in some capacity and carry out their missions in a different environment. Businesses had to be creative and think about new ways to deliver their goods and services while staying within the limitations to minimize their exposure. This is the challenge for which VVCR is seeking support.

## **Chapter 3: Methodology**

This project aimed to assist VVCR in continuing to deliver their services to the women of Costa Rica in the most impactful way amidst the COVID-19 pandemic. Since the virus had forced VVCR and its staff to move to a completely remote setting and conduct all their work online, new techniques were needed for connecting with their clients virtually. VVCR was also looking for ways to improve their virtual training and certification programs to better accommodate trainee's needs while learning online. In order to provide solutions for VVCR, we focused on four objectives: determining the best practices for online mentoring which focus on fostering human connection and relationships, creating a guide for virtual coaching and connection for VVCR's mentor program, compiling information and techniques for delivering course content virtually, and identifying new virtual opportunities or features that would be beneficial to mentors and other volunteers.

### **3.1 Determine Best Practices for Online Mentoring**

To determine the best practices for online coaching and mentorship, our team first had to analyze the process VVCR was currently using. This provided a starting point for our team so that we could further expand and offer recommendations based on our findings. To do so, we evaluated, researched, and interviewed similar nonprofits in the Worcester, Massachusetts area to gain insight into their processes and techniques. Our team also collaborated with the Worcester Polytechnic Institute Student Development & Counseling Center (SDCC) to understand the virtual methods they introduced due to the COVID-19 pandemic. The main question we were aiming to address is what is the best virtual communication system that will foster human connection while keeping the program user-friendly.



The first step to complete was to research and understand the current system in place for online mentoring. Some of this information was given to us directly from VVCR employees while others had to be collected. VVCR granted our team access to all of their online platforms so that we were able to go through, catalog, and retrieve data from them. We asked VVCR employees for their input, taking advantage of the weekly meetings we had with our sponsor, Eugenia Gamboa, who serves as the Director of Programming. Each team member also participated in the VVCR mentorship program and was able to collect valuable information from their individual sessions with their mentor. For eight weeks, each team member met with their assigned mentor and explored topics that helped foster their own self-growth and development. This gave us each firsthand experience of the mentorship process from the mentee's perspective. With this, each team member was also able to interview their own mentor to gain insight about their personal experiences volunteering with VVCR. We also surveyed and interviewed a range of other mentors that had varying experiences with virtual mentoring sessions prior to the COVID-19 pandemic. Along with the mentor data points, we also conducted a survey to a group of VVCR mentees that experienced at least one in-person mentoring session and numerous virtual sessions. The goal of collecting this data from mentors and mentees was to gain an understanding of what they believe worked well in the current virtual setting and what should be changed in the future. It was crucial to survey these individuals since they are the ones that used these methods most often.

Next, our team evaluated, researched, and interviewed similar nonprofits to VVCR in order to understand their virtual practices and how the global pandemic has shifted their work. This was conducted through a series of interviews with organizations locally in Worcester, Massachusetts. We researched nonprofits that focus on women empowerment, human services,

and mental health outreach programs. After compiling a list, we contacted the organizations and scheduled interviews. We then conducted interviews with two different organizations to better understand their online systems and what their employees find the most useful and beneficial to users. The first organization was the Center for Women in Enterprise or CWE. CWE is a United States national nonprofit funded by the Small Business Administration better known as SBA (Center,, 2021). The center provides free service opportunities for women entrepreneurs and women in business to increase professional success, personal growth, and financial independence (Center, 2021). The second nonprofit organization we interviewed was Pathways for Change, Inc. Their mission aims to provide quality multicultural services to those who have been impacted by sexual violence and supply education geared toward ending sexual violence (Pathways, 2021). By observing these two organizations, we obtained insight into other online options and software sites that we had not previously considered. We were able to utilize this data and further researched its pros and cons more extensively.

The last method of research to understand the best online coaching practices included collaborating with the WPI SDCC. The center is available to all WPI students and faculty and serves as an on-campus resource for mental health and development. The counseling center is familiar with in-person and virtual practices. This was beneficial in the way that we could determine what works best for both methods of communication. We were able to interview multiple SDCC Counselors and Assistant Directors. This gave us information about the virtual software the SDCC uses along with how their virtual sessions have been conducted. While the SDCC is not a pure mentoring atmosphere they have conducted programs on empathy training and understand the importance of human connection and relationships.

## 3.2 Foster Online Human Connection

Our next objective was to foster human connection in the best way possible between VVCR mentors and participants while all events and mentorship sessions are being conducted online. The question we were aiming to answer is how should VVCR proceed with their systems in ways that will increase and sustain the human relationship virtually.

After meeting with sponsor Eugenia from VVCR, she described the struggles that their mentors have had when trying to connect online due to the current global pandemic. Many of their mentees had no access to Wi-Fi or the technology needed to use Zoom or another form of video conferencing. This meant that the coaches were not able to see who they were talking to, it was only a voice. Since they could not see their mentee, it made it difficult to read their emotions and form a bond. A key component to the mentorship process VVCR offers had been the trust and empathy built between the coach and mentees, which was typically created through human interaction. Our goal was to help ensure that this connection was not lost while in-person communication is not an option. To examine this, we studied and researched common mentoring and coaching techniques and compiled resources from educators on how to build relationships online. Since a large majority of educators had to transition to virtual platforms, there were many online resources readily available to be evaluated. This helped us gain insight into how teachers were still able to connect with their students through video conferencing. We also surveyed a group of WPI students and faculty to better understand the challenges they faced when trying to interact in class virtually. In our interviews with VVCR mentors and SDCC employees we asked about new techniques they put in place to connect with each other virtually. We wanted to determine the best ways that human connection could be fostered and later implement these practices into our software/system recommendation for VVCR.

### 3.3 Create A Mentorship Guide for Virtual Sessions

One of the major challenges of transitioning into the virtual environment is keeping the quality of human connection in the mentoring programs meaningful and long-lasting. We have created a guide with the purpose of helping the mentors and staff establish a meaningful connection with their mentees while virtual systems are in place. This is a new resource that VVCR will be able to utilize, as there was no guide for the virtual mentoring process. The guide will help mentors establish a meaningful first contact and provide them with various online practices to keep mentees engaged and responsive. In order to aid the mentors through the process, we needed to first understand the practices they already had in place in their virtual workshops. Understanding the virtual VVCR mentorship process helped us determine what aspects were working well and what areas needed improvement. Our guide addresses those online practices that did not work well or were lacking productivity. This included slight changes to the methods first being used in order to make them more successful or entirely new practices. We also included other researched techniques that have proven to be successful in the virtual world and can be used in the scenario of personal development. Another method of gathering information was through surveying the mentors and mentees on the strengths of their virtual relationships or what they felt might be missing. This helped us understand the specific areas that needed improvement before implementing new online practices.

This resource will offer various practices for mentors to utilize in the virtual world, while addressing differing levels of connection between mentor and mentee. The guide helps explain to the mentors each practice and how to further strengthen their connection with mentees. Examples and thorough descriptions are included in order to ensure clarity. We also offered various

techniques at different connection levels, as no single method will work for every scenario. These practices can be adapted and adjusted based on the scenario and relationship. The goal of the guide is to provide mentors with a general idea of how they can improve their relationships with their mentees while virtual programs are in place.

With the importance of presentation and clarity in mind, we followed the structure of other mentorship guides that encourage human engagement. Throughout the development of this resource, active communication and collaboration occurred between our team and VVCR staff, gathering feedback for how the guide can be improved while in development.

### 3.4 Evaluating the Use of Online Platforms

In order to evaluate VVCR's online platforms, we first needed to fully understand the use of their current systems. Examining which systems they use and how they use them gave us information on what features and functions they need, which allowed us to make a list of functional requirements for our proposed solution. While examining how VVCR interacts with these platforms, we also gathered information on the user experience for each site in order to gauge problems in the current system. We also explored the three main platforms they currently used, Active Campaign, KuikMatch, and De La Guayaba, as well as other platforms used by different organizations in order to determine the capabilities and limitations of each. The goal of the investigation was to understand the features of these programs and software that can be implemented to benefit VVCR mentors. Once we collected the data, recommendations were provided for how VVCR can better utilize the platforms they have to support their volunteers.

The initial examination of VVCR's current system was conducted through interviewing our sponsor, Eugenia. She was very familiar with the ability of each website because she had taken on the virtual administrative tasks and worked on the backend of the platforms frequently. Eugenia was able to give us information on what each system was used for and which programs were conducted where. Since she had a great deal of experience with working on the platforms, she also was able to discuss the advantages and disadvantages of working with each one.

In order to get a more comprehensive idea of user experience, we used surveys in order to get feedback from various mentors and mentees. The surveys asked for the informant's overall experience as well as more specific questions about what they would have liked to see improved or features they think could be beneficial to implement in the future. The people who frequently used these systems and are involved in VVCR programs are those who knew them the best. Their experiences and opinions were very valuable and insightful to our investigation and to us as outsiders.

Lastly, in order to prepare recommendations on how best to use their virtual platforms, we explored what features each system could perform. First, we looked into the platform's documentation as it was essentially a guide to what it was capable of doing. Also, by gaining access to each of VVCR's platforms through Eugenia, we were able to examine first hand what each site had to offer.

While looking into the documentation for KuikMatch, Active Campaign and De La Guayaba, we also researched software that other non-profit organizations used for their virtual systems. This inspired ideas as to which inexpensive options were available for VVCR to use. The purpose of finding these options was to be able to provide mentors and staff with virtual systems that fit all of their needs.

### 3.5 Identifying Tools and Best Practices for Online Learning and Training

In addition to all of VVCR's mentoring programs being moved to virtual spaces, their certification courses for training new mentors also needed to be transitioned online. In order to help our sponsor formulate an online version of VVCR's training programs, we gathered information and first-hand experiences from those who had experience with taking courses online and learning material that was delivered virtually.

Our first subject group was students here at WPI, specifically the classes of 2021, 2022, and 2023 because they had experience with taking classes at WPI in person before the pandemic, as well as online after COVID-19 restrictions were put in place. This perspective was important to understanding what ways that online learning is different from in-person classes and the ways in which the students reacted to this shift. We compiled a set of survey questions about the experience of a student during online classes and sent it to several different student groups on campus asking for volunteers to fill it out.

Our next subject group was course instructors at WPI, who had the mirror perspective of students during this time. The instructor group also had to deal with the shift of teaching material in a classroom to teaching through a computer screen, and their perspective would be very valuable to how VVCR and its course instructors can structure their content in the most impactful way. This group was also surveyed on questions about their experience teaching online classes. The survey was sent out to several different academic departments at the school to try and get responses from instructors who teach varying types of courses, not just one discipline.

Our last subject group was VVCR mentors and SDCC counselors through interviews and surveys. Mentors and counselors have to take training courses in order to be in their position. We asked about any virtual courses they had taken in the past year and their experience going

through them. This was a valuable perspective as most of the people who take VVCR's training programs are not full-time students, like the ones here at WPI. VVCR's trainees are adults like the VVCR mentors and SDCC Counselors that we interviewed.

The first-hand experiences, advice, and struggles of these groups was compiled into recommendations for the development of online VVCR courses and training.



## **Chapter 4: Analysis and Findings**

The investigation of this project was broken down into 3 main categories relating to our objectives, an evaluation of VVCR's online mentoring program, an investigation on best practices for constructing and delivering virtual course content, and new virtual opportunities our team believes VCR would benefit from. Data collection involved surveys and interviews with 4 subject groups: the WPI SDCC, VVCR mentors and mentees, WPI students and course instructors, and Worcester non-profit organizations. This chapter will analyze how each of these groups helped us to understand the best practices for online mentoring including forming human connection and creating a mentorship guide, new virtual opportunities or features that would be beneficial to mentors and other volunteers, and techniques for delivering course content virtually.

### **4.1 Online Mentorship**

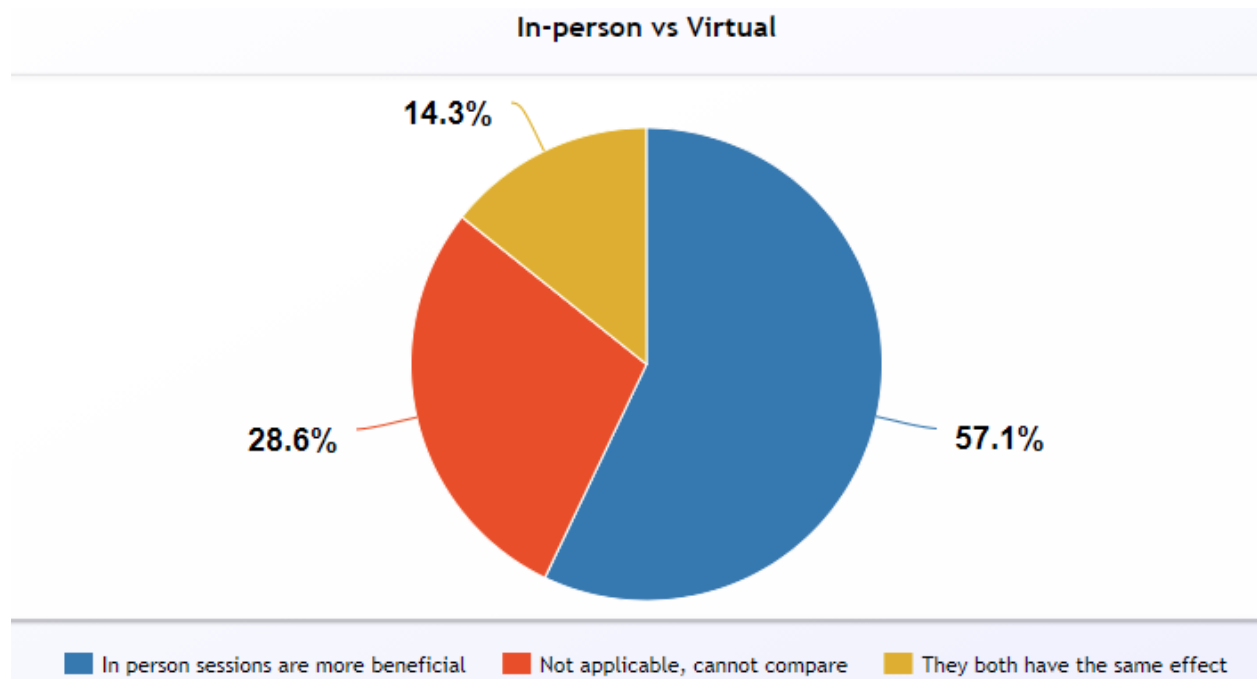
The Voces Vitales Mentorship Program is a well-developed and established resource that helps countless Costa Rican women become better versions of themselves professionally and personally. Our study of VVCR's mentoring process included an analysis of current virtual practices that are successful as well as areas that could use improvement.

Our findings relating to the successes of virtual mentoring were derived from two subject groups, the mentors and the mentees of VVCR who had experienced the process first-hand. These two groups offered valuable insights to the way the mentoring program functions and their honest feedback on virtual sessions.

The experiences of VVCR mentees were collected through an online survey targeted directly towards mentees that had experienced both in-person mentoring as well as virtual mentoring. These mentees provided a unique perspective identifying the differences between the

nature of the mentoring sessions from the perspective of the mentee. The survey was delivered to the mentees in Spanish, and participation was expected to be low. This is because there was only a small group of mentees that had experienced both in-person and virtual mentoring sessions.

Seven mentees sent our team responses to the survey. The survey asked if they had experienced both virtual and in person mentoring, and how they compared. Out of the 5 mentees who said it was applicable to them, 4 said that in-person sessions are more beneficial and 1 said that both formats have the same effect. This is visually represented in Figure 1. This shows that there can be improvements to the mentoring system to help ensure the virtual sessions are as effective and beneficial as the in-person sessions.

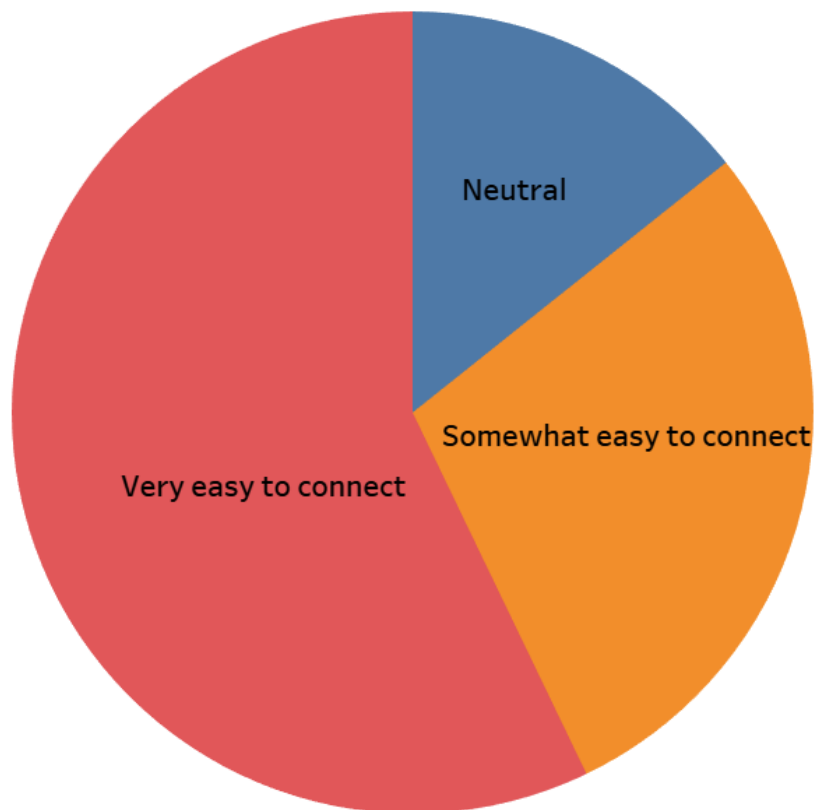


**Figure 1:** Seven VVCR mentees responded to a question that asked how virtual mentoring sessions compared to in person sessions. 2 answered non applicable as they had not experienced both variables, 1 answered they had the same effect, and 4 answered in person sessions were more beneficial.

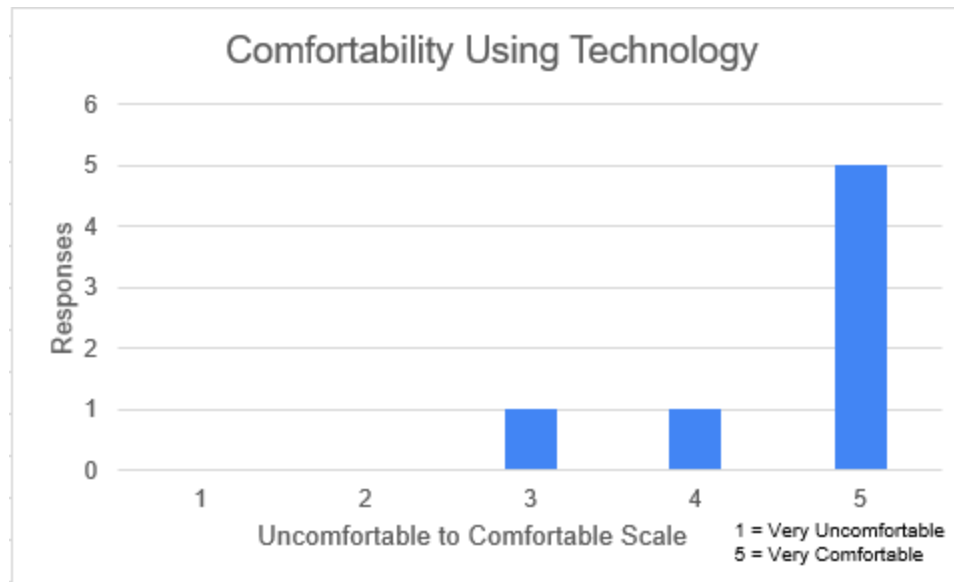
It is vital to the mentoring process that a strong human connection is developed between the mentee and mentor. Shown in Figure 2, we found that out of the 7 mentees, 4 found it very easy to connect, 1 found it somewhat easy and 2 felt neutral about their ability to connect. This shows that for most of these mentees, the virtual sessions did not inhibit their ability to connect

personally with their mentor. The survey responses shown in Figure 3 also indicated that most of the mentees felt very comfortable with using technology, such as video-calling, texting, and social networking. Comfort with technology can have a strong effect on the user's ability to interact with it. Because most of these mentees felt very comfortable with using the software for virtual sessions, this could correlate to their response that it was easy to connect with their mentor. For mentees with less experience and comfort with technology, it may be harder to connect with another person virtually.

### **Mentee Experience with Personal Connection through Virtual Mentoring**



**Figure 2:** Seven VVCR mentees responded to a question that asked how easy they felt it was to connect with their mentor in a virtual setting. 4 answered it was very easy to connect with their mentor, 2 answered neutral to their ability to connect with their mentor, and 1 answered it was somewhat easy to connect with their mentor.



**Figure 3:** Seven VVCR mentees responded to a question that asked how comfortable they felt with technology on a scale of 1 to 5, 1 being very uncomfortable with technology to 5 being very comfortable with technology. Five rated a 5 meaning very comfortable, 1 rated a 4 meaning somewhat comfortable, and 1 rated a 3 meaning neutral.

In response to asking what mentees generally liked about the virtual sessions, 5 mentees expressed they were satisfied, leaving comments such as, liking the process more than they expected, improving their communication skills, and saving time by meeting virtually from home. Two mentees did not feel satisfied, expressing that it was not an enriching experience online.

In terms of what VVCR’s program could improve upon, the mentees responded that they would like to see courses for entrepreneurs, webinars on different professional topics, and workshops to promote participation of women in different fields. One mentee expressed the desire for a professional guide from VVCR, and another wanted more communication from the organization.

The majority of mentees connected well with their mentor and were satisfied with the process, but still felt as though in person mentoring is more beneficial to the mentee. It is important to note that the findings from this mentee survey were valuable for our team to use as reference, however the subject pool was composed of only 7 people. This small of a group

cannot be assumed to represent the general population of all mentees. Therefore, our analysis of these findings may only be specific to these seven participants.

The experiences of VVCR mentors were collected using two methods, online surveys and sit-down interviews. Both the surveys and interviews gathered information on the mentors' background with VVCR and their experiences with switching to virtual mentoring since COVID-19 restrictions were put in place.

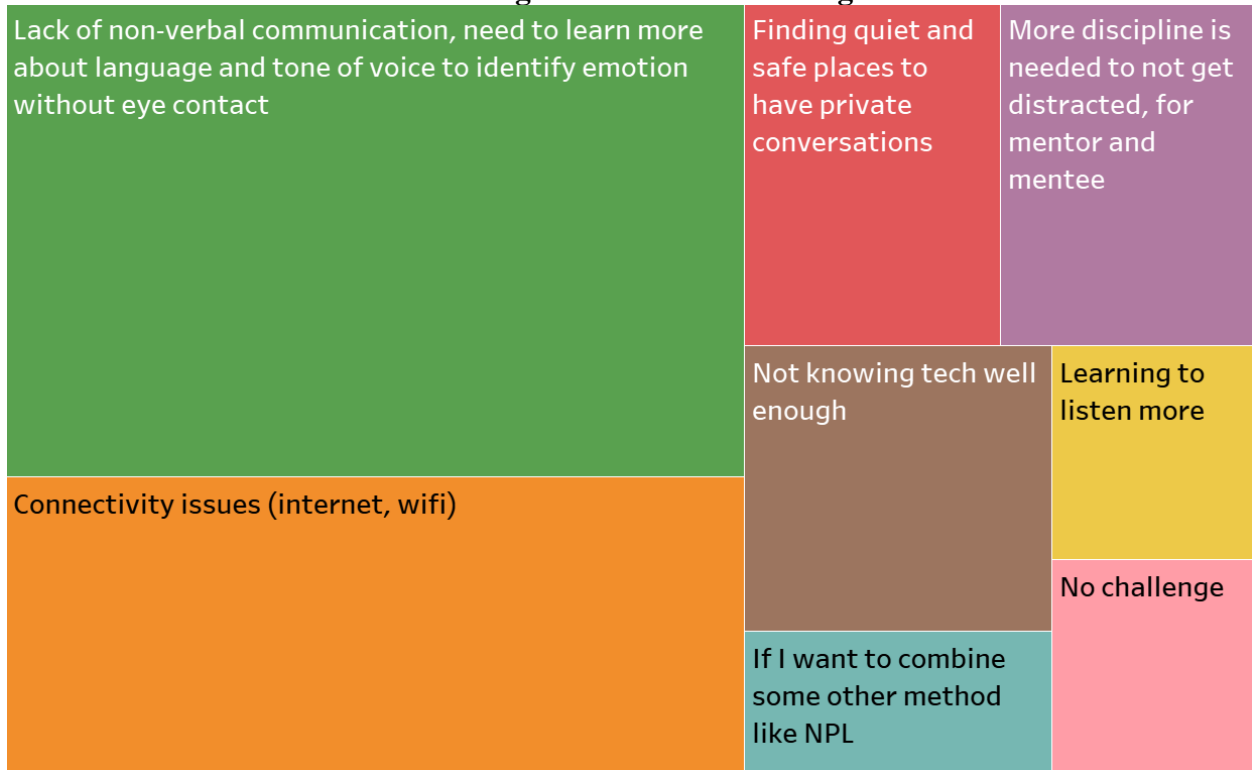
Our team collected 19 responses from our online survey that was sent out to VVCR mentors. All of these mentors had been mentoring with Voces Vitales for over 6 months, and 17 of the mentors had over one year of mentorship experience. We also collected more detailed and explanatory responses from 5 other mentors that we connected with online for interviews lasting from 30 minutes to 1 hour.

Although the process changed formats, the VVCR mentors adapted quickly and many parts of the virtual program were positive experiences. Most expressed that the mentoring program was still effective through virtual sessions. One mentor wrote in their survey that they think people are very grateful for mentoring, even if it is virtual. At a time when many people are more isolated than ever, and are interacting with very few people, it is very valuable for them to have someone to listen to and converse with candidly. Many mentors also liked the flexibility of the virtual structure, as they were able to meet anywhere they desired and whenever was convenient for both participants. One mentor also explained that providing the services online could make VVCR's services more accessible for people who may live farther away or travel outside of San José. As a result of the pandemic, we found that people are also more accepting and trusting of these types of programs being conducted online. This shift in platforms will allow mentors the possibility of continuing with virtual formats in the future as it is convenient for the

mentor and mentee, even after COVID restrictions are lifted. One mentor explained that they have always preferred online mentoring because that format is much more practical for their living situation. Allowing for more flexibility in the way mentoring is conducted is an effective way to accommodate and access more people and their specific lifestyles.

We understood that a switch from in-person mentoring to fully virtual sessions was a drastic shift for many people. Our study collected mentor responses on what they felt their biggest challenge was in terms of conducting their mentoring virtually. Several survey responses indicated that there were a few learning curves, as shown in Figure 4, that they dealt with. These included learning to strengthen their active listening skills, having more discipline to not get distracted, and using technology and software required for virtual sessions. Another remark was that both the mentor and mentee needed to find quiet and comfortable places to have a private conversation, which can be difficult for people at home with their families. The most common response however, was that the biggest challenge was the lack of non-verbal communication. In some cases, mentors were able to see the facial expressions of the mentee on video-call, but in others, the mentors only had audio communication. This resulted in mentors needing to adapt and improve their ability to read tone of voice or ways to identify emotion without eye contact.

### Challenges of Virtual Mentoring

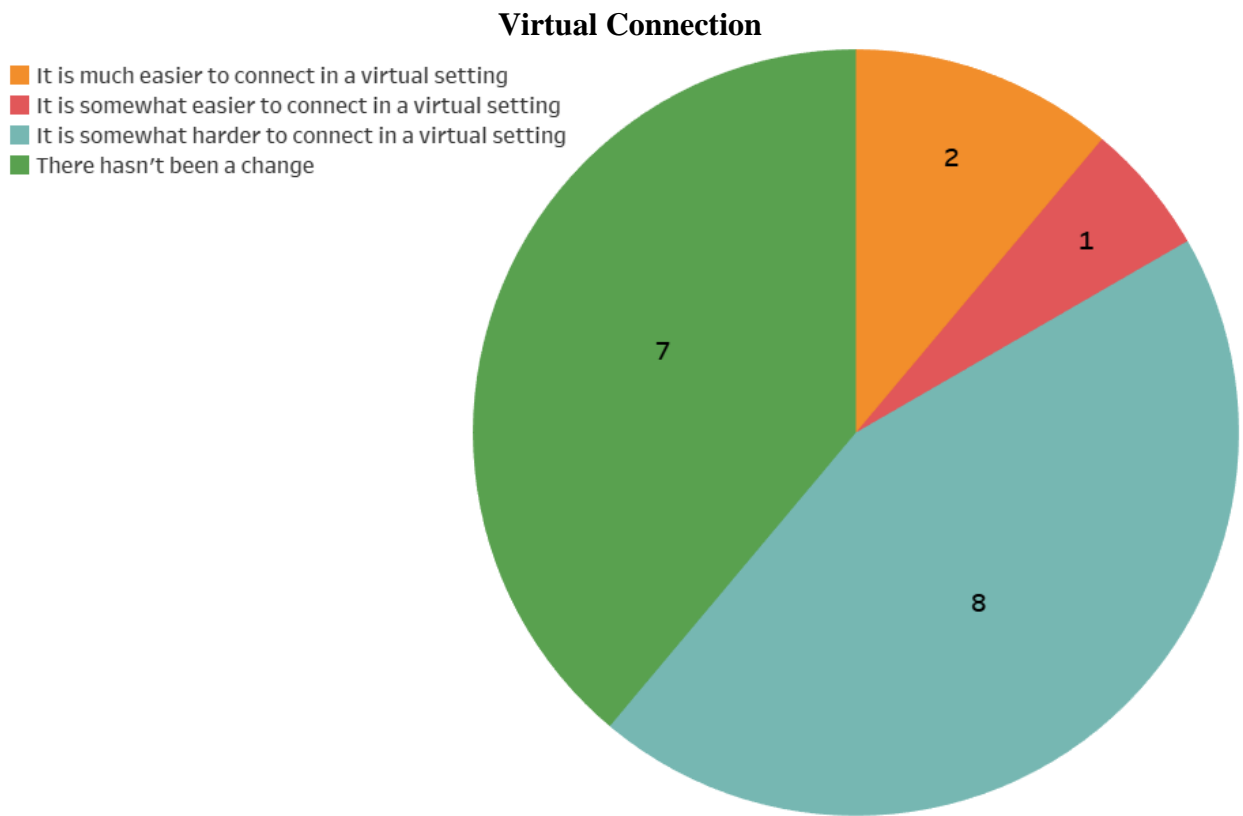


**Figure 4:** VVCR mentors were asked the open response question “What was the biggest challenge you faced in terms of conducting mentoring virtually?” The size of each box represents the number of mentors who provided the feedback described in that box.

In one interview, a mentor explained that it can be difficult to approach people on Zoom if you have never met before. The usual practice would be to meet in public for coffee, for example, in order to let the introduction flow naturally. In a virtual setting, this first encounter can be more awkward and forced than normal, causing the relationship between the mentor and mentee to grow more slowly than if they were to meet in person, in some cases. In another interview, the mentor remarked that even though there are some barriers to virtual sessions, such as not being able to capture the expressions and body language of the other person as well, the virtual sessions can still be very positive experiences.

Knowing that establishing a strong personal connection to mentees is important to the mentoring process, we asked the mentors about their experience forming this relationship virtually compared to being in person. Our survey responses reflected that many mentors found it

somewhat harder to connect virtually, while many others felt there was no change, shown in Figure 5. The difficulty to connect virtually for some mentors is an indication that VVCR has the opportunity to offer more resources and tools for mentors to help bridge this gap from in-person to virtual meetings. During our interviews, the mentors explained that most times, it was not as difficult as they had expected. They admitted that there are some obvious challenges, such as not being able to read body language, but they were able to adapt their listening techniques and pay closer attention to the things they hear.



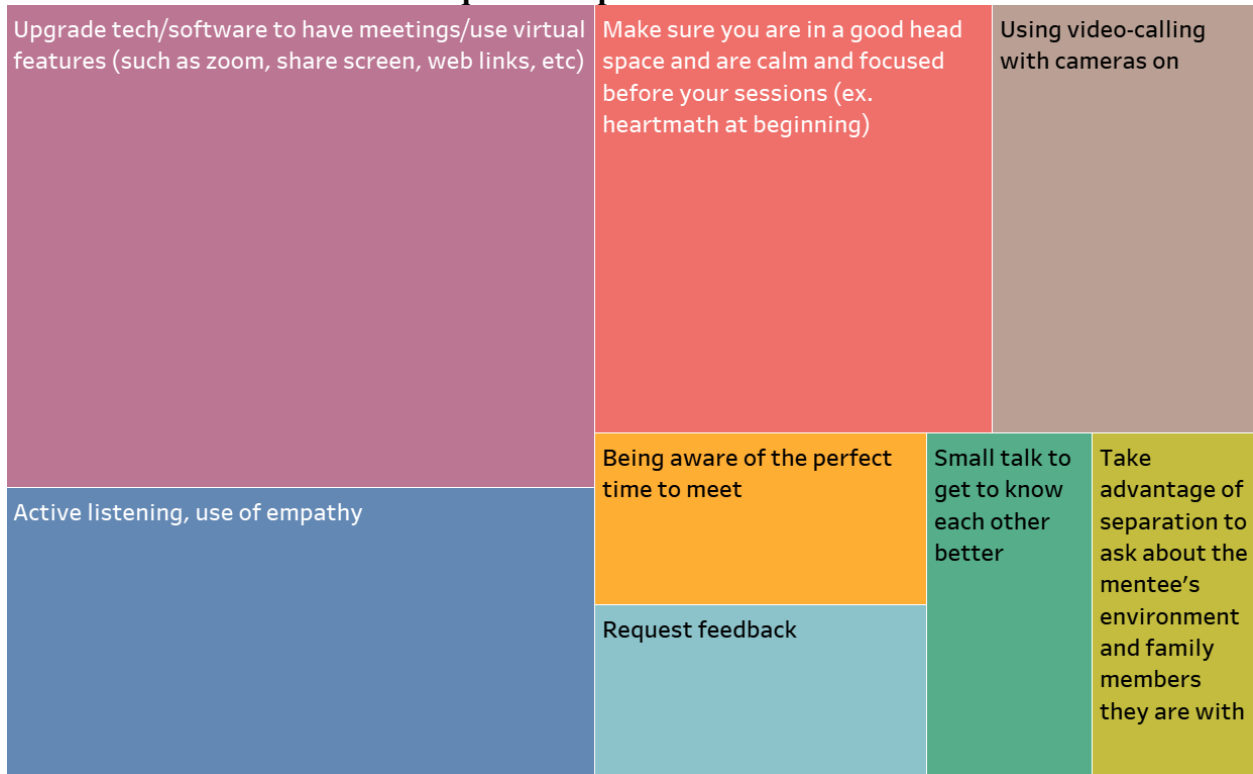
**Figure 5:** VVCR mentors were asked about their experience with forming a relationship with their mentee virtually compared to being in the same room. 8 said it was somewhat harder to connect virtually, 7 said there was not a change, 2 said it was much easier to connect virtually, and 1 said it was somewhat easier to connect virtually.

Based on the mentor’s personal experiences with mentoring, we asked about any tools or techniques that have helped them deal with the challenges of virtual mentoring and ways to help build this personal connection without being in the same room. We found several common



themes displayed in Figure 6. The responses focused a lot on active listening throughout the session, especially if they cannot video-call and can only hear the mentee. We found that it's also important to be practicing listening techniques because it can be harder to stay focused on the conversation when you are not in person sitting next to each other. Mentors expressed that a large part of effectively listening to the mentee is to use empathy throughout the session. Some responses on the survey emphasized that it is beneficial to use video-calling whenever possible, as this is the method that will make the sessions feel the most like they are actually in the same room talking. We also found that mentors think it is important to ensure their own mind and body are calm and relaxed before starting sessions in order to give mentees their full attention and focus. Some people may be working from home and looking at computer screens all day long, making it difficult to stay attentive to the computer screen during virtual sessions. One mentor shared that using the beginning of sessions to do a breathing exercise or a relaxation activity is a beneficial way to ground both the mentor and mentee before jumping right in. One tool that had been used was the website [HeartMath.com](https://www.heartmath.com).

## Techniques to Improve Virtual Sessions

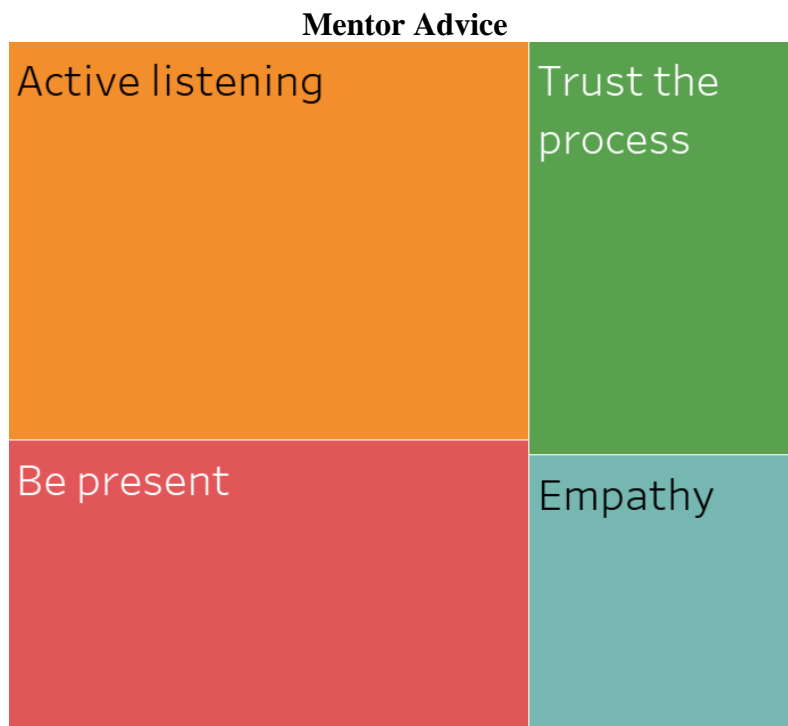


**Figure 6:** Nineteen VVCR mentors responded to an open response question that asked about tools or techniques that helped them deal with the challenges of virtual mentoring and ways to help build a personal connection with their mentee. The size of each box represents the number of mentors who provided the feedback described in that box.

In our interviews, we gathered a lot of similar responses where the mentors used small talk to start their meetings. This was a method to build personal connection, as well as ease the pressure and forced nature that virtual sessions can sometimes have. All of the mentors we sat down and talked to, had expressed that asking the mentee about what is going on in their personal life or about their background was beneficial to building their connection. One mentor explained that they utilized the entire first session just to let the mentee talk about themselves and become more comfortable with the virtual situation. One interesting technique that one mentor shared was to take advantage of not being together, and if the mentee is at home in their own environment, use the situation to ask them questions about the people and things they can

hear or see in the background. Conducting these meetings from the mentee’s home environment can be used as a window into their life to get to know them even better.

From our survey, we gathered mentors' biggest pieces of advice in terms of conducting online mentoring sessions. Shown in Figure 7, the four ideas that were mentioned were active listening, being present, trusting the process, and empathy. These pieces of advice tie in with the techniques mentors use. Using active listening in order to hear things that you may not be able to see through the phone or through the screen. Being present, means that the mentor is fully ready to conduct the session, physically, mentally, and emotionally. Trusting the process is the suggestion that even though the virtual sessions may seem uncomfortable or strange at first, mentors should have faith that the program will still be very impactful and meaningful for the mentee in the end. The last point is to have empathy towards what the mentee is dealing with in terms of handling the challenges of the pandemic and the adjustment to technology.



**Figure 7:** Nineteen VVCR mentors responded to an open response question that asked for their biggest piece of advice in terms of conducting online mentoring sessions. The size of each box represents the number of mentors who provided the feedback described in that box.

The mentors that we interviewed had similar suggestions and advice. They emphasized that being comfortable with the technology they are using to conduct sessions is very beneficial, as well as using these platforms to their fullest extent. For example, if they are using zoom, utilize the chat feature to send links or use the screen share function to play a clip or a presentation. Using the technology to the mentor's advantage can greatly improve the virtual mentoring experience. There were several online resources mentioned such as MindTools or Tony Robbins Driving Force Quiz. One mentor also advised that it is important to find a comfortable and private space to conduct meetings. This is so the mentor can comfortably conduct the session, but also so that the mentee can be trusting and open to their mentor in a safe and private environment.

We also gathered information on what mentor's believed the best practice would be in terms of the frequency and duration of their mentoring meetings. The mentors felt that the current practice of meeting once a week for one hour was very effective. We found that holding sessions more frequently than once a week would not allow for enough time for mentees to make any progress towards their goals. The mentors also believed that if the meetings were only 30 minutes, for example, there would not be enough time for a fully effective and productive conversation. However, some mentors felt that there should be more flexibility in the process depending on the mentee and their specific situation. In some cases, meeting every week is not the best practice for that particular mentee, or an 8-week program isn't necessary for a certain individual who might only need 6. We found that providing the suggestion of one meeting a week for one hour is the best practice for mentoring, however, in order to better accommodate different situations, some flexibility could be implemented and encouraged for specific cases when the mentor and mentee decide it is necessary.

The Student Development & Counseling Center, or SDCC, at WPI was able to provide our team with insight to the ways their counseling sessions had shifted onto virtual platforms because of the pandemic. A crucial part of the SDCC's work is to prioritize the confidentiality of their patients' sessions. Even though VVCR mentors are not required by law to uphold confidentiality regulations, it is important to ensure the mentees feel safe and can trust that their mentor will keep their sessions private. The counselors that we interviewed explained that some of their patients had reservations at first about the confidentiality of their meetings being held virtually and that it is good practice to reassure the patient that the counselors are alone and their conversations will remain private. Using a similar practice in VVCR mentoring could help mentees adjust and become more comfortable with the virtual sessions.

A recommendation we found from counselors is to encourage the mentee or patient to be in a quiet and private place in their living environment for their sessions. It is a helpful suggestion for mentors to also remind their mentees to find a space like this for mentoring, as much as possible. Our interviews with the SDCC also gave us the perspective that having the mentees in their own space for sessions could be used as an advantage. While suggesting for the mentee to find a quiet and private space, it should be reminded that they must pick a place where they feel comfortable. This freedom for the mentee to choose where they conduct the session may allow them to relax and be more open to sharing their personal thoughts.

The SDCC counselors also shared that one challenge to meeting virtually has been the inability to read body language and did not realize how essential it was to truly tune in to what was not verbally communicated in sessions. They adapted by trying to hear clues to how patients were feeling since they could not physically see as many clues anymore. Many VVCR mentors

also shared how they strengthened their active listening skills in order to overcome this challenge and it is a very good practice to keep in mind.

We collected several pieces of advice from the SDCC counselors as well. One piece of advice was to embrace the awkwardness of the virtual setting and to not fear it. Everyone is struggling with the change in the way the world operates and is going through the same difficulties together. Conversations may not flow as naturally and there may be glitches due to internet lag, but that is part of the learning process that everyone is dealing with. They said that it is important to be as open and transparent as you possibly can be throughout the process. Another piece of advice shared with us was about values work. They emphasized the importance of identifying what the patient, or mentee, values and what is most meaningful in their life. This will help one see situations through their eyes and be able to connect with them on a deeper level. The goal of counseling and mentoring is to help guide the other person. By understanding and focusing on the values that person holds, one can better find options that will help the individual based on the ideals that are important in their lives.

The findings from our investigation relating to best practices and techniques for online mentoring was integral in the creation of our Virtual Mentoring Guide for VVCR mentors. The guide incorporates the advice and suggestions we gathered from the mentors and mentees that we had contact with as well as the SDCC counselors.

Our interviews with two Worcester, MA based non-profit organizations taught us about certain tools or techniques they use which could be useful for VVCR to implement for their mentors. The Center for Women and Enterprise (CWE) holds periodic “Coffee Hours” where staff and volunteers can get together to socialize, candidly talk about business-related themes, or share resources that have helped them in their own professional lives or in their mentoring. These

events may have guided questions in order to maintain the flow of conversation, but mostly allow for the participants to connect with each other and take the conversation where they desire. This could be a method used in order to give VVCR mentors more opportunities to interact and communicate with each other. The mentors involved in Voces Vitales all have unique and rich backgrounds with lots of valuable insight to share. Providing this opportunity for more mentors to connect will only result in a stronger and more well-rounded community.

The CWE also had seen success in large Zoom events. There was some hesitation and worry that the event would be difficult to execute remotely, however the event was very successful. We learned that the chat function during presentations is a great way for participants to interact with the material and discuss content with other individuals at the events. This is a valuable insight for planning future events for VVCR as they look to host larger mentoring days.

Our investigation with the WPI SDCC and nonprofits, Center for Women in Enterprise and Pathways for Change, provided us with insight on how their organizations measure the progress of their programs and their impact on their target communities. All three organizations used surveys in order to gather feedback from their beneficiaries. At the SDCC, the patients would be asked to fill out surveys after their first visit and again every 5 visits. This allowed counselors to measure their individual progress and track certain indicators relating to mental well-being. At the CWE, feedback surveys are sent out to all participants three days after an event or program. There was not usually an overwhelming response to the surveys, but they still allowed for important critique to be given. At Pathways for Change, their previous system of paper feedback forms had become an issue since moving virtual. The confidentiality and sensitivity of their program makes it difficult to send surveys to their beneficiaries remotely. Other than the direct feedback from their beneficiaries, these groups monitored metrics such as

number of people they are helping or the percentage or number of people reaching their personal goals or important milestones. Collecting feedback and recording important accomplishments made in the programs is a valuable practice for continuously looking for ways to improve. Our goal was to see if there was an easier way for VVCR to track the progress of the mentors going through the mentoring program. They currently use a Google form survey completed by the mentor after each session, but the mentee does not have an opportunity to give constructive feedback on their personal experience and opinions.

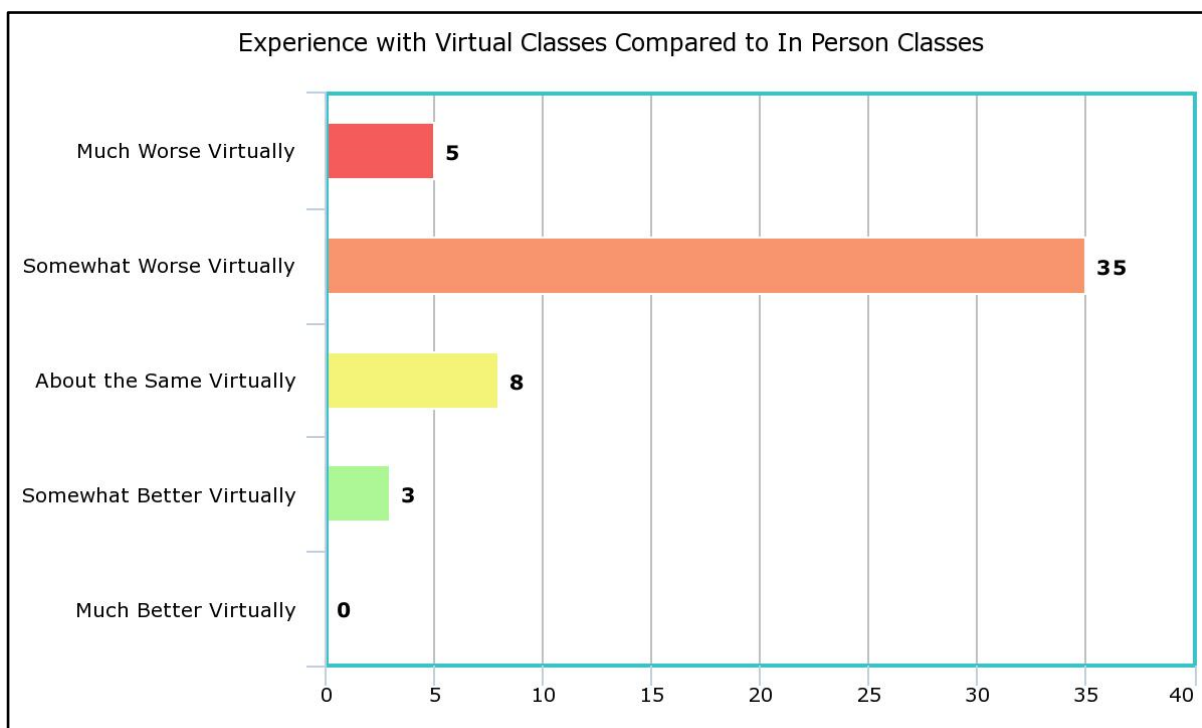
## 4.2 Virtual Course Techniques from Students and Instructors

One of the main objectives in our data collection was understanding ways to better tailor VVCR's mentor certification course. Before the pandemic, these were fully in-person training sessions that took 3-4 months to complete. To better comprehend methods to improve the virtual courses, our team focused on three avenues. The first and second included surveying WPI faculty and students since they had experienced both methods of instruction. Lastly, we surveyed and spoke to VVCR mentors about their personal experience with the online certification and their proposed areas of improvement.

In order to understand the overall opinions of virtual learning, we asked WPI students how they felt their experience compared from both sides of the spectrum: in-person and virtual. This was a multiple-choice question with answers: much better virtually, somewhat better virtually, about the same virtually, somewhat worse virtually, and much worse virtually. This aimed to provide conclusions on the general opinions of virtual learning experiences for students. Out of 51 students, 40 concluded that their personal encounters with online education were much worse or somewhat worse than hands-on, in-person instruction. The results of this question can



be seen in Figure 8. This information showed that on average only 6% of college-level students believe that virtual education is better than in-person learning.

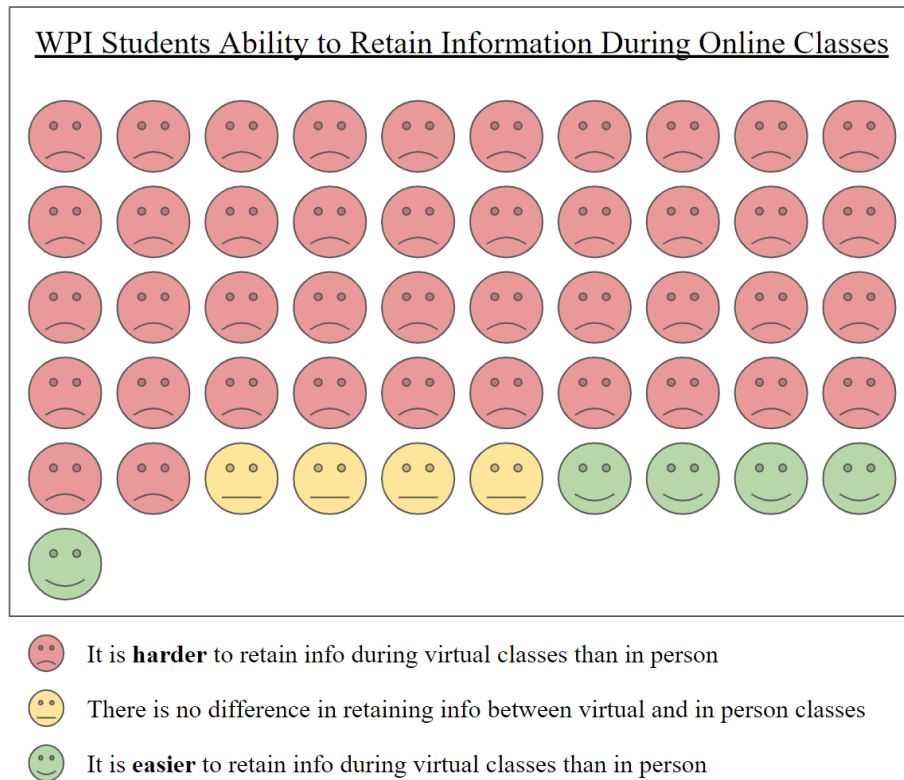


**Figure 8:** Fifty-one WPI undergraduate students responded to a question that asked about their overall experience taking virtual classes compared to taking in-person classes.

Next, we asked VVCR mentors about their overall experiences of virtual learning. This question was asked to both subject groups, WPI students and VVCR mentors, in order to define the differences between the two. This was to help us better tailor our recommendations to VVCR’s mentor certification course. The response from mentors was very different than those of WPI students. The majority of the VVCR mentors enjoyed virtual learning because of its proficiency and accessibility. For mentors, these courses are taken during their personal time outside of jobs, careers, and other commitments. The virtual setting offered them the flexibility and convenience to take the course on their own pace and timeline. Many mentors also noted they enjoyed the transparency of online materials as it allowed them the option to go back and reference documents or videos anytime they desired.

The differing opinions of virtual learning can be attributed to a number of variables. For students in college, their overall “job” is to take classes and have a full course load in order to complete graduation requirements. However, this is not the case for VVCR mentors. They take advantage of these training and certification classes in their free time as they have other commitments outside of involvement with the Vital Voices program.

After questioning the participant’s overall opinion on online learning, we then asked the subjects what they particularly liked and disliked about virtual education. First, the views of WPI students would be examined followed by their counterparts, the institution's faculty. When asked how their information retention ability was in virtual classes compared to in-person classes, 42 of the 51 students said it was harder to retain information in a virtual setting. So, less than 10% of the surveyed population found it easier to retain information presented to them in an online atmosphere. This data is shown in Figure 9. Following information retention rates, we observed that 100% of students felt less focused during online schooling. This could be attributed to a number of things ranging from easy access to cell-phones and other electronic devices to a distracting environment or having roommates present.



**Figure 9:** Fifty-one WPI undergraduate students responded to a question that asked if it was harder to retain information during virtual classes compared to in-person classes. The options were: 1. Yes it was harder, 2. No, it was easier, or 3. There is no difference.

Moving to the instructor responses, we were able to determine general trends from the 15 participants surveyed. Out of the 15 faculty members at WPI, 100% of instructors said they preferred having some sort of synchronous aspect to their teaching curriculum. To further elaborate on this data point, the individuals explained their greatest hurdles of online teaching. The results varied but could be summed down to 5 points. The challenges included:

- Having to learn new software and become more comfortable with technology.
- Feeling disconnected from their students and having trouble with creating a sense of community.
- Not being able to provide enough support to students who are more stressed than ever due to the pandemic.

- Struggles to deliver engineering specific hands-on learning virtually.
- Not being able to see how students reacted to material as they could not see student facial expressions.

One point that several faculty members noted was that they did not realize how much they relied on being able to see students facial expressions in order to judge whether or not they understood the material. In the virtual setting this cannot be captured as easily as many students do not use the camera or live video feature when attending class. Similarly, when instructors use asynchronous material there is no student interaction at all as they simply upload a video or documentation for students to watch independently.

Next, our team analyzed negative outcomes of online learning from the student perspective along with what instructors found did not work well in a virtual setting. Faculty members concluded that in an online environment, large group discussions and lecturing for a long period of time does not work. This relates back to student's ability to retain information and how they are not able to stay focused. A third point that does not work well is the instructor's ability to assess and gauge participation as described above. The negatives of virtual education from students follow these same themes but from the other perspective. General negative trends from the undergrad student population studied included:

- Having a hard time paying attention and retaining information.
- Staying the same location, never leaving home, and sitting at a computer every day.
- Issues with internet connection and being disrupted.
- A lack of motivation and more distractions at home.
- Not feeling connected to peers and lacking social interaction.
- Not learning the material as well.

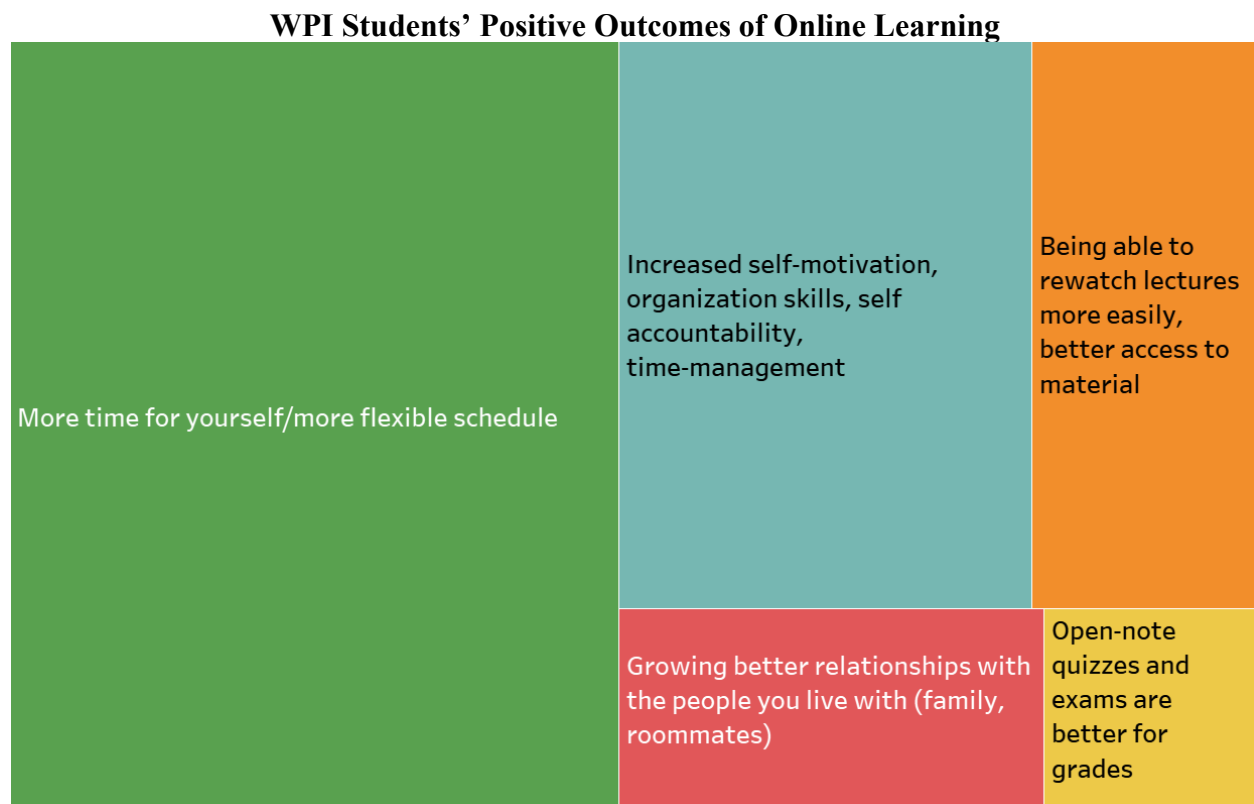
- Missing out on hands-on lab experience.

We were able to conclude that the old methods previously used for in-person instruction cannot be directly converted into virtual systems. Both the students and faculty had to adjust in order to become successful with online education.

To further understand this transition, we questioned specifically what course instructors had done in order to improve the student learning experience. By encouraging students to turn their cameras on and participate in class both the instructor and student were able to feel more connected to one another. Undergrads also stated that they enjoyed having conversations unrelated to the subject matter at the beginning of the call to engage and talk with other students. This social interaction is a key component to virtual education since individuals cannot physically see one another in person. Aside from connecting with one another, students noted specific modifications professors had made to their course structure to make the class more enjoyable. These modifications included but were not limited to, replacing exams or quizzes with interactive projects, posting synchronous lecture recordings to provide more accessibility, and breaking up content with videos or modules such that focus or interest was not lost.

The adaptation and changes to course structures resulted in successes that can be interpreted through the positives of online learning. The WPI student survey we conducted included the question “What is the biggest positive outcome you have experienced due to online learning?” The most common response to this open-ended inquiry was the flexibility of online learning. Students elaborated in that they had more time for themselves and a more flexible schedule. This is similar to what we analyzed earlier from the general opinion of virtual training with VVCR mentors. The next most frequent answer was students felt they had increased self-motivation, organization skills, self-accountability, and time-management skills. Because virtual

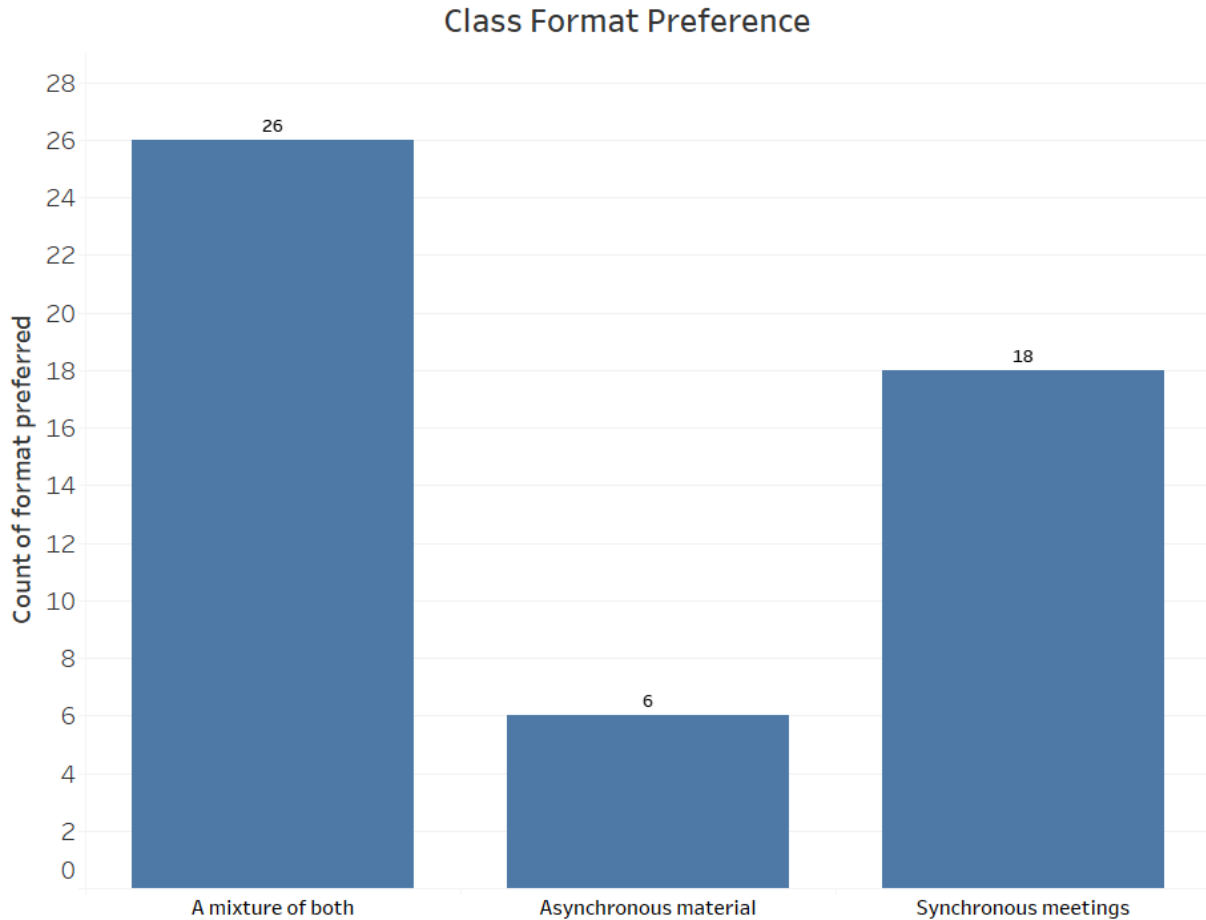
learning is mostly independent, students had to adapt their study habits and personal organization to best fit the needs of this new environment. Other positive outcomes were: being able to re-watch lectures more easily and having better access to course material in general, fostering better relationships with the people you live with, and easier grading as most exams and quizzes have implemented an open book, open note policy. The general trends in response to this examination can be seen in Figure 10.



**Figure 10:** Fifty-one WPI undergraduate students responded to an open response question that asked for the biggest positive outcome they had experienced due to online learning. The size of each box represents the number of students who provided the feedback described in that box.

Now that we had analyzed the overall themes and opinions of virtual learning, our next objective was to understand what types of course deliverables and structures work best. To determine this, we examined techniques from several subject groups. The largest data pull was from the WPI student survey followed by the WPI instructor survey and then information from

the formal interviews with VVCR mentors. Since the student sample was the largest, we will begin with that group. The first goal was to understand which format of online education they preferred, synchronous, asynchronous, or a mixture of both. Of the 51 students, 26 preferred a mixture of both, 18 chose synchronous material, and 6 picked asynchronous material. 1 participant did not respond to the question. This information is presented in Figure 11. The wide range of responses showed there is not a definite preferred format as over 50% of the students like some combination of the two methods of delivery. So, we further expanded on this and surveyed what the group liked about both methods. At a high level, students enjoyed that synchronous formats felt more similar to in-person school. They give opportunities to ask questions in real time, a set schedule or routine since class is streamed at a set time every day, and social interaction with other humans. On the contrary, individuals enjoyed the flexibility of asynchronous material. Specifically, the freedom to work and take notes at their own pace any time of the day. Many students also noted the ability to go back and re-watch material for reference and review. To focus on asynchronous delivery, we then questioned what students did not like about this format. The dislikes included that it was easy to fall behind in material and assignments, it was hard to motivate themselves to do the work, and that there was no option to ask questions in real time. This was intriguing since the answers were the opposite but very similar to what they did like about synchronous material. In short, there is no perfect solution since they offer different strengths and weaknesses.



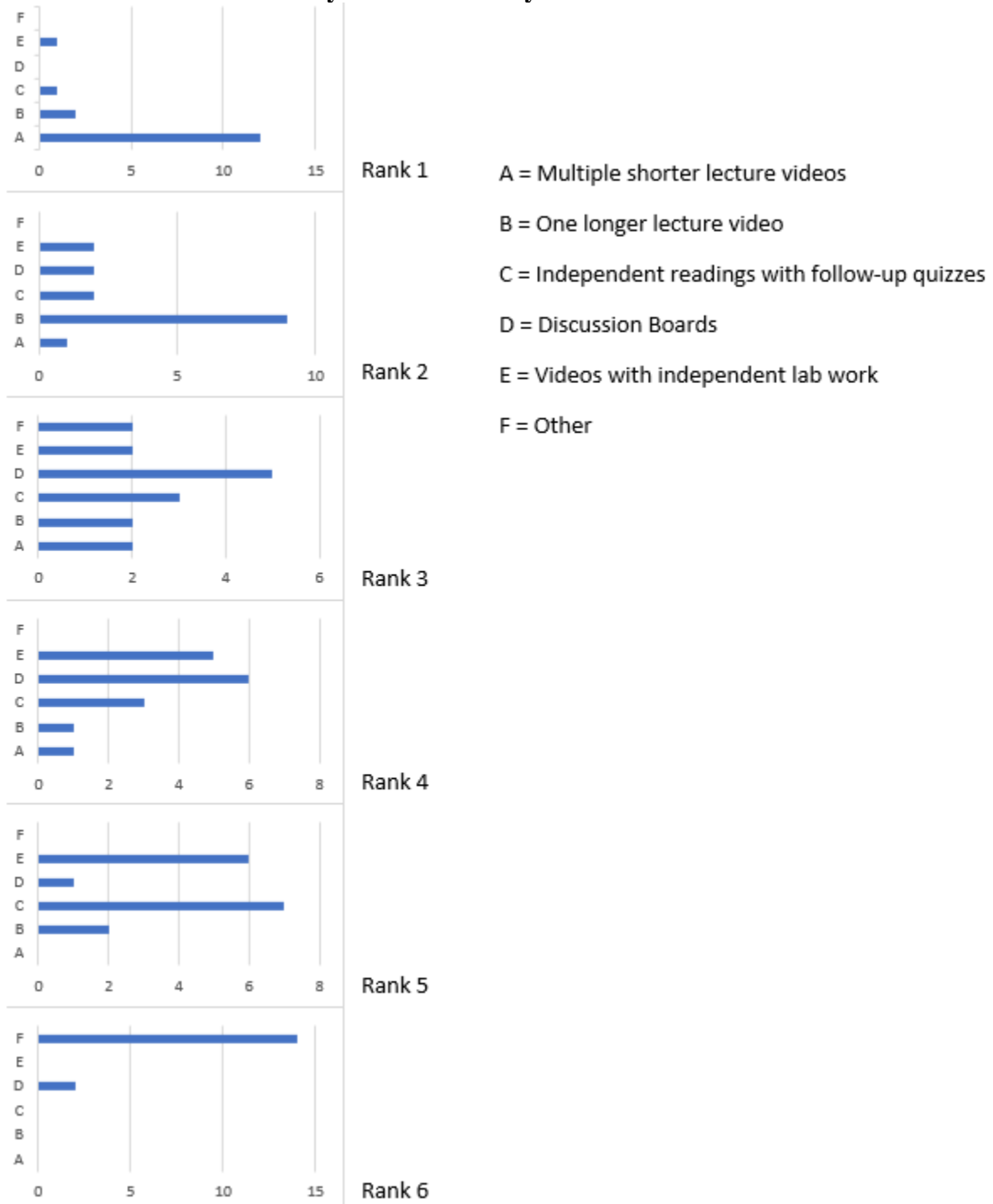
**Figure 11:** Fifty-one WPI undergraduate students responded to a question asking which format of online courses they preferred. The options were synchronous meetings, asynchronous material, or a mixture of both.

Since asynchronous material can be delivered in a number of ways, our next goal was to determine if there was a dominant outlier. To do so, our survey gave students 6 delivery methods for asynchronous material and asked them to rank the options. A rank of 1 symbolized the top choice and 6 was the last choice. The options were as follows: multiple shorter lecture videos, one longer lecture video, independent readings with follow up quizzes, discussion boards, videos with independent lab work, and other. Majority of the participants chose multiple shorter lecture videos and their top choice. This was followed by a conclusive response of one longer lecture video as rank 2. There was not a conclusive outlier for rank 3 as all 6 answer choices were selected roughly the same amount. For the fourth spot, discussion boards and videos with



independent lab work ranked highest but there was no clear “winner.” This was the same concept for rank 5 with independent readings with follow up assignments and videos with independent lab work. The majority of the responses for the bottom tier was “other.” The results of this ranking question can be visually analyzed in Figure 12. Our team understood that this cannot be a fully accurate measure of asynchronous material as there are more than 6 ways this content can be delivered. The goal was still achieved in that we were able to see general trends in the data.

## Delivery Methods for Asynchronous Material



**Figure 12:** Fifty-one WPI undergraduate students responded to a question asking which delivery method they preferred for asynchronous material. The respondents ranked 6 options from most preferred to least preferred. The key on the side of the figure shows the six different options. The graph shows the distribution of which option the students put in each rank from most preferred at the top, to least preferred at the bottom.

We further explored the topic of course structure by asking instructors what they believe does not work well in an online environment. They responded saying large group discussions and lecturing for large periods of time. They also noted the difficulty in understanding if students had trouble comprehending a concept. This is because when classes are in-person they rely on reading the students facial expressions which cannot be achieved virtually if cameras are off. The point about large group discussions relates to the analysis we were able to draw from the student asynchronous methods question. This is because the top choice for students was multiple shorter lecture videos. The points of what does not work well for online education can be applied to both teaching in a synchronous and asynchronous format. After asking this, we then prompted instructors to give one piece of advice to a teacher going to teach their first virtual class. The responses ranged as follows:

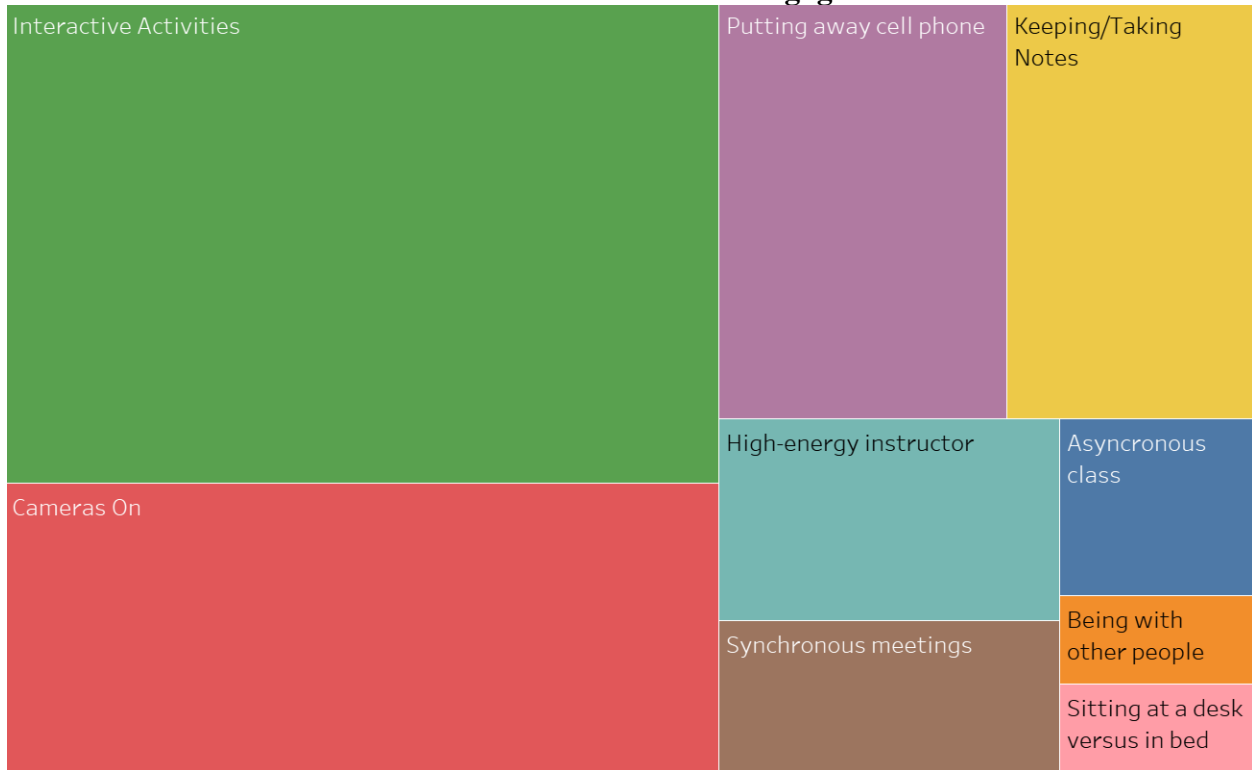
- Practice using your teaching software before-hand.
- Start each class with “warm-up activities” or an icebreaker.
- Do not lecture for more than 10 minutes. After 10 minutes, give the students an activity to do (answer a question, talk to a partner, have a discussion, etc.) then resume the lecture.
- Develop a clear syllabus with learning objectives for each class session.
- When filming online lectures or conducting zoom lectures, have the same energy as you would in person: stand up or use a white board. This helps students feel more engaged and involved.

The advice that faculty gave to their peers exhibits that they understand where students are struggling and how they can improve the students learning experience. Virtual learning has been

new to most people and both groups, students and instructors are searching to find what works best for their methodology.

After collecting information on the positives and negatives we evaluated what made virtual classes more beneficial for students. The goal of this was to see if there were areas of improvement or change that could be added to VVCR's mentorship certification process that would further engage mentors. The most popular answer to this open-ended question was to have interactive activities. This included, professors calling on students, the utilization of breakout rooms, polls, online quizzes, and group discussions. This engagement tactic was one that professors had already noted as advice for online instruction. The next largest trend was the use of video, followed by putting phones and other distracting devices away. Other methods stated were to keep and take notes during class, have a high-energy instructor, and to be in the right setting for class. The answers are visually represented in Figure 13. Students and instructors independently understood personal methods they could implement in order to increase their own engagement in the virtual setting.

## Methods to Increase Student Engagement



**Figure 13:** Fifty-one WPI undergraduate students responded to an open response question asking for details that improved their online learning experience and kept them engaged in the class. The size of each box represents the number of students who provided the feedback described in that box.

In order to relate all of this information back to VVCR, we needed to get a mentor's perspective about the current systems in place. In an anonymous survey sent out to VVCR mentors we examined if the individuals had participated in virtual training or certification classes through VVCR or elsewhere. From the 19 participants, 10 answered yes and 9 answered no. A follow up question stated if you have participated in recent virtual training what did you like and or dislike? The 10 that responded yes to the first question were able to elaborate here. We found general trends that individuals particularly liked such as, the attitude and energy of the facilitator or presenter, the content delivery and time management, the overall flexibility and easy access to information, the accessibility of the event and how participants could be from around the globe, and lastly the imbedded chat and live question features. In addition to this were the dislikes of no

networking or in-person interaction and connectivity issues or lag in the system. Overall, VVCR mentors seemed to be more positive towards online courses and instruction than WPI undergraduates.

To provide a deeper examination of this generalization, in online interviews with VVCR mentors, we asked about their experiences with the mentor certification course that VVCR offers along with any personal experiences they had with training or classes since the pandemic began. 2 of the 5 mentors interviewed were able to provide constructive feedback. The first mentor interviewed stated they had great experiences with online training and classes. They elaborated by stating it was beneficial that they could move through the material at their own pace and believed that other mentors would benefit from taking advantage of similar courses or programs that are offered online. We asked the subject to expand on the format of the courses so we could better understand what was directly impactful. They explained how most courses were structured to go at your own pace including pre-recorded video, quizzes after each lesson, and a certification at the end. Some of the courses would release content day-by-day but most of the time they would have access to the entire curriculum to move through as they desired. The individual stated that they did not feel as though the quizzes at the end of modules helped them retain any more information. They noted that sometimes live sessions were offered where one could ask questions in real time and if one could not attend these, they would be recorded and uploaded later. One particular class this individual took created a Facebook “tribe” or group for the course participants to engage in conversation with one another. This created a sense of community where they could connect with people from all over the world. The second mentor interviewed stated that overall virtual courses were better this year because there was more time to take them and participate due to the pandemic. This particular mentor had taken numerous

online seminars before COVID-19 due to their remoteness from VVCR and Costa Rica. They specifically enjoyed when the training session would include guest speakers and bring in outside material. It facilitated deeper conversation among the participants, and they heard another perspective instead of one presenter the entire session. One suggestion this mentor made was that VVCR should advertise training and courses being offered by other organizations that relate to their work in mentorship and leadership. They believe other mentors would be very interested in these courses but do not know about them. So, if VVCR were to help advertise extra courses it would be beneficial to the mentors and the overall success of the mentorship program.

#### 4.3 New Virtual Opportunities

Through the survey answers and informal interviews with mentors, we were able to understand what VVCR has been doing well and could do in the future to help mentors connect with one another and improve their mentoring sessions. Through our analysis of the VVCR mentor certification course, we found that the mentors felt the training process VVCR has in place fully prepares them to be a mentor. However, a new opportunity for additional training would be beneficial to both mentors and mentees. This would be through the implementation of optional webinars and courses outside of the initial certification process.

Since the VVCR community is full of entrepreneurs, we found that some of the mentors and mentees felt it would be helpful to have webinars that focus on entrepreneurship and bring in outside perspectives and viewpoints. Many noted it is beneficial to have more than one facilitator or presenter in order to gain a larger understanding of the content. Another proposal for mentors was for the ability to have mentors set up their own presentations and short seminars, where a

live recorded session would be held, and participants could ask questions. This feature also addressed the goal of building a community, as mentors would connect with each other and expand their network. The benefit of having a program like this is that any recordings done can be accessed on the site and pay for themselves in usefulness over time without the expense of more live sessions with mentees. If some technique or skills were outdated as well, it would not be difficult to remove or possibly update them.

As for networking within VVCR and communicating with other volunteers, one common suggestion mentors made was for the implementation of a central hub, where mentors could connect with one another and possibly share resources to increase collaboration during the mentoring process. We mentioned the virtual system that VVCR was developing, Kuikmatch, and most of the mentors were excited about this new development. Kuikmatch is being deployed to new volunteers and participants, and the staff is working to engage the entire VVCR network on this page in the future. With this new development, a proposal for creating a group with all the mentors was mentioned in the responses. Mentors want to be able to connect with everyone in the network, as the current system VVCR has in place is mainly a group chat involving the mentors that took the certification course together. Since most mentors had previous professional experience, some felt it would be helpful to share insight on certain topics or tips to help other mentors currently participating in the mentoring process. Having a system like this in place not only makes it easier to network, but it would establish an environment and community that allows for other mentors to share and learn new techniques they can utilize in their mentoring sessions.

Along with a central group for the mentors to share information and connect with each other, both mentors and mentees requested additional optional webinars or courses to be



advertised throughout the organization. VVCR already utilizes their social media platforms to make announcements for current and future events, but mentors see areas of improvement to this system. Volunteers or participants would additionally like announcements of other training or courses available outside of VVCR. These trainings would be found by mentors and VVCR staff and advertised by VVCR staff in order to encourage participation. VVCR could also create a group on their Kuikmatch page for participants interested in these training and courses. Forming a group and having the information in the community page would help alleviate the concern of having documents and information spread across multiple platforms. This would allow it to be centralized and easily accessible. There was also concern brought up about some mentors having not gone through the mentoring process for over a year. This puts in question the effectiveness of the mentor and if they should be granted permission to start the mentoring process with a new mentee after taking a long break. Having a centralized location full of various training and resources would make it so mentors can stay fresh on their techniques and conversation practices with mentees. This also helps mentors learn new skills they may not have talked about during their own personal mentoring process.

Other than a central hub for mentors and mentees to connect, one mentor proposed a mentorship program tracking system. The tracking system would contain past projects or a count of how many mentees the mentor has worked with over the years. They mentioned this would encourage some mentors to continue volunteering and stay connected with VVCR as they would be able to see visually the amount of work they have done with the organization. The main concern with a system like this is confidentiality, so in simplest forms it would be a count of how many mentees a mentor has worked with and a date of the most recent session. With a system

like this, it would also show which volunteers have not been through the process for a long period of time, where then further evaluation of that mentor could be done.

In the interviews with non-profit organizations, a common form of communication and marketing other than social media was through a newsletter. This ranged from being sent out weekly to monthly. People who had previously donated to the organization or those interested in the group and its services had the ability to sign up. Information on current or future events as well as developments were advertised through the newsletters, which helped keep the volunteers up to date on what was going on within the organization. A common theme found in the mentor survey and interview responses was that many did not always know what was being developed or happening within the network. Other than keeping volunteers up to date, this could also be used as an opportunity to advertise interesting training courses that were happening within and outside of VVCR for their mentors to look into. It would also create ease and accessibility in that whoever is registered for the newsletter would not have to check the social media pages frequently for updates.

## **Chapter 5: Conclusions and Recommendations**

Our study of the VVCR mentoring program, virtual learning from the perspective of the student and instructor, and the operations at comparable organizations has provided us with several key findings which lead us to our main conclusions and recommendations.

Following a thorough analysis of the virtual mentoring program by VVCR, our team concludes that the staff and mentor volunteers have adapted well to the changes in format. Naturally, there were learning curves and adjustment periods for mentors to react to the challenges that virtual mentoring sessions bring. However, mentors found ways to counter the challenges put in front of them. Some of these included finding new ways to hear and identify emotion without being given as much non-verbal communication through body language or taking extra time to focus the mentor and mentee's mind and body before starting the session. By utilizing tools and practices such as these, it can be concluded that the mentees and mentors still found the experience a positive one.

From these conclusions, our team recommends that VVCR creates spaces for and encourages mentors to share their experiences dealing with the shift to virtual mentoring. By using Kuikmatch or social media, such as Facebook or Instagram, mentors can interact with one another, provide their own tips for virtual sessions, ask questions, or look for advice from other experienced mentors. VVCR can pose discussion questions or just allow for conversation to flow naturally, as mentors use the resource to their own advantage to better their own mentoring techniques.

Within our virtual mentoring guide, in Figure 14, our team has compiled advice and techniques from 24 VVCR mentors and 3 WPI SDCC counselors. The SDCC counselors had very similar experiences in terms of the challenges they faced and the ways they dealt with those

issues. We recommend that VVCR shares this guide with their mentors in an effort to provide them with the advice and suggestions collected from our study.

## Voces Vitales VIRTUAL MENTORSHIP

### OBJETIVO DEL PROCESO DE MENTORÍA (PARA LAS 5 SESIONES)

Establecer objetivo **SMART** del proceso

1. ¿Qué desea trabajar?
2. ¿Para qué?
3. ¿Qué es lo que no sabe?
4. ¿Ha realizado algunas acciones respecto a esto antes?
5. ¿Qué le gustaría lograr?

### ENCUADRE PRIMERA SESIÓN DE TODO EL PROCESO

- Agradecimiento
- Explicar de qué se trata este proceso
- Es un espacio de una hora, confidencial y seguro
- Se harán preguntas
- No se dan consejos
- Retrolimentación
- Se puede parar el proceso en ambas vías (si alguien siente indisposición)
- Verificamos la comprensión

### ¿CÓMO INCIO LAS PRÓXIMAS SESIONES?

1. Retomar lo trabajado en la sesión anterior sin profundizar
2. Revisar tarea, retos y aprendizajes.
3. ¿Qué quieres conversar hoy?
4. ¿Cómo se relaciona esto con el objetivo del proceso de mentoría?
5. ¿Qué te quieres llevar al finalizar esta sesión?

### ¿CÓMO CIERRO CADA SESIONES?

- 5 minutos antes
- ¿Cómo te sentís?
- ¿Qué te llevás?

### TIPS FOR CONDUCTING VIRTUAL SESSIONS

From VVCR Mentors

**CONNECT**

Find commonalities. Use empathy.

**BE PRESENT**

Be ready and have confidence in yourself.

**ACTIVE LISTENING**

Listen more, speak less, and try to connect.

**TRUST THE PROCESS**

All will turn out well. This is the new normal.

### TECHNICAL TIPS

- Upgrade your software & technology
- If possible, use video-calling with cameras
- Practice meditation before beginning a session such as Heartmath
- Request feedback from your mentee

### SOFT TIPS

- Be in a good clear headspace
- Be an active listener and use empathy
- Be aware of the timing of your session
- Engage in small talk conversation to get to know your mentee
- Ask about your mentee's environment to get to know the situation better

The majority of VVCR mentees still feel as though the human connection and engagement is present through their virtual mentorship sessions.

### DOCUMENTACIÓN

Semana 1:	Semana 5: Bitácora 5
Hoja de Acuerdos	Semana 6: Bitácora 6
Test de liderazgo 1	Semana 7: Bitácora 7
Bitácora 1	Final:
Semana 2: Bitácora 2	Bitácora 8 (formulario diferente)
Semana 3: Bitácora 3	Test de liderazgo 2
Semana 4: Bitácora 4	

"BE READY. BE PRESENT. HAVE CONFIDENCE IN THE PROCESS AND THE TOOLS YOU LEARN WITH VOCES VITALES COSTA RICA. CONNECT WITH OTHER MENTORS FOR ADVICE."

Figure 14: Guide for conducting virtual mentoring sessions for VVCR Mentors, developed & created by our team.

To organize and develop this guide we included the tips from the VVCR mentor survey along with dominant recurring themes from our interviews with the WPI SDCC and VVCR Mentors. We collaborated with our sponsor, Eugenia to also incorporate important and previously established VVCR methodology into the guide. This included the overall objectives of the VVCR mentoring process, how to conduct the first mentoring session and questions to ask, how to conduct the following sessions, and what to include in the final session to wrap up the program. The guide also provides information to the mentors about the necessary documentation needed by VVCR.

The nonprofit organization, the Center for Women and Enterprise, is a valuable resource as the work done by them is closely comparable to that of VVCR. Our team recommends for VVCR to implement a version of CWE's "Coffee Hours." In addition to adding a space for mentors to interact on Kuikmatch or social media, this creates another opportunity for mentors to better their craft by sharing their experiences. This could also be a beneficial event aimed at strengthening the VVCR community beyond the certification class groups. Building a more interactive community will encourage volunteers to stay involved and be more active participants. It is also important to note that during periods where COVID restrictions do not allow for people to leave home and socialize very often, a "Coffee Hour" event would give mentors a new opportunity to connect with people outside their homes.

We also recommend that VVCR use the Central Massachusetts Center for Women and Enterprise as a resource to reach out to. Our contact at CWE has given us permission to share her information with VVCR. The work done by this organization aligns very closely with the objective of Voces Vitales. Forming a relationship with CWE would be beneficial for both organizations. CWE has seen success with hosting large, convention-like events in a virtual

space. With VVCR moving towards planning and executing larger events, CWE can be a beneficial resource to share their experiences with these types of virtual programs.

After evaluating virtual learning and course techniques as a whole, we concluded that students enjoy the flexibility that online delivery methods create and the accessibility it allows as they can go back to the material at any point. While there were also negatives to virtual education such as learning new technology, missing the in-person interaction and networking opportunities, the new positives outweigh the negatives for VVCR mentors. Since VVCR mentors are entrepreneurs or mothers or business people, their responsibilities to those positions come first, so the virtual nature of training and courses has made it easier for them to participate since the pandemic began.

When taking a deeper look into the structure of the Voces Vitales mentorship certification program, we found a few places for improvement. Instructors noted that students begin to lose focus after about ten minutes, so, to adapt to this, teachers incorporate interactive activities within their course delivery. This can be done in several forms including:

- Playing a short video
- Having attendees answer a poll or discussion question
- Facilitating small group discussion through breakout rooms
- Utilizing the chat feature

These techniques can be applied even if the content is being delivered fully asynchronously. We found that the most important thing is to keep participants engaged.

If the training is over Zoom and delivered live, there were other comments students and instructors recommended such as:

- Have your camera on at all times if possible

- Have high energy as an instructor or facilitator
- Take notes
- Put away your cell phone or other distraction objects
- Sit in a designated space, not a bed

Live training gives participants the ability to interact with one another through the chat feature and group discussions.

For the mentoring certification process VVCR offers, we have concluded that the mentors are receiving enough support and resources for the training process. Mentors are able to understand the process of mentoring and how to help mentees achieve their goals utilizing their skillset. Even though the certification process is enough to start mentoring, both mentors and mentees were looking for additional resources to learn from outside of mentoring sessions. With this in mind, we recommend that VVCR allow mentors to host and conduct their own live sessions that would be recorded for future posting. This would be used for sharing personal experiences and techniques the mentor has learned and can share with other mentors and mentees. Many mentors are also experienced leaders and entrepreneurs that have valuable knowledge to share in these areas. These sessions would be advertised through the VVCR network and it would be live to give attendees the ability to ask questions and get responses quickly. VVCR can also utilize Kuikmatch in order to gauge attendance before the session by creating a group for those interested in the live event and ensure enough participants are available. With their social media platforms, VVCR can also share information about outside courses or training being offered that have been mentioned by mentors or staff members, encouraging mentors and mentees to take if they have the time.

While VVCR mentors were generally very satisfied with the mentoring program, there are a few upgrades that could be valuable for them. One development we recommend VVCR implement is a simple group on Kuikmatch that contains all of the VVCR mentors instead of having them separated by the group they were a part of for the certification process. This would be an open community for all mentors where they can share techniques they may have for the mentoring process or network with other mentors and get to know their peers. Another development for VVCR to implement is a dashboard for mentors that holds information about their history as a VVCR volunteer. This dashboard would display counters, such as how many projects they have participated in or how many times the mentor has gone through the mentoring process, or a display with their last mentoring session date. Mentors individually would input the information as they complete projects or mentoring processes. This would provide encouragement to mentors as they would be able to visualize their impact on the organization. It would also help the staff keep track of individual mentors who have not been recently active in order to supply them with extra guidance or a refresher before beginning mentoring again.

A form of communication that has been popular with non-profit organizations has been a newsletter. Our team recommends that VVCR reestablish their newsletter and distribute an informal edition on a monthly basis. This newsletter would contain any developments that are being explored as well as any major events that are currently planned for the month. It would be beneficial for both sides as the staff can increase participation and attendance for events while VVCR members can stay up to date on new events and developments.



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# Appendices

## APPENDIX A: Mentor Survey

### VVCR Virtual Mentoring Survey

Hi, we are a team of student researchers from Worcester Polytechnic Institute (WPI) from Massachusetts, USA and we have been working with Voces Vitales Costa Rica (VVCR) for the past few months. Our goal is to collect data from experienced VVCR mentors so that we can help enhance the virtual platforms VVCR uses for the mentorship process due to COVID-19. We know that this global pandemic has affected all of our daily lives and want to help make the virtual mentoring process the best that it can be! Your input and experiences are very valuable to us and we appreciate your participation greatly.

For the purpose of this survey, your name and personal information will not be collected. Our team will refer to you as “VVCR Mentor” in our documentation. You, as the participant, have the freedom to skip any question you do not want to answer and have the ability to email us, the student investigators, any question you desire. Our email is [gr-vvcr-c21@wpi.edu](mailto:gr-vvcr-c21@wpi.edu) Records of your participation in this study will be held confidential so far as permitted by law. Any publication or presentation of the data will not identify you.

By completing this survey, you acknowledge that you have been informed about and consent to be a participant in the study described above.

**1. How long have you been a mentor with VVCR?**

- a. Less than 6 months
- b. 6 months to a year
- c. Over a year

**2. When was your most recent mentoring session?**

**3. In which format have you conducted mentoring sessions? (Please check all that apply)**

- In-person
- Phone Call
- WhatsApp (Voice-Calling, or messages)

- Video-Chat (Cellular: WhatsApp with Video, FaceTime, etc.)
- Video-Chat (Online: Zoom, Skype, etc.)
- Other

- 4. How often do you meet with your mentees online and for how long do your virtual meetings usually last?**
- 5. Do you think your mentoring sessions could benefit from changing the length and/or frequency of meetings? (ex. Switching from 1 hour long sessions once a week to 30 minute sessions twice a week)**
- 6. We know that building a strong personal connection is important to the mentoring process. What is your experience with forming this relationship virtually compared to being in person?**
  - a. It is much easier to connect in a virtual setting
  - b. It is somewhat easier to connect in a virtual setting
  - c. There hasn't been a change
  - d. It is somewhat harder to connect in a virtual setting
  - e. It is much harder to connect in a virtual setting
  - f. Non-applicable; I have not experienced both virtual and face-to-face
- 7. What do you think your biggest challenge is in terms of conducting sessions virtually?**
- 8. What tools or tricks have helped you deal with the challenges of virtual mentoring?**
- 9. If you were to give advice to a mentor starting their first virtual mentoring session, what would be your biggest piece of advice?**

**10. Have you recently participated in any virtual training or certification classes through VVCR or elsewhere?**

- a. Yes
- b. No

**11. If you have participated in recent virtual training sessions, what did you like and/or dislike?**

**12. If you have any further comments or feedback please feel free to leave it below!**

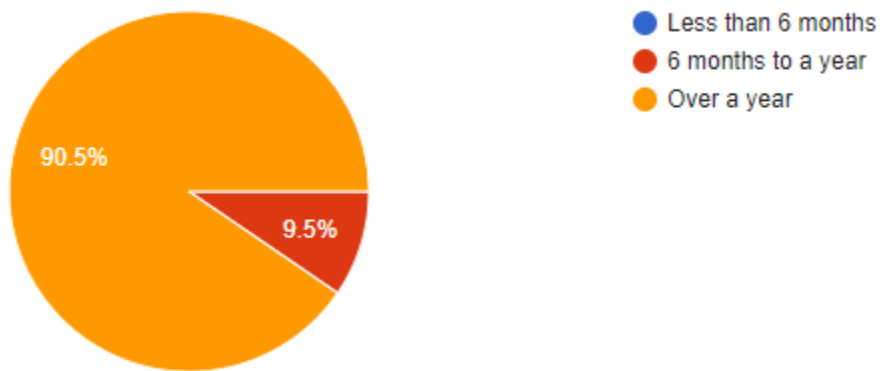
Thank you for taking the time to fill out this survey! It is greatly appreciated. If you have any questions about this survey or our project please reach out to our team at [gr-vvcr-c21@wpi.edu](mailto:gr-vvcr-c21@wpi.edu)

## APPENDIX B: Mentor Survey Findings

### Raw Data

#### 1. How long have you been a mentor with VVCR?

- 19 out of 21 (90.5%) have been a mentor for over a year
- 2 out of 21 (9.5%) have been a mentor for 6 months to a year
- 0 have been a mentor for less than 6 months



#### 2. When was your most recent mentoring session?

- January 4th, 2017
- March 9th, 2019
- June 15th, 2020
- June 30th, 2020
- July 15th, 2020
- September 1st, 2020
- November 1st, 2020
- November 11th, 2020
- November 17th, 2020
- November 17, 2020



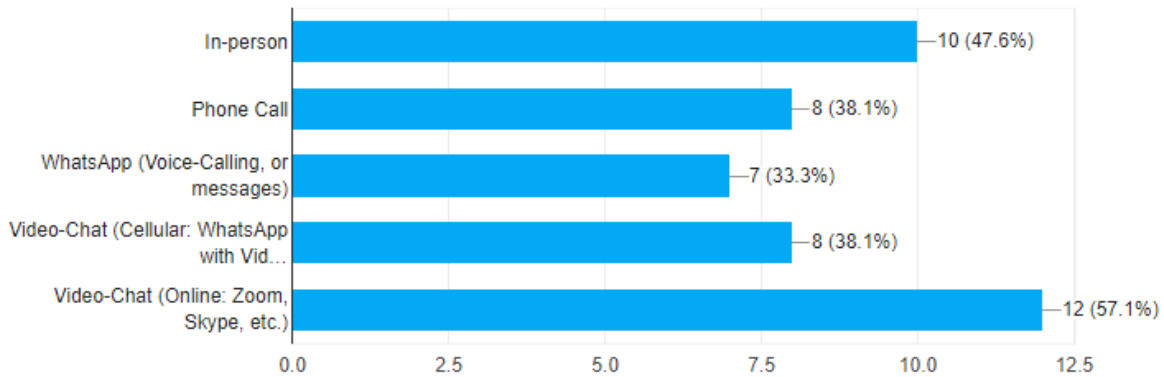
- December 3rd, 2020
- December 5th, 2020
- December 7th, 2020
- December 15th, 2020
- December 15th, 2020
- December 23rd, 2020
- January 16th, 2021
- February 13th, 2021
- February 16th, 2021
- February 19th, 2021



**3. In which format have you conducted mentoring sessions? (Please check all that apply)**

- 10 out of 21 (47.6%) mentors have conducted in-person mentoring

- 8 out of 21 (38.1%) mentors have conducted mentoring over a phone call
- 7 out of 21 (33.3%) mentors have conducted mentoring over WhatsApp (Voice-Calling, or messages)
- 8 out of 21 (38.1%) mentors have conducted mentoring over video-chat (Cellular: WhatsApp with Video, FaceTime, etc.)
- 12 out of 21 (57.1%) have conducted mentoring over video-chat (Online: Zoom, Skype, etc.)



**4. How often do you meet with your mentees online and for how long do your virtual meetings usually last?**

Every week
4 times a week, 1 hour approx
Meetings usually last 1 hour In some cases we just met one time, in others up to 3 times
About 45 min- 1 hour. Depending on the program I am volunteering for. If it is for the brigade it is usually a one time session. If it is a 8 session mentorship I try to do a session every week for 2 months.
1 a week - 1 hour
We meet for 1 hour, once a week for a term of approximately 8 weeks.

Once a week and for 1.5 hours
Weekly- 1 hour ( 8 sessions)
Weekly
Once a week, at least one hour
45min
One hour every week for 8 weeks.
Once a week / one hour
We have only met online, since I started being a mentor during the pandemic. Usually they last around 1.5 hrs
Once a week for an hour
8 times and 1 hour each
Weekly for one hour
Once every week.
2 times per month, 45 to 60 minutes

**5. Do you think your mentoring sessions could benefit from changing the length and/or frequency of meetings? (ex. Switching from 1 hour long sessions once a week to 30 minute sessions twice a week)**

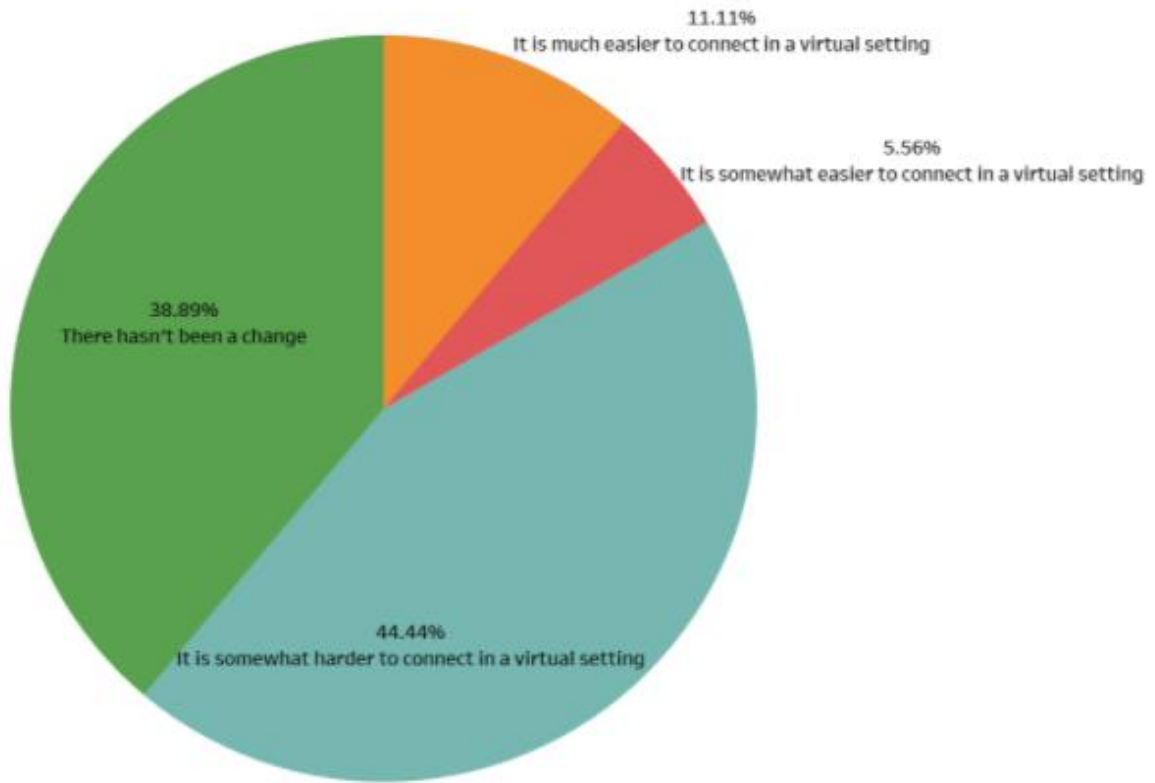
no
It will depend on the subject and how the mentee is feeling, sometimes might not be a good idea to cut the conversation
I think flexibility is very much needed when I serve as a mentor. Especially for women.
1 hour session
I think once a week is ok, but instead just once, 3 sessions (1 hour a week - 3 weeks)
It could still be beneficial as long as the 30 mins twice a week are related: one session for active work/exercises to implement throughout the week, the second session observations, feelings and sensations derived from that work. Although my personal recommendation is to

stick to full hours at least during the first 3 sessions to create a bond, define the goal and the strategy to use along the mentoring.
I think it would depend on the mentee and her/ his availability and commitment
It could be an option. We can try and see which is more convenient for the binomial
No, one hour is perfect
No. I believe 1hr once a week is perfect
Yes
Not really. Can't cut a good conversation. It won't be really profitable.
Maybe 30 to 45 minutes twice a week
I prefer the 1 hour session.
No. I really think that the length is perfect, an hour per session gives us time to go deeply enough into our conversation. Scheduling both agendas could be challenging also.
Maybe but I think it would be better if only one session a week
No
I think an 1 hour and 15 minutes once a week is a good length.
No. Less frequency but more quality is more, I think. The rest can be done via whatsapp.
May be, not sure

**6. We know that building a strong personal connection is important to the mentoring process. What is your experience with forming this relationship virtually compared to being in-person?**

- It is much easier to connect in a virtual setting - 2/19, 10.5%
- It is somewhat easier to connect in a virtual setting - 1/19, 5.3%
- There hasn't been a change - 7/19, 36.8%
- It is somewhat harder to connect in a virtual setting - 8/19, 42.1%
- It is much harder to connect in a virtual setting - 0/19, 0%

- Non-applicable; I have not experienced both - 1/19, 5.3%



## **APPENDIX C: Mentee Survey**

### **VVCR Mentee Survey (English Version)**

Hi, we are a team of student researchers from Worcester Polytechnic Institute (WPI) and we have been working with Voces Vitales Costa Rica (VVCR) for the past few months. Our goal is to collect data from those involved in VVCR's virtual programs so that we can help improve the virtual mentorship process. We know that this global pandemic has affected all of our daily lives and want to help improve the experience of mentees like you. Your input is very valuable to us and we appreciate your participation greatly.

For the purpose of this survey, your name and personal information will not be collected. Our team will refer to you as "VVCR Mentee" in our documentation. You, as the participant, have the freedom to skip any question you do not want to answer. Records of your participation in this study will be held confidential so far as permitted by law. Any publication or presentation of the data will not identify you.

By completing this survey, you acknowledge that you have been informed about and consent to be a participant in the study described above.

- 1. Indicate the year and month of your last mentoring session.**
- 2. Which project were you a part of?**
  - a. Mujeres en política
  - b. Premio Yo Emprendedor
  - c. TCU
  - d. Other
- 3. In what format were your mentoring sessions conducted?**
  - a. In-person
  - b. Initially in-person and finished virtual
  - c. In-person and virtual at the same time
  - d. Fully virtual
- 4. If you have experienced both in-person and virtual sessions, how has the effectiveness compared?**

- a. In-person sessions are more impactful
- b. Virtual sessions are more impactful
- c. They are both the same
- d. Not applicable

**5. How did you connect with your mentor virtually? (Select all that apply)**

- Text messaging and WhatsApp
- Phone call
- FaceTime/WhatsApp video call
- Zoom/Meets/Skype
- All of the sessions were in-person

**6. How would you rate your personal connection with your mentor over virtual sessions? (1 being difficult to connect, 5 being easy to connect)**

**7. How familiar are you with technology? (1 being unfamiliar, 5 being familiar)**

**8. What did you like or what worked with virtual sessions?**

**9. What accomplishments have you had that you attribute to mentoring since completion?**

**10. What professional challenges do you currently face?**

**11. What else can VVCR offer for you to continue your leadership development?**

**12. Have you recently taken any virtual courses or trainings outside of VVCR?**

- a. Yes
- b. No

**13. If you have taken a course or training recently outside of VVCR, what did you like and what did you dislike?**

**14. Age**

- a. Less than 24 years old
- b. 24-39 years old
- c. 40-59 years old
- d. 60+ years old

**15. Comments**

Thank you for taking the time to complete this survey! Your response is greatly appreciated. If you have any questions about the survey, you may send an email to our group at [gr-vvcr-c21@wpi.edu](mailto:gr-vvcr-c21@wpi.edu).



## **APPENDIX D: Mentee Survey Findings**

### **VVCR Mentee Survey Findings**

Hi, we are a team of student researchers from Worcester Polytechnic Institute (WPI) and we have been working with Voces Vitales Costa Rica (VVCR) for the past few months. Our goal is to collect data from those involved in VVCR's virtual programs so that we can help improve the virtual mentorship process. We know that this global pandemic has affected all of our daily lives and want to help improve the experience of mentees like you. Your input is very valuable to us and we appreciate your participation greatly.

For the purpose of this survey, your name and personal information will not be collected. Our team will refer to you as "VVCR Mentee" in our documentation. You, as the participant, have the freedom to skip any question you do not want to answer. Records of your participation in this study will be held confidential so far as permitted by law. Any publication or presentation of the data will not identify you.

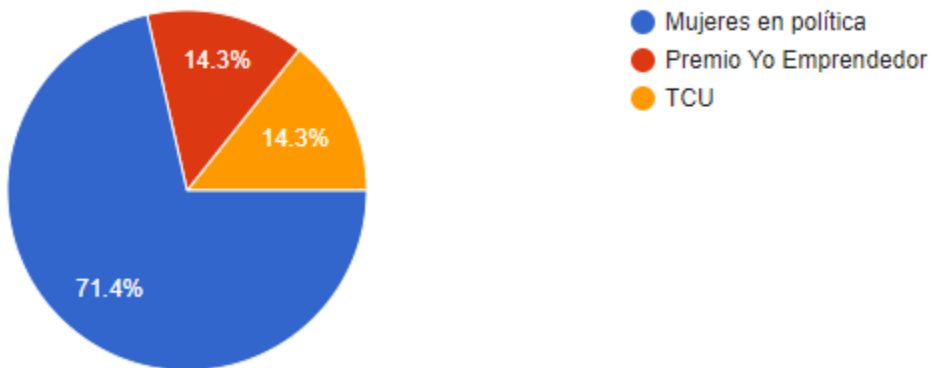
By completing this survey, you acknowledge that you have been informed about and consent to be a participant in the study described above.

#### **1. Indicate the year and month of your last mentoring session.**

- August 2020
- 2020, don't remember the month
- 2020
- 4/20/2020
- May 2020
- June 2020
- April 2020

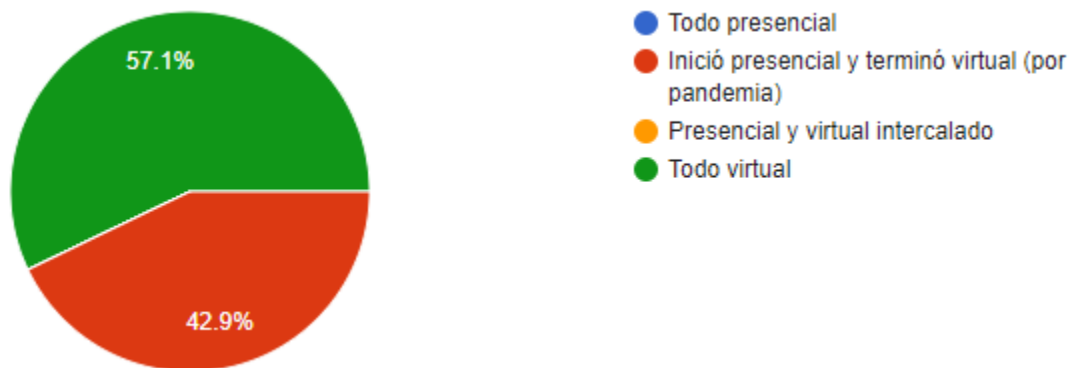
#### **2. Which project were you a part of?**

- 5 out of 7 mentees (71.4%) were a part of Mujeres en politica
- 1 out of 7 mentees (14.3%) were a part of TCU
- 1 out of 7 mentees (14.3%) were a part of Premio Yo Emprendedor



**3. In what format were your mentoring sessions conducted?**

- 4 out of 7 mentees (57.1%) indicated a fully virtual mentoring process
- 3 out of 7 mentees (42.9%) indicated starting in-person and finishing the process virtual



**4. If you have experienced both in-person and virtual sessions, how has the effectiveness compared?**

- 4 out of 7 mentees (57.1%) stated in-person sessions were more impactful
- 2 out of 7 mentees (28.6%) stated this question was not applicable
- 1 out of 7 mentees (14.3%) stated both have the same effect

**5. How did you connect with your mentor virtually? (Select all that apply)**

- 3 out of 7 mentees (42.9%) used text messaging or WhatsApp text to connect with their mentor
- 3 out of 7 mentees (42.9%) used phone calls to connect with their mentor
- 3 out of 7 mentees (42.9%) used FaceTime/WhatsApp video call to connect with their mentor
- 3 out of 7 mentees (42.9%) used Zoom/Meets/Skype to connect with their mentor



**6. How would you rate your personal connection with your mentor over virtual sessions? (1 being difficult to connect, 5 being easy to connect)**

- 4 out of 7 mentees (57.1%) stated it was very easy to personally connect during virtual sessions
- 2 out of 7 mentees (28.6%) stated it was somewhat easy to personally connect during their virtual session
- 1 out of 7 mentees (14.3%) stated neutral for personal connection development during virtual sessions

**7. How familiar are you with technology? (1 being unfamiliar, 5 being familiar)**

- 5 out of 7 mentees (71.4%) stated they were very familiar with technology
- 1 out of 7 mentees (14.3%) stated they were somewhat familiar with technology

- 1 out of 7 mentees (14.3%) stated they were neutral in terms of familiarity with technology

**8. What did you like or what worked with virtual sessions?**

Más de lo que esperaba
En realidad son beneficiosas aunque me gusta más la presencia
Ahorro de tiempo porque a veces resulta complicado el trasladarse
Que tienes que estar actualizándose constantemente
No, realmente el premio fue nada aprovechable
La conexión con la mentora y la reflexión de cada sesión.
me ha funcionado a la hora de tomar decisiones importantes en mi trabajo, así como la forma de comunicarme con los demás

**9. What accomplishments have you had that you attribute to mentoring since completion?**

A tener una mente más abierta, ver todo de distintas perspectivas, a ser libre de las opiniones de los demás
Muchos
Hacer un análisis de quién soy
El estar más empoderada de mi puesto
ninguno. Lastimosamente quería y deseaba que me ayudara en mucho pero la realidad fue otra
Conocer zoom y la facilidad de las reuniones.
El desarrollo de la escucha, el análisis de las metas y el camino para conseguir.

**10. What professional challenges do you currently face?**

Estoy empezando mi propio emprendimiento, y estoy empezando a trabajar en una agencia de
--

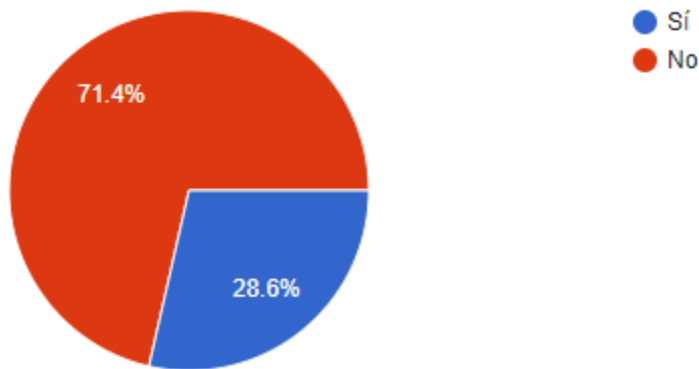
mercadeo en un puesto que normalmente tomaría años en llegar
Muchos
Quiero realizar capacitaciones de refrescamiento en mi ámbito profesional
Continuar estudiando y preparándome para nuevos retos
Muchísimos como mujer emprendedora, retos empresariales y personales que me hagan mejorar como profesional y por ende a la empresa
Acceder a un trabajo remunerado.
Promover y mantener activa la economía local del cantón. El desarrollo de proyectos comunitarios y de emprendimientos en esta misma línea.

**11. What else can VVCR offer for you to continue your leadership development?**

cursos para emprendedoras, charlas
-
Talleres para fomentar la participación de la mujer en diferentes campos
Más comunicación
Realmente no sé como contestar esto porque para mi no fue aprovechable
Una guía profesional
Capacitación y mentoría cpnstante.

**12. Have you recently taken any virtual courses or trainings outside of VVCR?**

- 5 out of 7 mentees (71.4%) indicated they have not recently taken a virtual course or training outside of VVCR
- 2 out of 7 mentees (28.6%) indicated they have recently taken a virtual course or training outside of VVCR

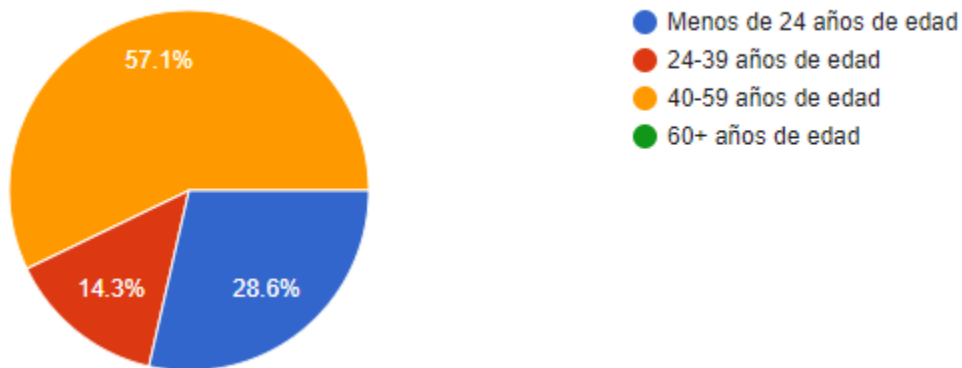


**13. If you have taken a course or training recently outside of VVCR, what did you like and what did you dislike?**

/
Si me gustó y pienso que sería de provecho usar esta misma estrategia para lograr la formación de nuevos liderazgos
Me gustó que aunque fuera virtual, fue muy participativo y también se contaba con mentoría.El requisito principal tener encendida la cámara, esto hace una conexión entre el mentor y uno, que beneficia el poder aprovechar al máximo de un aprendizaje mutuo.

**14. Age**

- 4 out of 7 mentees (57.1%) indicated they were 40-59 years old
- 2 out of 7 mentees (28.6%) indicated they were younger than 24 years old
- 1 out of 7 mentees (14.3%) indicated they were 24-39 years old



## 15. Comments

Me gustó mucho hacer mi TCU en VVCR, un abrazo.
Felicitaciones a la organización.... sigan adelante aportando al crecimiento de las mujeres.
Gracias por el interés por contactarme
El apoyo no fue aprovechable, no creo que haya sido por la mentora sino por la situación en que se dio
Muchas gracias.
Me encantó el proceso que llevé con voces activas, antes de iniciar en la gestión del gobierno local, ha sido clave para tomar con filosofía, compromiso y entrega mis labores actuales. Pero lo más valioso, me dejó una gran amiga mi mentora Leda, con la cual todavía sigo conversando de vez en cuando.

Thank you for taking the time to complete this survey! Your response is greatly appreciated. If you have any questions about the survey, you may send an email to our group at [gr-vvcr-c21@wpi.edu](mailto:gr-vvcr-c21@wpi.edu).

## **APPENDIX E: VVCR Mentor Interview**

Consent Script:

Hi, thank you so much for meeting with us. Before we get into the interview we have a semi-lengthy script to read about your participation in our study as well as some background on our project.

You are being asked to participate in a research study. Before you agree, however, you must be fully informed about the purpose of the study, the procedures to be followed, and any benefits, risks or discomfort that you may experience as a result of your participation. This form presents information about the study so that you may make a fully informed decision regarding your participation.

We are conducting research about virtual online platforms to help VVCR for our Interactive Qualifying Project at Worcester Polytechnic Institute. We are interested in your experiences as a VVCR Mentor and how you have adapted your mentoring techniques due to COVID-19.

Your participation will involve one informal interview that will last between 30 minutes and an hour. This research has no known risks.

For the purpose of this interview, your name and personal information will not be collected. Our team will refer to you as “VVCR Mentor”. You, as the participant, have the freedom to skip any question you do not want to answer and have the ability to ask us, the interviewers, any question you desire. Records of your participation in this study will be held confidential so far as permitted by law. Notes that are taken during the interview will be stored in a secure location. However, the study investigators, the sponsor or its designee, and, under certain circumstances, the Worcester Polytechnic Institute Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. Any publication or presentation of the data will not identify you.

Would you be willing to let us record this interview? The recording would not be published or made public and only used for the investigator's notes/reference.

- 1. Can you describe your background working with VVCR?**
- 2. What do you do outside of mentoring for VVCR? What do you do for a living?**
  - a. How has your job helped you be a mentor?**
- 3. When was your last mentoring session?**
- 4. How are you told that you have a new mentee to advise?**
  - a. Can you describe this process?**
- 5. Have you had experience mentoring in person?**



- a. **How has your mentorship process changed if you have experienced both formats?**
6. **In which format do you usually conduct mentoring sessions? (Over the phone, on zoom, etc)**
7. **How often do you meet with your mentees online and for how long do your virtual meetings usually last?**
  - a. **Are you able to keep your mentee engaged for the entire session?**
8. **Do you think your mentoring sessions could benefit from changing the length and/or frequency of meetings? (ex. switching from 1 hour-long session once a week to 30-minute sessions twice a week)**
9. **What do you think your biggest hurdle is in terms of conducting sessions virtually?**
  - a. **Is there a certain aspect or area within the mentoring process that is most difficult to do virtually?**
10. **We know that building a strong personal connection is important to the mentoring process. Do you find it harder to connect with your mentee during COVID?**
11. **What techniques do you use in order to build a personal connection?**
12. **What kind of common themes do you work through with your mentees?**
  - a. **How have these changed due to COVID if at all?**
13. **If you were to give advice to a mentor starting their first virtual mentoring session, what would be your biggest piece of advice?**
14. **Do you feel like you, as a mentor, get the support and resources you need from the VVCR Staff?**
15. **How does VVCR staff support mentors through training and resources?**

- 16. What is the process you go through to document and store your meeting notes to track the mentee's progress?**
- a. Do you find that this process could be improved?**
- 17. If you could change or improve one thing about the VVCR mentoring program what would it be?**
- 18. What online VVCR platform do you use the most if any?**
- 19. Do you have any experience using Kuikmatch?**
- a. What do you think of it so far? How do you think it could be useful to your work as a mentor?**
- 20. Have you done any virtual training within VVCR or outside of VVCR since the pandemic began?**
- a. How has your experience been with the virtual training software and courses VVCR had developed due to COVID-19?**
- 21. If you could change or improve one thing about VVCR's virtual training programs, what would it be?**
- 22. Outside of VVCR: what was your experience with the virtual training?**
- a. What did you like or dislike?**

## **APPENDIX F: WPI Instructor Survey**

- 1. What department do you teach in?**
- 2. How long have you been teaching at WPI?**
- 3. What is your typical class size like?**
  - a. Under 20
  - b. 20-40
  - c. 40-60
  - d. 60+
- 4. How have you conducted classes since virtual learning began? Check all that apply?**
  - a. Delivered course content completely synchronous (Zoom, Echo360, etc.)
  - b. Delivered course content completely asynchronous (pre-recorded, online modules) -does not include office hours
  - c. Mixture of synchronous and asynchronous
  - d. Other (please explain)
- 5. Do you have a preference for which way you like to teach class material (synchronous/asynchronous/mixed/etc.)? Why do you prefer this way?**
- 6. What has been the biggest hurdle in transitioning your teaching to an online setting?**
- 7. Do you find it harder to connect to your students during virtual sessions?**
  - a. Much harder
  - b. Somewhat harder
  - c. About the same
  - d. Somewhat easier

- e. Much easier
- 8. If you were giving advice to an instructor going to teach their first virtual class, what is your biggest piece of advice?**
  - 9. What is something(a teaching technique or format) you found does not work very well in an online setting?**
  - 10. What is something that you found does work well in an online setting?**

## APPENDIX G: WPI Instructor Survey

### 1. What department do you teach in?

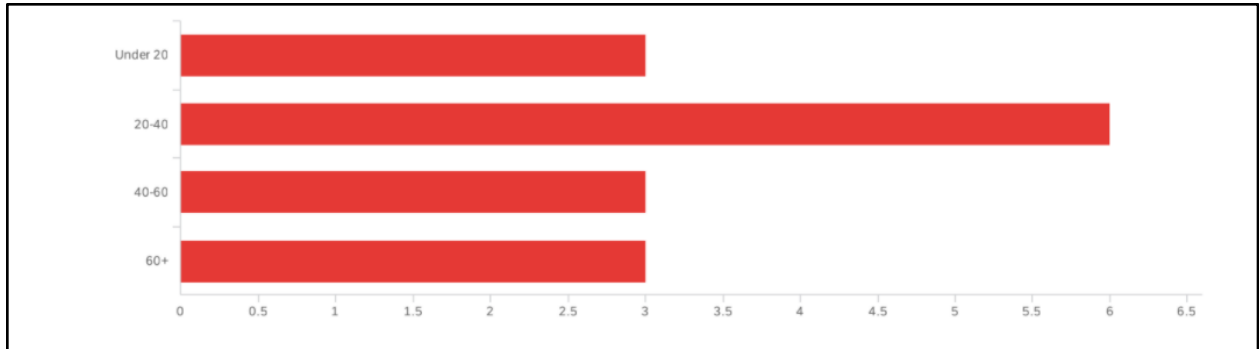
ME
Mechanical Engineering
Humanities and Arts
Hua
Humanities and Arts
Humanities and Arts
Mechanical engineering
Humanities and Arts
HUA
Humanities
Computer Science, IMGD
Computer Science
Humanities & Arts
HUA
Computer Science

### 2. How long have you been teaching at WPI?

40 years
5 years
3 years
50 years
17 years, but it feels like 35
15 years
5.5 years
5 years
3 years
One semester
3.5 years
3 years
2.5 years
15 years
3 1/2 years

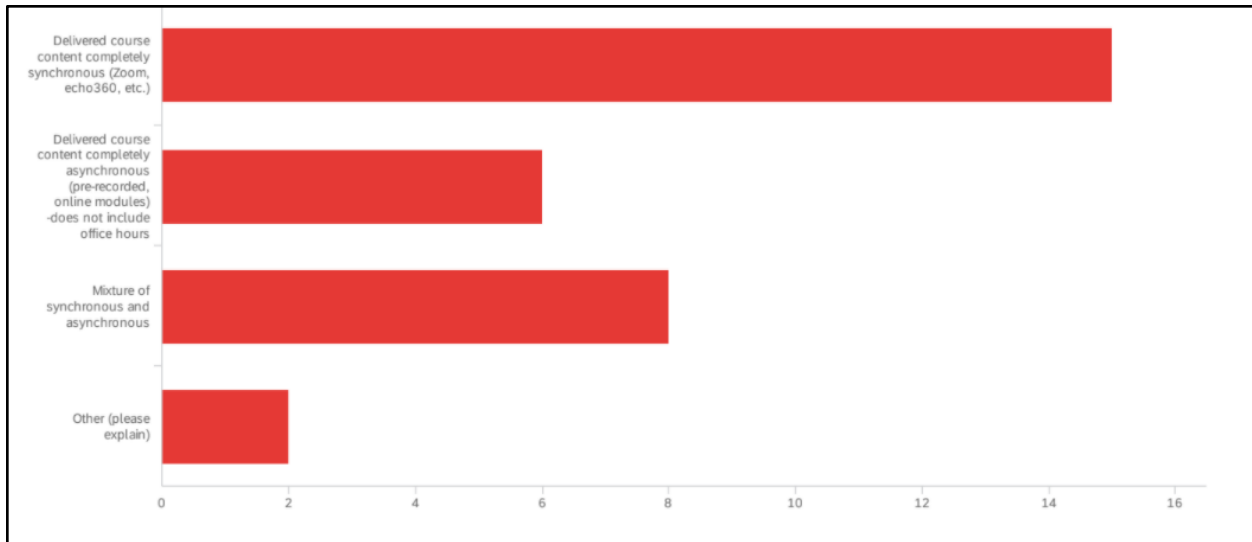
**3. What is your typical class size like?**

- a. Under 20
- b. 20-40
- c. 40-60
- d. 60+



**4. How have you conducted classes since virtual learning began? Check all that apply?**

- a. Delivered course content completely synchronous (Zoom, Echo360, etc.)
- b. Delivered course content completely asynchronous (pre-recorded, online modules) -does not include office hours
- c. Mixture of synchronous and asynchronous
- d. Other (please explain)



**5. Do you have a preference for which way you like to teach class material (synchronous/asynchronous/mixed/etc.)? Why do you prefer this way?**

mixed
I prefer a mixture so that students know they have time when they will see me live but can also access content when they have time to focus.
Synchronous
I have done only sun as it's easiest to do
Students find asynchronous teaching alienating, and I agree. I only teach in "real time."
synchronous: I like to see the students and Zoom is great for group activities in breakout rooms.
definitely synchronous. asynchronous is too impersonal for me.
I prefer to teach the course synchronously, so that I can see my students live. I don't mind the mix of in-person and remote (who Zoom in), as long as we can all see and hear each other in a synchronous format.
Mixed. This allows for multiple approaches to teaching and learning and allows students a bit more flexibility.
I teach design and I always prefer to teach in person, but am grateful for the tech that allows us to continue to teach safely.
I prefer synchronous, because it keeps some level of contact with the students.
synchronous
I prefer completely synchronous content delivery because I feel that students are more engaged. I rely on getting together at the same time to discuss texts and assignments as a group.

Synchronous: but would be better pedagogically in accordance with national standards for my discipline (currently oversized). Asynchronous is not possible without any kind of live meeting aspect-it is faster to transmit feedback live, typing takes forever and students tend not to engage it as easily, video recording is memory hogging and takes forever to upload to Echo 360

I find it really varies with the class. I teach an ethics course that requires synchronous delivery because it involves a lot of small-group discussions and other real-time activities. Some students also seem to learn better with synchronous lectures while other prefer asynchronous, so I find it's best to offer synchronous lectures, make them optional, and then record them and post them online.

**6. What has been the biggest hurdle in transitioning your teaching to an online setting?**

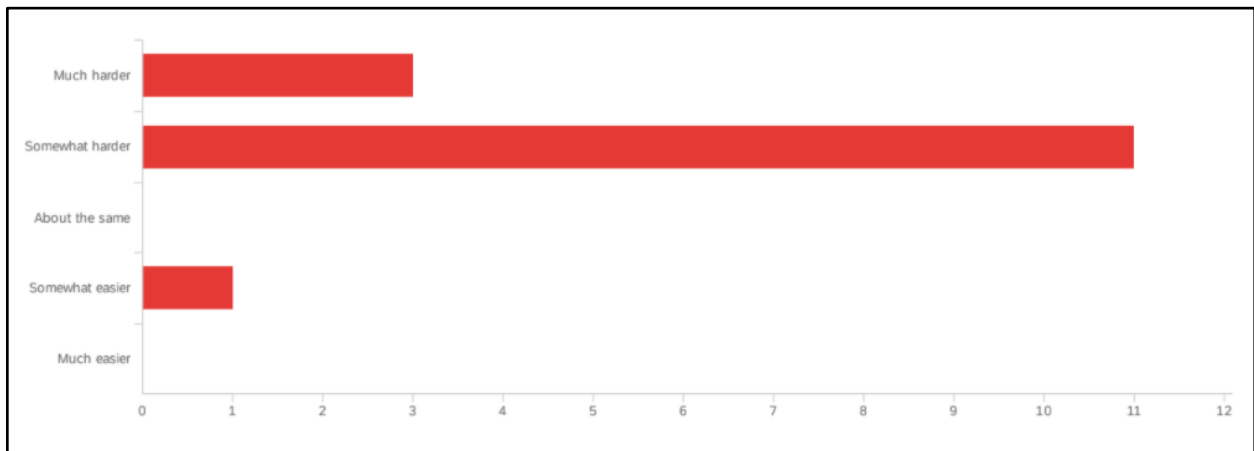
learning the software systems
Feeling connected to the students and helping them connect to each other.
In order to teach well, I need to prepare a whole new course that is specifically designed for online learning
Getting used to the tech which was actually pretty easy
Learning how to do certain technical things like uploading video content on Echo360.
To learn all the features that Canvas offers, to learn the Zoom features, to adjust the quizzes and tests to remote learning format.
trying to teach a hardware based course virtually is tough.
It's been extremely hard to help asynchronous students feel like they are part of the synchronous learning community.
Providing enough support to students, both academically and individually. Students are more stressed, and it's hard to know how to help sometimes.
In person interfacing, tech-tired zombies.
Tactile, hands-on learning is impossible. Facilitating group work and discussion is also hard. We're still learning social cues in online learning.
don't get to know even a subset of students, lack of feedback
Not being able to see my students as we're discussing texts and concepts. I never realized this, but I really rely on reading students' affect in the classroom. When we're together in the classroom, I can often tell when they're engaged in the material and when they're not, when they understand it and when they don't. This is much harder to do on Zoom.
The increased need to reach out to students who seem disconnected. Also, students are more often late since other professors appear to have no forethought as to keeping students overtime in their classes.



I'm in computer science, which transitions relatively easily, but there were still some in-class activities that were a little harder to transition, such as small-group discussion and think-pair-share. In the case of the small-group discussions, the Zoom breakout rooms feel a bit more isolating than offering discussions in class.

**7. Do you find it harder to connect to your students during virtual sessions?**

- a. Much harder
- b. Somewhat harder
- c. About the same
- d. Somewhat easier
- e. Much easier



**8. If you were giving advice to an instructor going to teach their first virtual class, what is your biggest piece of advice?**

- develop a clear syllabus and have learning objectives for each class
- Try to engage the class as best as you can through short activities that require students to work together to get to a goal.
- Start each class meeting with warm up activities
- Try a practice run first
- Start with an "ice breaker," a game, in which everyone introduces each and participates. ALSO acknowledge the emotional difficulty/challenge with this kind of instruction. We're all doing the best we can.

Practice handling the videoconferencing platform ahead of time. Be familiar with the technology.
keep asking your students if they have any questions
Don't ever lecture for more than 10 minutes at a clip. After 10 minutes you have to stop and give students an activity in which they do something -- talk to a partner or a group, answer a question, add to a discussion board -- anything but sit there and keep listening to you!
Less is more. A straight lecture doesn't work online, especially one with a lot of content. Plus, it's good to mix it up with some lectures, more discussion, breakout rooms, and videos.
Set up class as if you were in person. Stand up, be animated, have a white board and be Socratic. It takes a lot more energy on your part but I think the students get a more involved class experience.
Cut back on content expectations, be flexible to support the different ways students can come to class.
Many students and faculty going into their first online class tend to think it's going to be easier than face-to-face teaching. It's not. In fact, I think it requires far more time and attention to do it well. So plan to accomplish less, which will in turn give you the time and space to cover that material well.
Let students keep their cameras off.
I think that would vary with the instructor and the class, as different teaching styles and different classes require different approaches to online teaching. I would probably suggest not making the class entirely asynchronous unless it was completely necessary, as it can be a more isolating experience for the students.

**9. What is something(a teaching technique or format) you found does not work very well in an online setting?**

tests and quizzes.
Call and response style questions.
Lecturing
No
Sharing my homemade cookies with my students.
assessments
you took my class, you tell me!
Improv games, acting games, empathy reads and, of course, lecturing for longer than 10 minutes at a time
Lecturing for more than 10 minutes

Full group discussion, sharing back to the class after small group work.
Group discussion... gah! Getting students to engage in a large group discussion is so tough!
In small group discussions in Zoom rooms, I cannot gauge participation the way I can hear all groups chatter wind up and down in a classroom- lack of stimuli (e.g. tracking student's focus) to know when to move an exercise or discussion along.
It's sometimes harder to get students to actively participate, as it's easier to "hide" in an online course, especially a larger one. As a result, the techniques used to encourage participation in an in-class setting don't always work for an online one.

**10. What is something that you found does work well in an online setting?**

recorded lectures that allow easily repeated watching and rewinding as well the lecture materials
Having students annotate on my screen
Zoom's chat function
Discussion board on canvas
It's surprisingly easy and effective to share videos/films using ZOOM.
Showing video clips, group activities in breakout rooms.
you took my class, you tell me!
Breakout rooms for students to discuss something and share writing, give each other feedback, or work on a shared document together
Organizing class with specific discussion questions and mixing up the format and content each class meeting.
Being animated and as engaged as you want your students to be. Physically interacting with something (a board, props, physical drawings both handheld and available digitally gives students the sense that they are experiencing sharing in real time with real materials.
Questions can come in as soon as the student has them (in chat), students can answer each other, I can queue questions to answer at a convenient break in lecture.
use of Slack and other media to facilitate questions and discussion
Using media - films, video clips, image-heavy websites - to reinforce class concepts.
Making demo videos for students to watch on their own time as much as they want.

Recording and posting lectures. Students seem to really like that, as it gives them an opportunity to go back and revisit the material.

## **APPENDIX H: WPI Student Survey**

**1. What is your graduation year?**

- a. 2021
- b. 2022
- c. 2023

**2. What is your major?**

**3. How is your experience with taking classes at WPI virtually compared to in person?**

- a. Much worse
- b. Somewhat worse
- c. About the same
- d. Somewhat better
- e. Much better

**4. Do you think having classes in a virtual setting affects your ability to retain information?**

- a. No, there is no difference.
- b. Yes, it makes it harder.
- c. Yes, it makes it easier.

**5. Do you find yourself more or less focused/distracted in virtual classes?**

- a. More focused
- b. Less focused

**6. What is something that helps keep you engaged in a virtual class or meeting?**

**7. Which format do you prefer?**

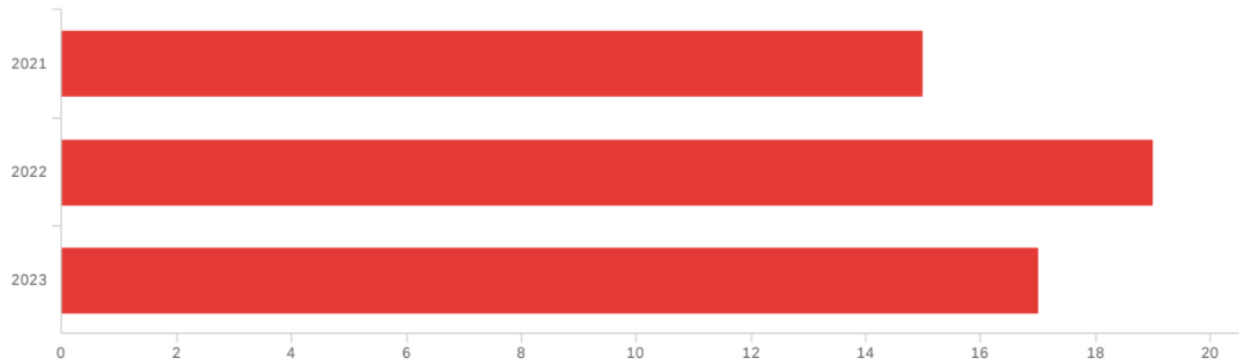
- a. Synchronous meetings

- b. Asynchronous material to do on your own time
  - c. A mixture of both
- 8. What do you like about synchronous format? Or what don't you like?**
- 9. What do you like about asynchronous format? Or what don't you like?**
- 10. Rank which type of asynchronous material you think helps you learn the best?**
- a. Multiple shorter lecturer videos
  - b. One longer lecture video
  - c. Independent readings with follow up quizzes
  - d. Discussion boards
  - e. Videos with independent lab work
- 11. What is the biggest positive outcome you have experienced due to online learning?**
- 12. What is the biggest negative outcome you have experienced due to online learning?**
- 13. Would you rather have two hour lectures twice a week or one hour lectures four times a week?**
- a. Two hour meetings, 2x a week
  - b. One hour meetings, 4x a week
- 14. What is something a course instructor has done to improve your experience in an online class?**

## APPENDIX I: WPI Student Survey

### 1. What is your graduation year?

- a. 2021
- b. 2022
- c. 2023



### 2. What is your major?

Mechanical Engineering
BBT
BME/ME
Biomedical Engineering
Architectural Engineering
Chemical Engineering
Industrial Engineering
Biomedical Engineering
Computer Science
mechanical engineering
Bioinformatics/Biology
Bme/ me
Biomedical Engineering
Mathematical Sciences and Mechanical Engineering
Biomedical engineering
Robotics Engineering
Bioinformatics and comp bio
CS

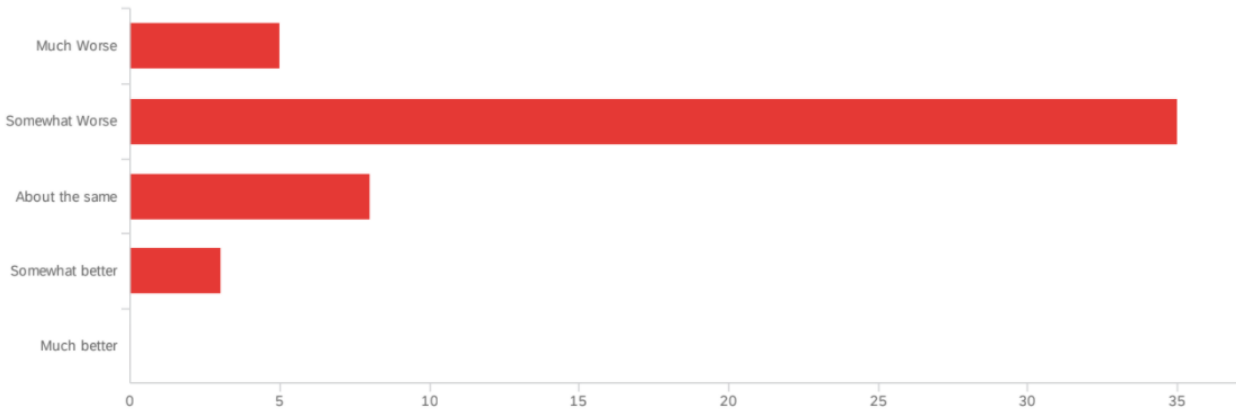
Computer Science
Management Engineering
Computer Science
Mechanical Engineering
CS/ECE
Environmental engineering
RBE/ME
Computer Science
mechanical engineering
CS
Society, Technology, and Policy
BME/ME double
Chemical Engineering
Biomedical Engineering
Biomedical Engineering
Actuarial Math
Architectural engineering
Biochemistry
BME
Environmental Engineering
Biomedical
Biochemistry
Civil engineering/environmental and sustainability studies
Biology and Biotechnology
Biomedical engineering
Aerospace Engineering
Biomedical engineering
Computer Science
Mechanical engineering
Environmental engineering
Actuarial Mathematics
Mechanical Engineering
BME

**3. How is your experience with taking classes at WPI virtually compared to in person?**

- a. Much worse
- b. Somewhat worse

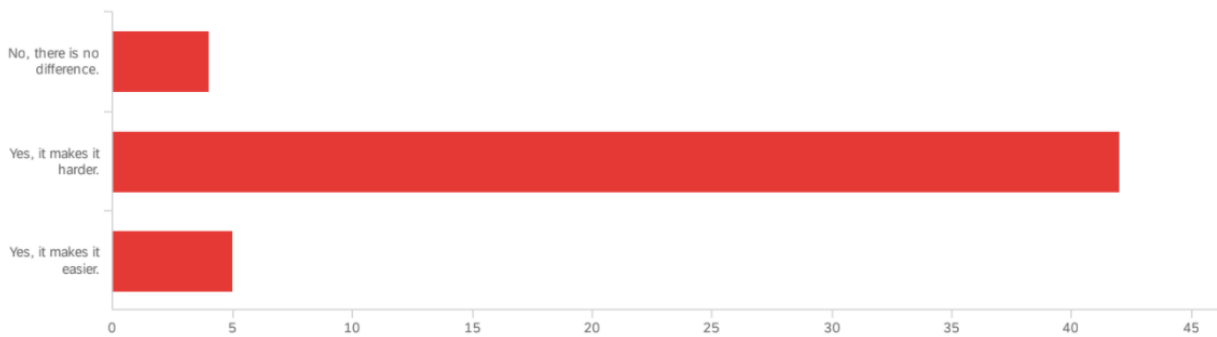


- c. About the samee
- d. Somewhat better
- e. Much better



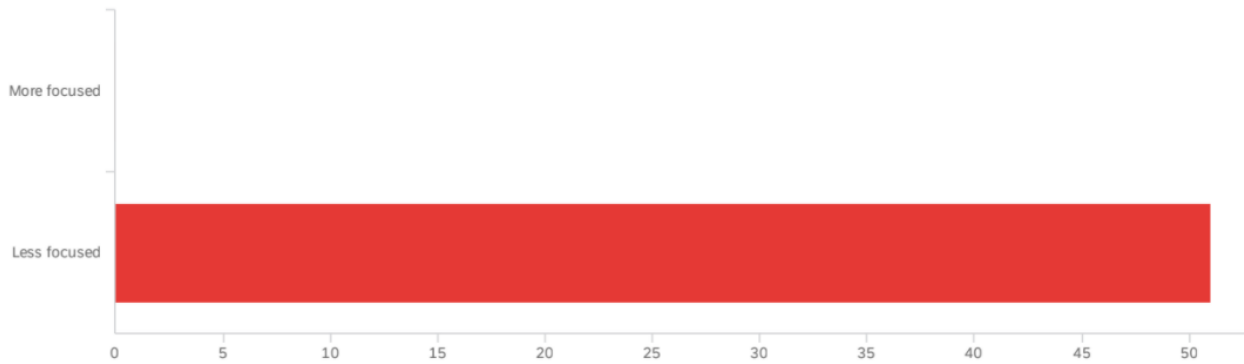
**4. Do you think having classes in a virtual setting affects your ability to retain information?**

- a. No, there is no difference.
- b. Yes, it makes it harder.
- c. Yes, it makes it easier.



**5. Do you find yourself more or less focused/distracted in virtual classes?**

- a. More focused
- b. Less focused



**6. What is something that helps keep you engaged in a virtual class or meeting?**

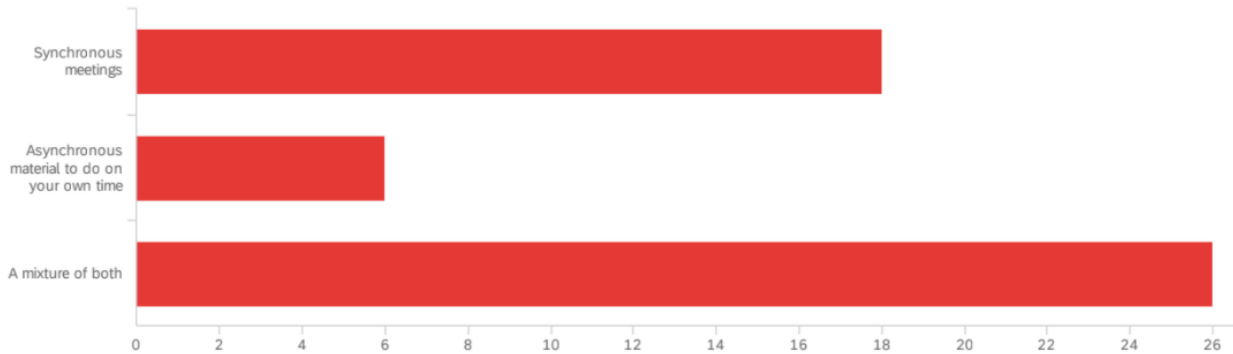
People having their cameras on, professors that are excited
Synchronous meetings
Showing your camera
kahoots, online quizzes, frequent discussions. It's easier if its shorter
Needing to keep your camera on/discussion structured classes
Example problems
Synchronous classes, video camera on
A funny/engaging teacher, in class reflections
Keeping my camera on
Interaction. Breaking into break out rooms for example
When the presentation is interactive (kahoot,etc.), when the presentation is pleasing to look at design wise (not just a white background), live classes not pre recorded videos
Having Video On definitely helps, but it's still easy to be on your phone with no one noticing. More discussion based classes and breakout rooms are nice
Discipline to close all other tabs and move my phone to prevent distractions
I am more focused when the professor requires students to turn their cameras on.
Putting my phone away from me
When I make myself take notes I find myself being more engaged. Also, when the professor asks for class participation it keeps me engaged.
Some participation or an interesting topic
When classes are asynchronous and I can do them at my own pace (ex. rewinding a video recording)
Putting my phone away and turning on my camera

Interacting with others - for example, discussions with other students/the professor
The professor's energy. The same was true of in person classes. Its easier to pay attention if the professor enjoys teaching the topic.
Sitting at my desk and taking vigilant notes
Sucking on a mint, class discussions,breaks
the professor
Keeping hand-written notes
having a fidget toy with me or taking notes
If it is synchronous and requires active participation... otherwise it can be hard to stay engaged.
Idk
Keeping my video on, actively taking notes and leaving my phone farther away from me so I don't distract myself.
Hiding my phone/turning my phone off
Keeping camera on
Interactive polls or questions
Doing it w someone else
Sitting at a desk versus in bed
Very little helps to stay engaged I have to put forth a lot more effort to sit through a whole class
When i have to be to do group work
breakout rooms
Sitting at my desk and putting my phone away
Using zoom features like breakout rooms
The professor actively asking questions or making the lecture interactive
Doing it on my own schedule. Asynchronous lectures
When the professor's create polls and breakout rooms to encourage participation
Not having my phone with me
When they call on people randomly
Guided note sheets, having my camera on
When teachers call on students or encourage having cameras on
When the professor calls on people or if it is more interactive

**7. Which format do you prefer?**

- a. Synchronous meetings
- b. Asynchronous material to do on your own time

c. A mixture of both



**8. What do you like about synchronous format? Or what don't you like?**

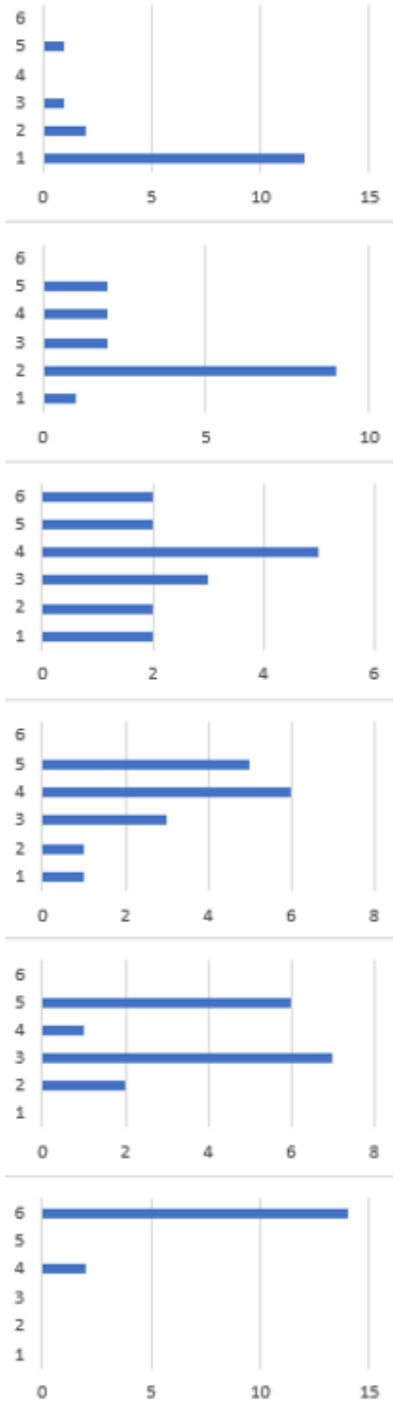
Keeps me responsible for keeping up with classes.
It forces me to have a set schedule of when I sit an class and work on assignments
I like seeing people's faces if the cameras are on
Interaction between students and professors
I like having the structure
It makes it feel more like real school and help keeps me on track but it is sort of exhausting and harder to catch up if you fall behind
being held to a schedule, being able to socialize a bit
I like feeling engaged in the class and being able to still meet my professors and classmates
Keeps me on a routine
I find myself more focused during synchronous classes, but it's also hard to keep up with all of the information if there are external distractions
It is hard to be motivated to attend something synchronously
Like: keeps me on a routine
I like that you can ask questions
I like having a place to be at a certain time and being there with other people
I like being able to hop on a zoom and be in class but I don't like having to take notes while the prof is talking
The time for the Professor to answer needed and necessary questions as well as it gives me somewhat of a routine

**9. What do you like about asynchronous format? Or what don't you like?**

Easy to push off until tomorrow.
It allows me a little more flexibility to do things at my own pace
I like being able to take my time and pause if I need to take notes
Good for being able to go back and reference material, take careful notes
I like the flexibility to schedule
It doesn't feel at all like real school and it's so easy to fall behind or just stop completely. Failed two asynchronous courses.
not being held to a schedule - sometimes it's nice to be able to structure my own schedule to create a whole free day or an afternoon off
I like scheduling when I work, but it can be difficult to stay on top of all my work and is easier to miss an assignment.
I don't like how easy it is to get off pace.
I enjoy being able to rewind, go back and listen, and work at my own pace whenever I feel is best. However it can be hard if I misunderstand something and I am watching the lecture late at night and I can't ask questions.
I can set my own schedule and it takes away the stress of scheduling
Like: can modify my schedule to be more efficient and take the class when I want. Don't Like: very easy to fall behind if you don't make time to watch the lectures
I like that it gives you a more flexible schedule
Being able to rewatch lectures and use them as more study material is very helpful
I like how I can take notes at my own speed
I like that I can do the work on my own time if I am more motivated one day to get ahead or I won't miss anything if I'm not motivated as much one day

**10. Rank which type of asynchronous material you think helps you learn the best?**

- a. Multiple shorter lecturer videos
- b. One longer lecture video
- c. Independent readings with follow up quizzes
- d. Discussion boards
- e. Videos with independent lab work



- 1 = Multiple shorter lecture videos
- 2 = One longer lecture video
- 3 = Independent readings with follow-up quizzes
- 4 = Discussion Boards
- 5 = Videos with independent lab work
- 6 = Other

**11. What is the biggest positive outcome you have experienced due to online learning?**

the ability to connect with people you wouldn't normally know
Better grades
Easier to meet with teams.
Meeting with professors more often for office hours

the flexibility to not have to be on campus
The importance of time management
More time to do work since I do have to walk and get ready
I feel like I have more time to myself with the flexibility online classes works
Can do work at my own pace, less frigid schedule
Less work overall, less stress
More free time! I'm living at home so it means more family time.
Easier to attend lectures (good convenience online)
Less related to school, but time management. If I can watch lectures on double speed because I understand them better, it's nice.
Flexibility
More flexibility in scheduling some things
Spending a lot of time with my roommates and growing friendships there.
I've become better at keeping track of what I need to get done, what has already gotten done and when I should do things.
More schedule flexibility
The ability to rewatch lecture videos
Not having to wake up super early to get ready for class
Some of my classes have been partially or fully asynchronous, which has helped me be more flexible with my schedule and not be as overwhelmed when circumstances disrupt my typical routine and keep me from doing schoolwork at the times I usually do it
I can hang out with my cat during class and she is less lonely.
More open not quizzes and exams therefore better exam grades
I took MA 4635 with Professor Paffenroth, and it was an absolutely fantastic experience! It was better than the in-person class would have been. He gave us lectures to watch at home, and we got to ask questions in class. It was thoroughly engaging, and it was a better experience than I would have gotten in-person.
independence
More flexible scheduling
more time to spend with my family and do my hobbies
More freedom/flexibility with my time
I like staying in my house in my sweatpants and how I get more sleep because I don't have to wake up to go to class.
Convenient to log into classes, meetings are easier because you don't have to run around from one building to the next.
I've become better at making my own schedule and time management
More flexible schedule

Better at personal time management (you NEED it for online learning)
Notjng
Better at time management
Flexibility and convenience
Less travel time, and obviously being safe, also feel less anxious about being in class bc i can turn my video off
meeting new people when i'm put in random breakout rooms
I've made more time to de-stress with things like yoga, reading, or watching a movie. It's also easy to meet with people at any time over Zoom because we don't actually have to go anywhere.
Online learning has taught me to be extra organized and on track.
I feel like my self motivation has increased now that I have to hold myself accountable.
Not a lot. Less stress scheduling
I have made a more conscious effort to become paperless and keep as much of my notes/assignments in the cloud
More time on my hands
Open note and take home quizzes and tests, being able to rewatch lectures more easily
I like being able to finish work early in the day
I feel more comfortable asking questions as I can just chat the Professor or ask in a smaller group

**12. What is the biggest negative outcome you have experienced due to online learning?**

I feel less motivated
General exhaustion just from not going anywhere or any environment change
I have way less motivation to actually do work on my computer since it's all I'm on all day, whereas an in person class makes you look elsewhere other than a single screen for a long period of time
Sometimes deadlines can creep on on me
I feel like I haven't learned a whole lot recently
More distractions.
I am very distracted and not focused during lectures
Attention span and focusing on classes is hard when it's so easy to get away with not paying attention
Lack of motivation, disconnect with professors, poor material retention, loneliness
Much harder to stay focused/motivated. As a result, I don't feel like I am learning as much.

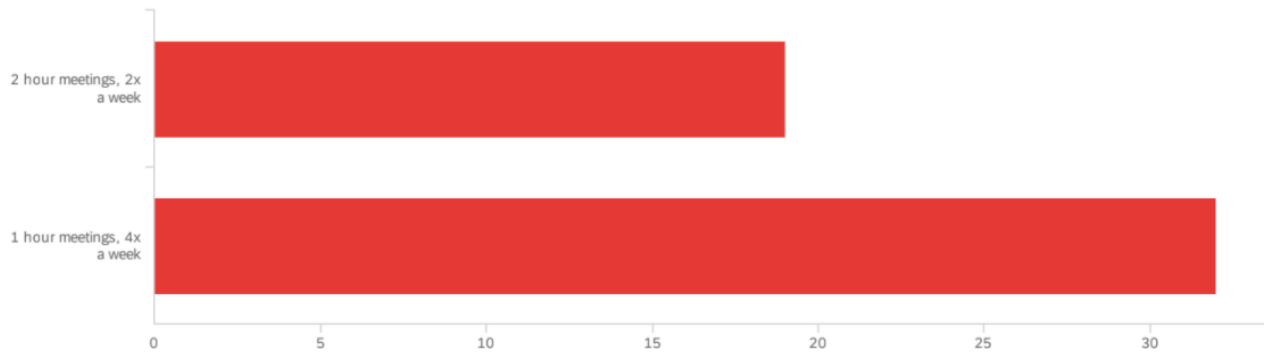


Its harder to focus and feels less real
I've become more dependent on my notes sheet than actually learning material
More procrastination
Professors who don't record classes or post notes yet have lectures at inconvenient times
Not having the motivation to do the work assigned
Not being able to interact with the professor and other students in the class in person has made it harder for me to be engaged in the material and harder for me to seek help when i need it - some professors also don't show their rosters on Canvas for online classes, which is really unfortunate and keeps me from seeing who I might know in the class that I could seek help from
Everything takes longer to do and it's much more difficult to focus on work. Especially for my MQP.
Having to learn most of the content on your own
I've had some classes last term where I spend almost the entire lecture in another tab because I can't bring myself to focus on what's being taught. The digital setting has made me question how much paying attention is actually worthwhile
Harder to collaborate on group projects
less time with my friends, since I am home.
Easier to slip behind in classes and don't feel like I'm getting as much out of the classes
It can be really hard to pay attention especially because I have a lot of roommates.
I sit at my desk all day and never move, and I lose motivation very quickly.
I do everything (sleep, eat, study) in the same room, so it becomes difficult to have work/life balance
more difficult to focus
Shortened attention span and less personal connection to professor and material
I have learned almost nothing
Classes that would've had lab work or field trips not happening
I can't focus, don't retain information and lack interest
Falling behind and not feeling as connected
never leaving my apartment, and sitting in front of my computer for hours on end
It's very easy to feel disconnected or distracted. I think it's a lot easier to slack off as well because you don't have the same schedule and pressures, which can actually be good for you.
It is really hard to stay focused in an online setting.
I definitely am not retaining as much, and I find myself cramming lectures in one day rather than spacing them out for certain classes
Lack of motivation/accountability
Losing motivation to keep up with class because there was no interaction with classmates and

peers
I never pay attention
Classes that are completely asynchronous and with no group projects making it very difficult to meet people in my major/classes
Wifi being an issue during classes
It is easier to just look everything up and it is much easier to decide not to go to class since most is recorded. I have had a harder time retaining information

**13. Would you rather have two hour lectures twice a week or one hour lectures four times a week?**

- a. Two hour meetings, 2x a week
- b. One hour meetings, 4x a week



**14. What is something a course instructor has done to improve your experience in an online class?**

try to get to know us
Group work
Used Slack to make things more interactive.
Use breakout rooms to discuss
I like when professors take the time to engage with you if you're there early
One teacher encouraged discussion with a mix of in person /online classes, breakout rooms and daily questions with the chat features
class involvement

My professor in one of my classes starts off class with a discussion question that is completely unrelated to school and makes the class feel more of a community as an in-person class would
Not had any hard deadlines, can pass in work whenever you want
Trying to be more engaging during class
Encouraging discussions!
Made the lecture more interactive
We had one weekly session in person. The rest of online lectures were heavily based on the one in person session, allowing it to feel like the whole class was more in person
Break up content into multiple short modules/lectures. That way I can focus for short bursts of time, which makes it easier to avoid distraction
Held synchronous, engaging labs
One got rid of quizzes and had a fun project instead that I enjoyed
Changing to an asynchronous setup
Done fun activities with us (for example turn on your camera for this reason or turn off your camera for this reason, voting in polls, etc.)
Offered on-demand office hours that I can schedule by contacting them directly with only a few hours notice
Give fewer, or less complex assignments. Allowed notes/internet on tests. Tests that are not timed. I feel like this compensates for all the negatives of online learning. It takes me longer to complete a test online than in a classroom.
Multiple videos explaining topics
The flipped classroom style of MA 4635 was exceptionally well done in D20. We were given videos to watch at home and could ask questions on them in class. Being able to take the videos at my own pace and to prepare my questions ahead of time was really helpful!
Flip the classroom! All lectures were asynchronous and lecture times became office hours and learning sessions.
Office hours and synchronous lectures to allow for real time interaction with professor as well as group work/projects that helped me understand and apply material being learned and interact with classmates.
Make things more interactive/shorter classes
Group projects, they definitely keep me the most engaged because other students are relying on me to do my part in the project.

Make assignments easier
idk
Made it interactive and allowed us to be able to go back and fix work previously turned in for an improved grade
Give us less work
More discussion based
Being really understanding about how hard it is
giving a breakout room unstructured conversation break at the beginning of or in the middle of a two hour class
Replacing exams with projects has been really helpful to my understanding of the material and engages the students much more
One professor has short asynchronous videos and then hosts review sessions twice a week over zoom. This has been extremely helpful.
Sending out announcements of encouragement whenever a file is posted
Posted lectures to provide asynchronous and synchronous accessibility
Reworked exams which would have been hard to administer/proctor with projects which I felt taught me the material more
Guided note sheets, reaching out for one on one meetings, open note quizzes and tests
Encouraged cameras to be used
I think some professors have altered their expectations which make them more feasible for students

## **APPENDIX J: SDCC Interview**

### Consent Script:

You are being asked to participate in a research study. Before you agree, however, you must be fully informed about the purpose of the study, the procedures to be followed, and any benefits, risks or discomfort that you may experience as a result of your participation. This form presents information about the study so that you may make a fully informed decision regarding your participation.

We are conducting research about virtual coaching practices for our Interactive Qualifying Project. We are interested in your experiences as a WPI SDCC Employee. This information will help our team better the virtual platforms Voces Vitales Costa Rica (VVCR) uses for their online mentor certification program.

Our sponsor, Voces Vitales Costa Rica (VVCR) is the Costa Rican chapter of the Vital Voices Global Partnership organization. Vital Voices focuses on empowering women through four avenues: human rights and domestic violence; political and civic participation, economic empowerment, and leadership development. Their mission is to “identify, make visible, and invest in women leaders to develop their leadership skills, bringing peace and prosperity to the communities in which they live.” VVCR has many different workshops, mentoring programs, and projects available to help transform women into the future leaders of their communities. Their mentoring program is a valuable resource that connects women with certified mentors who will help them develop more skills at being successful leaders. Mentors guide women to find the potential within themselves through a self-exploration process. The mentor program takes place over a 5 to 8 week period where mentors and mentees meet weekly to discuss areas the Mentee would like to improve upon.

We think that the SDCC would be a great resource to learn from as it relates to the work done by our sponsor. We would like to hear about your experience with moving any of your services online and the effect it has had on your work.

Your participation will involve one informal interview that will last between 30 minutes and an hour. This research has no known risks, and there are no benefits to WPI faculty or students.

For the purpose of this interview, your name and personal information will not be collected. Our team will refer to you as “WPI SDCC Counselor”. You, as the participant, have the freedom to skip any question you do not want to answer and have the ability to ask us, the interviewers, any question you desire. We understand as a counselor you may not have the ability to answer certain questions due to confidentiality reasons. If this is the case, please state “I cannot answer this” and we will move on. Records of your participation in this study will be held confidential so far as permitted by law. Notes that are taken during the interview will be stored in a secure location. However, the study investigators, the sponsor or it’s designee and, under certain circumstances, the Worcester Polytechnic Institute Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. Any publication or presentation of the data will not identify you.

Would you be willing to let us record this interview? The recording would not be published or made public and only used for the investigator's notes/reference.

Questions:

Feel free to ask questions or clarification anytime. Do you have any questions before we start?

- 1. Can you give us a little background into your training and history working in counseling?**
- 2. Do you have any prior counseling experience? (Outside of the SDCC)**
- 3. Can you describe the overall mission statement or goal of the SDCC?**
- 4. To provide our study with some background and to compare the work done at the SDCC with the work done at our sponsor organization. Would you be able to explain the types of themes your office deals with?**
- 5. What is the process like when setting up a meeting with students?**
  - a. In other words, how do students contact you and how do counselors get assigned to a case?**
- 6. How do you organize your communication with students outside of meetings?**
  - a. How do you follow-up and perform check in's?**
- 7. How does the SDCC supervise the work done by counselors and measure their impact on students?**
- 8. How have you adapted to moving counseling to a virtual setting?**
  - a. Has the SDCC implemented any best practices for working virtually?**
  - b. How long did the transition process take?**
- 9. Did the Counselors have training before online therapy?**
- 10. Are there any changes you've made to your conversation practices now in virtual session?**

- 11. How has the counselor-student relationship been affected as sessions are being conducted online?**
- 12. What is a tool or technique you have found to be successful during online sessions in order to grow a stronger connection with the student?**
- 13. What would be your biggest piece of advice to a counselor transitioning to virtual sessions for the first time?**
- 14. Have the areas of support for your students shifted due to COVID and remote learning?**
  - a. How have you adapted your practices to support student needs?**
- 15. Do you think students' comfort level sharing personal experiences has changed at all online compared to in person?**
- 16. How have students responded to virtual sessions?**
- 17. Are group events effective?**
  - a. Do many students attend these?**
- 18. Does the SDCC provide periodic training for the counselors?**
  - a. If so, how often?**
  - b. What platform are these done on? (webinars, training courses, etc.)**
- 19. How is working the community different than an academic setting?**
- 20. Do you have anything else to add that you feel could be beneficial for our study or any other questions for us?**

## **APPENDIX K: Nonprofit Interview, Center for Women and Enterprise**

### Consent Script:

You are being asked to participate in a research study. Before you agree, however, you must be fully informed about the purpose of the study, the procedures to be followed, and any benefits, risks or discomfort that you may experience as a result of your participation. This form presents information about the study so that you may make a fully informed decision regarding your participation.

We are conducting research about virtual online platforms for our Interactive Qualifying Project at Worcester Polytechnic Institute. We are interested in your experiences working at a non profit organization during COVID-19 and how your organization has coped with the challenges of the pandemic. This information will help our team better the virtual platforms Voces Vitales Costa Rica (VVCR) uses for their managerial systems and online services.

Our sponsor, Voces Vitales Costa Rica (VVCR) is the Costa Rican chapter of the Vital Voices Global Partnership organization. Vital Voices focuses on empowering women through four avenues: human rights and domestic violence; political and civic participation, economic empowerment, and leadership development. Their mission is to “identify, make visible, and invest in women leaders to develop their leadership skills, bringing peace and prosperity to the communities in which they live.” VVCR has many different workshops, mentoring programs, and projects available to help transform women into the future leaders of their communities. Their mentoring program is a valuable resource that connects women with certified mentors who will help them develop more skills at being successful leaders. Mentors guide women to find the potential within themselves through a self-exploration process. The mentor program takes place over a 5 to 8 week period where mentors and mentees meet weekly to discuss areas the Mentee would like to improve upon. Our project is working on evaluating this mentoring program after its shift to an online setting as well as the online platforms currently being utilized by VVCR.

We think that your organization would be a great resource to learn from as we can learn how your non profit has adjusted to moving to a fully virtual platform. We would like to hear about your experiences and how it has affected your work.

Your participation will involve one informal interview that will last between 30 minutes and an hour. This research has no known benefits or risks.

For the purpose of this interview, your name and personal information will not be collected. Our team will refer to you as “Center for Women and Enterprise Employee”. You, as the participant, have the freedom to skip any question you do not want to answer and have the ability to ask us, the interviewers, any question you desire. Records of your participation in this study will be held



confidential so far as permitted by law. Notes that are taken during the interview will be stored in a secure location. However, the study investigators, the sponsor or its designee and, under certain circumstances, the WPI Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. Any publication or presentation of the data will not identify you.

Would you be willing to let us record this interview? The recording would not be published or made public and only used for the investigator's notes/reference.

Interview Questions:

- 1. Just so we can become a little more familiar with your organization, can you describe briefly the type of work that you do and the groups that you support?**
  - a. Your day to day operations**
- 2. What are the products or services that you offer?**
- 3. How is your organization structured, in terms of Staff and volunteers (if they use them)?**
- 4. How has COVID shifted the way your organization operates?**
  - a. A change in the type of programs offered?**
  - b. Have there been any setbacks?**
  - c. Any new training programs being offered for volunteers to assist in shift to virtual?**
  - d. Has the population/beneficiaries you work with changed? (more/less people?)**
  - e. Has the shift to completely virtual workshops allowed for people from other regions to attend the Central MA events?**
- 5. What types of online platforms is the CWE currently using for day to day work and programming?**

- 6. What type of system do you use to contact members of your organization? (saw that they have a newsletter)**
- 7. Is there a platform/service/hub that volunteers have access to?**
- 8. On your website, we saw you hold monthly community coffee chats, could explain what those are?**
- 9. How are you marketing these events or services?**
- 10. How do you collect feedback about your programs and events?**
  - a. What type of feedback have you received from virtual programs and events?**
- 11. Do you use any specific software to document and store information?**
- 12. Do you have a method for measuring the progress of your work and the impact it is having on the groups you help?**
- 13. Has this process changed since the pandemic began?**
- 14. How have you been able to fundraise during COVID?**
  - a. Have you found any methods that are more successful than others?**
  - b. Do you have any plans for future fundraising in 2021?**
- 15. What type of payment methods or platforms does your organization use for events if any?**
- 16. How do you see your organization growing in the next few years?**

## **APPENDIX L: Nonprofit Interview, Pathways for Change**

### Consent Script:

You are being asked to participate in a research study. Before you agree, however, you must be fully informed about the purpose of the study, the procedures to be followed, and any benefits, risks or discomfort that you may experience as a result of your participation. This form presents information about the study so that you may make a fully informed decision regarding your participation.

We are conducting research about virtual online platforms for our Interactive Qualifying Project at Worcester Polytechnic Institute. We are interested in your experiences working at a non profit organization during COVID-19 and how your organization has coped with the challenges of the pandemic. This information will help our team better the virtual platforms Voces Vitales Costa Rica (VVCR) uses for their managerial systems and online services.

Our sponsor, Voces Vitales Costa Rica (VVCR) is the Costa Rican chapter of the Vital Voices Global Partnership organization. Vital Voices focuses on empowering women through four avenues: human rights and domestic violence; political and civic participation, economic empowerment, and leadership development. Their mission is to “identify, make visible, and invest in women leaders to develop their leadership skills, bringing peace and prosperity to the communities in which they live.” VVCR has many different workshops, mentoring programs, and projects available to help transform women into the future leaders of their communities. Their mentoring program is a valuable resource that connects women with certified mentors who will help them develop more skills at being successful leaders. Mentors guide women to find the potential within themselves through a self-exploration process. The mentor program takes place over a 5 to 8 week period where mentors and mentees meet weekly to discuss areas the Mentee would like to improve upon. Our project is working on evaluating this mentoring program after its shift to an online setting as well as the online platforms currently being utilized by VVCR.

We think that your organization would be a great resource to learn from as we can learn how your non profit has adjusted to moving to a fully virtual platform. We would like to hear about your experiences and how it has affected your work.

Your participation will involve one informal interview that will last between 30 minutes and an hour. This research has no known benefits or risks.

For the purpose of this interview, your name and personal information will not be collected. Our team will refer to you as “Pathways for Change Employee”. You, as the participant, have the freedom to skip any question you do not want to answer and have the ability to ask us, the interviewers, any question you desire. Records of your participation in this study will be held

confidential so far as permitted by law. Notes that are taken during the interview will be stored in a secure location. However, the study investigators, the sponsor or its designee and, under certain circumstances, the WPI Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. Any publication or presentation of the data will not identify you.

Would you be willing to let us record this interview? The recording would not be published or made public and only used for the investigator's notes/reference.

Interview Questions:

- 1. Just so we can become a little more familiar with your organization, can you describe briefly the type of work that you do and the groups that you support?**
  - a. Your day to day operations**
- 2. What are the products or services that you offer?**
- 3. How is your organization structured, in terms of Staff and volunteers (if they use them)?**
- 4. What types of online platforms is Pathways for Change currently using for day to day work and programming?**
- 5. What type of system do you use to contact members of your organization?**
  - a. Monthly newsletter? What is on it? Who does it go to**
  - b. Is it aimed more at people to use their services or their volunteers**
- 6. Is there a platform/service/hub that volunteers have access to?**
- 7. Could you describe the training programs that are offered for your volunteers?**
  - a. Does it cost money to go through the training program?**
  - b. How have the training programs shifted due to the pandemic?**
  - c. How are they formatted?**
- 8. How has COVID shifted the way your organization operates?**

- a. Describe the change in the type of programs offered?
  - b. What type of platform are these events or services hosted on? (Webinars, live zoom, etc.)
  - c. How are you marketing these events or services?
  - d. Have there been any setbacks?
9. What types of awareness training do you provide for the survivor's friends and family?
10. How do you collect feedback about your programs and events?
  - a. What type of feedback have you received from virtual programs and events?
11. Do you have a method for measuring the progress of your work and the impact it is having on the groups you help?
12. What type of payment methods or platforms does your organization use to raise money and fundraise on?
13. How have you been able to fundraise during COVID?
  - a. Do you have any plans for future fundraising in 2021?
14. How do you see your organization growing in the next few years?