Virtual & Remote Internships During COVID-19: Guidelines & Assessment

Authors:
Tara L. Crowell, PhD
Professor of Public Health
Stockton University
101 Vera King Farris Drive
Galloway, NJ 08250
Telephone: (609) 626-6835
Email: Tara.crowell@stockton.edu

Anthony Dissen, MPH, MA, RDN, CPH
Instructor of Health Sciences
Stockton University
101 Vera King Farris Drive
Galloway, NJ 08250
Telephone: (609) 626-3847
Email: Anthony.dissen@stockton.edu

Elizabeth G. Calamidas, PhD, MCHES
Professor of Public Health
Stockton University
101 Vera King Drive
Galloway, NJ 08250
Telephone: (609) 652-4293
Email: Elizabeth.Calamidas@stockton.edu

ABSTRACT

This article provides insight into how the COVID-19 pandemic necessitated many in academia to redefine, and consequently restructure public health internships. Specifically, it presents a brief overview of traditional vs. virtual internships, provides more in-depth information about the pros and cons of virtual internships, proposes guidelines for obtaining virtual internships, offers numerous suggestions and resources for possible projects that can be completed during the internships for both public health and other academic programs regarding the planning and implementation of academic internships during times of shutdowns and restrictions. This information can assist institutions in rethinking future internship opportunities that will facilitate students' educational and professional growth. Finally, this article provides data from students' evaluation of their internships during the pandemic. Results indicate that although students may prefer at least some part of the internship to be face-to-face, they reported numerous positive experiences while completing their internship during the pandemic. The authors conclude with suggestions for future research; specifically, it should focus on comparing students' experiences between traditional and virtual internships, along with continued research into students' perceptions of virtual internships and their impact on learning and career preparation.

INTRODUCTION

For the last 2 years, the world is experiencing a "once-in-a-lifetime pandemic, causing untold human suffering and death, unraveling of social relationships and robbing individuals of livelihoods and countries of prosperity" (Gostin, 2020, p. 1816). The coronavirus pandemic has revealed inequalities in many of our society's systems, putting a strain on healthcare systems, and turning our educational structures upside down. One of the countless challenges that has occurred in academia due to COVID-19 shutdowns and restrictions is how to implement a valuable academic internship experience; or more precisely, how to redefine the academic internship in the age of a pandemic.

The academic internship is a key component to a student's educational and personal growth, and the numerous benefits of an academic internship have been well established (Galvan, Fisher, Casman, & Small, 2013). However, considering the recent coronavirus pandemic, academic internships need to be quickly redefined given shelter-in-place orders, lockdowns, and institutions transferring to remote learning across the country. Many academic programs that require internships have had to think out of the box and develop alternative projects, experiences, or programs that would meet the minimum standards of an internship. Specifically, this could mean instituting home or offsite based research projects overseen by faculty and/or academic advisors, and similar types of learning experiences that are closely tied to the student's academic program. In addition, given the importance of internships to companies as part of their recruiting processes, and the value of work-based learning for college students, some organizations have started to offer remote or virtual internships. However, what these internships could or should "look like" may not be so easy to define. The purpose of this article is to provide insight into how public health internships were redefined during the pandemic, along with students' perception of their internships during COVID-19. This information not only provides valuable suggestions for other academic pro-grams during this time of shutdowns and restrictions but can also help institutions to redefine future internship opportunities to help facilitate students' educational and professional growth.

Coronavirus Pandemic

COVID-19 is a new disease that had not been seen in humans until the current outbreak (CDC, 2020). Although there have been several widespread viral diseases in the past 20 years such as Severe Acute Respiratory Syndrome (SARS), 2009 swine flu pandemic from H1N1, Middle East Respiratory Syndrome (MERS), and Ebola virus, COVID-19 has been one of the most widespread of the illnesses (Bhadoria, Gupta, & Agarwal, 2021). Since the onset of COVID-19, there have been worldwide lockdowns (Spiteri, 2020). The World Health Organization (2020) declared the outbreak a Public Health Emergency of International Concern in January 2020 and a pandemic in March 2020. As of January 3rd of 2021, more than 84.7 million cases have been confirmed, with more than 1.83 million deaths attributed to COVID-19 (DynaMed, 2021).

These organizations recommended that individuals wear masks and wash hands frequently to reduce the transmission of COVID-19. Other precautionary actions implemented by state and local governments included the temporary closure of many businesses and institutions such as: theme parks, bars, restaurants, casinos, retail stores, gyms, universities, K-12 schools, and national parks. In many cases only essential businesses could remain open. Essential businesses included: hospitals and other medical facilities, gas stations, and grocery stores. The closure of the non-essential organizations significantly impacted the personal and professional lives of many people.

Since the U.S. lockdowns started in March 2020, the negative impact to the educational system in the United States has been unprecedented. In early spring, as the pandemic hit its first peak, the virus consigned 1.4 billion children across the globe under the age of 18 to stay out of school or childcare which included nearly all of the over 55 million school children in the U.S. (NCES, U.S. Department of Education, 2019; U.S. Census Bureau, 2019; Cluver,

Lachman, Sherr, Wessels, Krug, Rakotomalala, et al. 2020). Even before K-12 schools closed, college campuses were sending students home to finish up their semesters virtually. On March 6, the University of Washington in Seattle became the first major American college to shut down campus operations; ten days later, over 250 U.S. colleges and universities followed suit (NCES, U.S. Department of Education, 2019; U.S. Census Bureau, 2019).

At first, institutions were hopeful to resume classes in the fall 2020; however, as the summer progressed, this hope became less and less likely. According to an article in *The Chronicle of Higher Education*, out of nearly 3,000 colleges, just 4% were fully in-person, as of October 2020 (Dennon, 2020), while several universities concluded their fall terms, or at least their in-person components, by Thanksgiving break (Burke, 2020). With the majority of college classes being delivered on-line, both students and faculty were learning to navigate these new modalities. However, classrooms are not the only places where students' learning takes place. How to implement student internships, which are an essential learning component to numerous academic disciplines and are generally held off-site, became a challenge.

Traditional Internships

An academic internship has been described as a three-way partnership among a college or university, the internship site, and the student. Specifically, academic internships are defined as an opportunity to integrate work-related experience into undergraduate and graduate education by participating in scheduled and supervised work (Gault, Leach, & Duey, 2010). These real-world experiences are an integral component of an academic program and provide students with the opportunity to develop not only work skills related to the professional discipline, but also an understanding of the workplace (Gerken, Rienties, Giesbers, & Könings, 2012). As stated by the Wisconsin Center for Education Research, an internship can vary from as much as a 1-day field trip to a 6-month on-site experience (Hora, Wolgram, & Thompson, 2017), but they define an internship as the following:
(a) A position held within an established company or organization while also completing a college degree, certificate, or diploma program.

(b) Engagement in learning experiences that are the equivalent to being in a classroom or other formal academic learning situation.
(c) Working in a position clearly designated as an "internship" by the host organization.
(d) Performing tasks similar in nature and skill-level to tasks done by entry-level employees in the organization.

Furthermore, the following features are considered to be elements of an effective internship:
(a) Sustained engagement with the physical, socio-cultural, and institutional features of an actual workplace.
(b) Participation in authentic tasks considered meaningful to the organization.
(c) Supervision by staff at the internship host organization who are trained in mentorship.
(d) Cultivation of both cultural (i.e., skills, know-ledge, professional norms) and social (i.e., professional networks) capital that are valued by a profession and/or discipline.

Given the complexity of an academic internship experience, it is not surprising that in some cases, these experiences may need to be postponed if the traditional model cannot be implemented. This is especially true in disciplines that are bound by accreditation standards and requirements. However, for other fields, it may be more feasible to transform student internships into other modalities while still maintaining the core elements of an internship.

Online, Virtual, and Remote Internships in Public Health

The role of the academic internships in public health education is not to be underestimated. This type of guided and mentored learning experience is a crucial component of not only learning key components of public health services and functions, but also in developing career readiness for the field (Hernandez, Bejarano, Reyes, Chavez, & Mata, 2013). This is important not only for the benefit of the student, but for the benefit of the communities in which these students serve and learn. Therefore, the continuation of quality internship experiences is critical for maintaining a quality public health education program.

Since the beginning of the 2020 pandemic, it may seem as though virtual internships "popped

Virtual & Remote Internships During COVID-19: Guidelines & Assessment

up" overnight. However, virtual internships have been in existence since well before COVID-19. Virtual internships are internships that are completed online and/or remotely; therefore, the terms are often used interchangeably. Similar to traditional internships, students are placed within a suitable organization and are assigned an on-site supervisor to whom they report. However, a student's contact with the supervisor or team is via virtual methods such as video call, phone call, email, and/or instant messenger (Loretto, 2019). Virtual internships typically offer a great deal of flexibility and remove the necessity of having to live in a certain geographic location. Also, it is usually easier for a student to fit a virtual internship into their busy college schedule and offers them the opportunity to gain experience without the constraint of having to commute to a specific location at a specific time, which also allows for greater accessibility for students to participate in internship-based learning (Hora, Vivona, Chen, Zhang, Thompson, & Brown, 2020).

Once time and space are less of a barrier, students' options for internships grow exponentially. Hence, it is no wonder that 33% of employers are hiring virtual interns and 71% of students are open to the idea of participating in a virtual internship (WayUp, 2020). For example, if colleges are located in regions with limited sites for in-person placement, there may be other opportunities in health departments, hospitals, schools or health-care agencies in larger, more distant cities. Virtual internships provide students the flexibility of working from "home" with "home" being anywhere with a WiFi connection. Thus, students "juggling classes and extracurricular commitments will be grateful for the chance to optimize their work schedules, and employers will be glad to accommodate flex hours for top-quality work" (WayUp, 2021). Table 1 highlights the benefits and drawbacks of virtual internships.

Securing a Virtual Internship

Securing an internship can be very stressful for students. Before students start the process, they should contact their program's internship coordinator or faculty sponsor. Each academic program may have different requirements and instructions to guide students through the process. For example, many programs have external guidelines that are used or accreditation standards that must be followed (e.g., National

Commission for Health Education Commission and Association of Schools and Programs of Public Health); or for students pursuing some Public Health Tracks, their internships must meet requirements which enable them to sit for specific national examinations such as Certified Health Education Specialist (CHES) or Registered Environmental Health Specialist (REHS). However, similar to applying for traditional academic internships, when applying for virtual or remote ones, Table 2 provides general guidelines and instructions students should take into consideration.

Internship Projects

One of the challenges to redefining academic internships can be as simple as identifying what type of tasks or projects students can complete if they are not physically working in an on-site setting. The following are proposed activities that can be employed to engage students in tasks that are relevant to the discipline and fulfill the core elements of an internship experience. Also, if students are unable to secure an internship that fulfills all the program requirements, they may negotiate with their faculty advisor the option of participating in a selection of activities outlined below.

1. Work remotely from home: This is one of the best options if students can secure a site that is able to comply. If a student has secured a traditional internship site, but they are unable to physically go to the site, they may be able to develop a relevant project, such as create an internship packet; conduct research and/or a needs assessment; write grant proposals; develop educational or marketing materials; perform data entry; participate in administrative work using computer and/or hardcopy materials; and engage in telephone outreach or customer service, etc. for that internship site. Below are a few suggestions on how the aforementioned may be fulfilled.

a. Internship Packet: Create a resource or orientation guide for the internship site (if they do not already have one). This could include all the information that new interns need to know. It should include copies of all paperwork that must be completed for the site before the interns can start, institutional policies and procedures, as well as relevant instructions for new interns. It can also include helpful hints and strategies on how to make the most of the internship.

Virtual & Remote Internships During COVID-19: Guidelines & Assessment

b. Needs Assessment Report: Learning to write a needs assessment report (or a report that is basically a systematic process for identifying and addressing needs, or '"gaps" between current and desired conditions) is not only a valuable skill for interns to learn, but can greatly benefit the internship site. For more information about Needs Assessment Reports, the following links are provided: https://www.laep.org/wp-content/uploads/2015/05/Community-Schools-Institute-Needs-Assesment-Wkshp-Needs-Assessment-Report-Outline.pdf

c. Marketing Material: Create marketing material to promote either the organization, the service(s) they provide, and/or educational brochures. This can include Social Media Platform management, Infographics, Social Engagement Optimization, and Updating Marketing Materials.

d. Research Project: Identify and research topics or tasks that would be helpful to the organization. For example, students could research possible grants or funding opportunities that would be applicable to their internship sites; or research past educational programs that might be similar to the ones that the site is currently engaged in or intends to develop. For example, a local health center recently started a Virtual Grocery Story program for local community residents, it would be helpful to research if other community health centers offer similar programs in other parts of the country.

e. Grant Writing: As the need for grant funding projects becomes more prevalent, especially within the field of Public Health, it is essential for professionals to possess grant writing skills. Students' ability to research, write, and secure grant funding is indispensable. While some academic programs incorporate these components into their curriculum, there is almost no better experience with grant-writing proposals, than actual "hands-on" experience. For example, one Public Health student worked on researching grants for a local healthcare provider during their internship, including researching possible funding opportunities and wrote the grant proposal with help from the supervisor. The grant was submitted by the organization, which ultimately received the grant funds. The organization was then able to hire the student for the summer to work on the grant with them.

2. "Attend/Participate" in online webinars, symposia, and training workshops and videos: Participation in online educational activities offers students an excellent opportunity to reinforce their professional knowledge and skills in public health and further familiarize themselves with the role of professional organizations. Some of the training requires advanced registration and/or charges a fee to participate. Some will provide a certificate at the conclusion of the session to serve as documentation of participation, while others may offer continuing education credits that students can earn to enhance their professional credentials. Students who participate in the training can provide a brief virtual summary to other interns who may not have been able to attend. Participation in virtual learning activities can be included as part of the mandatory hours necessary to complete an internship. Students are encouraged to investigate professional organizations within their area of interest for additional training opportunities. Table 3 has a sample list of online educational activities available.

3. Volunteering & Service Learning: Service-learning enables students to apply the formal knowledge they have learned to real life situations in order to develop a deeper understanding and connection to the community. There are an infinite number of ways in which this can be accomplished from very small, but meaningful gestures of connection, to large-scale community engagement projects. Some suggestions include making "outreach phone calls" or sending letters/cards/mail to skilled nursing and assisted living centers. Students can also engage in volunteer activities online; suggestions for online volunteer activities (Duntley, 2020) as found in Table 4.

4. Career Development: Students can engage in career development activities to create a professional career portfolio for themselves and for their program. Below is a list of career development activities for students.
(a) Construct professional documents: Resume, Cover Letter, and References.
(b) Set up and start building a LinkedIn account.
(c) Create a Career Portfolio: To use for job interviewing.
(d) Research job possibilities: Compile a list to share with other public health students.

Virtual & Remote Internships During COVID-19: Guidelines & Assessment

(e) Research potential internship sites: Identify state, local, national, public and private organizations that other public health students may be able to use in the future.
(f) Match personal skills and expertise to potential job opportunities. Emory University, Rollins School of Public Health: https://apps.sph.emory.edu/PHEC/?
(g) Create an alumni database for the academic program that can be used for program assessment purposes, possible internship and job placements, guest speakers for classes, participation in alumni and career panels, and mentoring (for example, alumni that have studied and passed exams such as CHES or REHS, are valuable resources for current students pursuing those avenues).

5. Educational Programming: Students can participate in a number of educational and outreach activities based on the mission, purpose, and goals of the organization. This can include tutoring and mentoring services, curriculum development, recording video presentations of lectures and other educational content, analyzing results of course evaluations, measuring educational learning objectives, and interpreting and analyzing previously collected research and/or databases to create educational materials.

Student Evaluation of Internship Experience During COVID-19
From the beginning of the pandemic in spring 2020 through August 2021, 74 undergraduate public health students enrolled in internships. Overall, most internships were unpaid with only 10 interns (13.5%) securing paid internships. In spring 2020, 18 enrolled initially in on-site internships, but completed the last 6 weeks of their internships virtually. During the summer 2020 semester, 14 students completed either the entire or majority of their internships virtually or remotely. In fall 2020, 9 students were enrolled in internships and half were virtual/remote. Approximately 50% of internship work was completed face to face and 50% virtual/remote by the 18 students enrolled in internships during spring 2021. Finally, in summer 2021, the internships for the majority of the 15 interns were in person, but still a portion of work was completed virtually/remotely.

At the conclusion of their internship, each student completed an evaluation of the experience (see appendix A for the assessment instrument). The evaluation assessed the student's perception of their opportunity to develop specialized skills during the experience. In addition, the evaluation assessed the impact the internship had on the student's knowledge and expectations of their chosen field of study; their experiences with their site supervisor and co-workers; and, finally, their overall perception of the internship experience. Despite many uncertainties and the change in modality of the internships due to the pandemic, many students reported having had an overall positive internship experience during COVID-19. Table 5 shows the descriptive statistics of the students' perceptions of their internships. The means reveal high assessment of the training, skills, preparation, and experience to develop skills needed to succeed in their field upon graduation.

In addition to the quantitative data noted above, students provide some additional information to select open-ended questions. Specifically, students provided suggestions and additional anecdotal information to the internship coordinator that they thought would be helpful to interns in the future. Finally, students who were offered employment upon completion of internship made note of the offer. Table 6 is a summary of student responses to the open-ended questions.

Some of the students provided information about future employment opportunities as a result of the internship experience. The following is a summary of student responses: full time positions (6); part-time positions (5); 6-month granted funded project (1); per-diem positions (2); no position offered (28); continued as a volunteer (1); no job offered, but supervisor helped with job search/reference/networking (6) jobs unavailable at this time due to COVID (5); site closing due to COVID (1); and job was offered, but due to circumstance involving COVID, declined (1).

Overall, data indicates that 12 (16%) out of the 74 students were employed upon completion of their internship. For the purpose of this assess-ment, employment is defined as a paid work position, either full-time, part-time, permanent, or temporary. The percent of students employed as

Virtual & Remote Internships During COVID-19: Guidelines & Assessment

a result of the internship is lower for these students than those in previous years prior to COVID-19 when the employment rate was 21.5% (Crowell, 2015). This is not surprising given the increase in the unemployment rate during the pandemic. In addition, several students commented that their internship sites had laid off employees and one site had closed due to the pandemic.

CONCLUSION

The primary intent of this article is to provide insight into how the COVID-19 pandemic necessitated many in academia to redefine, and consequently restructure, public health internships. Specifically, this article presents a brief overview of traditional vs. virtual internships and provides more in-depth information about the pros and cons of virtual internships. The authors propose guidelines for obtaining virtual internships and offer numerous suggestions and resources for possible projects that can be completed during the internships. Valuable guidance and information are detailed for both public health and other academic programs regarding the planning and implementing of academic internships during times of shutdowns and restrictions. In addition, this article presents both quantitative and qualitative data that better explain internships during the pandemic. Specifically, data indicates that while students would have preferred more face-to-face interaction (both on-site and on campus) for their internship, they still had a positive experience and increased their knowledge, skills, and preparation for a career in their fields upon graduation. Students also reveal a sense of gratitude and relief for the flexibility and adaptability involved in the internship process during the pandemic. However, despite the experience data indicates a lower percentage of employment obtained from internships during this time. The information in this article can assist institutions in rethinking future internship opportunities that will facilitate students' educational and professional growth. Finally, this article notes that while a vast amount of past research supports the numerous benefits of traditional academic internships, there is less known about virtual internships. Thus, future research should continue to focus on comparing students' experiences between traditional and virtual internships, along with students'

perceptions of virtual internships and their impact on learning and career preparation.

While online and/or remote internship experiences have been gaining popularity even before the coronavirus pandemic (Hora, Wolgram, & Thompson, 2017), the current pandemic has accelerated the utilization and necessity for these online methods of internship-based learning. To ensure the ongoing quality of academic internships in public health, it is necessary to evaluate and assess the effectiveness of online internship experiences, especially in comparison with the more traditional in-person internship placement model.

FUTURE RESEARCH

Future research is needed in order to answer important questions pertaining to online, virtual, and remote internships, both during and after the coronavirus pandemic. Of particular importance would be assessment on whether students engaging in online internships are achieving similar or different levels of successful achievement of the learning objectives designed for these public health internships. Additionally, research is needed on student perspectives related to the effectiveness of online internships in relation to quality of learning and career readiness, as well as whether online internships are eliminating or reinforcing barriers to learning for students from marginalized backgrounds (i.e. low-income, first-generation, BIPOC, etc.).

REFERENCES

Bhadoria, P., Gupta, G., & Agarwal, A. (2021). Viral Pandemics in the Past Two Decades. *Journal of Family Medicine and Primary Care*, 10 (8), 2745-2750. doi: 10.4103/jfmpc.jfmpc_2071_20

Burke, L. (2020). The Switch Semester. *Inside Higher Ed*. Retrieved from: https://www.insidehighered.com/news/2020/05/20/several-colleges-plan-end-person-instruction-thanksgiving

Centers for Disease Control & Prevention (CDC, 2020). About COVID-19. Retrieved from: https://www.cdc.gov/coronavirus/2019ncov/cdcresponse/about-COVID-19.html

Cluver, L., Lachman, J., Sherr, L., Wessels, I., Krug, E., Rakotomalala, S., Blight, S., Hillis, S., Bachman, G., Green, O., Butchart, A., Tomlinson,

Virtual & Remote Internships During COVID-19: Guidelines & Assessment

M., Ward, C., Doubt, J., & McDonald, K. (2020). Parenting in a time of COVID-19. The Lancet. Retrieved from: https://doi.org/10.1016/S0140-6736 (20)30736-4.

Crowell, T. (2015). Internships Pay Off, Even if Unpaid: Public Health Graduates Well-Equipped to Enter Workforce. *International Journal of Academic Research in Education and Review,* 3 (4), 76-86.

Dennon, A. (2020). COVID-19 Updates: Corona-virus Impacts on Student and Online Learning. *Best Colleges.* Retrieved from: https://www.best colleges.com/blog/coronavirus-impacts-on-students/

Duntley, J. (2020). Honors Program Stockton University. Retrieved from: https://blogs.stockton. edu/duntleyj/

DynaMed. (2021). COVID-19 (Novel Corona-virus): Overview and Recommendations. Retrieved from: https://www.dynamed.com/condition /covid-19-novel-coronavirus

Freeland Fisher, J. (2019). Micro-Internships: Just a gig or a promising gateway? *Christensen Institute*. Retrieved from: https://www.christensen institute.org/blog/micro-internships-just-a-gig-or-a-promising-gateway/

Galvan, J., Fisher, E., Casman, E., & Small, M. (2013, February). Assessing the impact of mandatory internships on employability of recent college graduates in Mexico. Paper presented at the proceedings of the 2013 Conference for Industry and Education Collaboration, Phoenix, AZ.

Gault, J., Leach, E., & Duey, M. (2010). Effects of business internships on job marketability: The employers' perspective. *Journal of Education and Training,* 52, 76-88.

Gerken, M., Rienties, B., Giesbers, B., & Könings, K. D. (2012). Enhancing the academic internship learning experience for business education: A critical review and future directions. In Van den Bossche, P., Gijsalears, W. H., Milter, R. G. (Eds.). Learning at the crossroads of theory and practice: Research on innovative learning practices (pp. 7-22). New York, NY: Springer.

Gostin, L. O. (2020). The Great Coronavirus Pandemic of 2020—7 Critical Lessons. *JAMA Health,* 32, 1816-1817. doi:10.1001/jama.2020.1 8347. Retrieved from: https://jamanerk.com/ channels/health-forum/fullarticle/2769600

Hernandez, K. E., Bejarano, S., Reyes, F. J., Chavez, M., & Mata, H. (2013). Experience preferred: Insights from our newest public health professions on how internships/practicums promote career development. *Health Promotion Practice, 15*(1), 95-99.

Hora, M. T., Wolgram, M., & Thompson, S. (2017). What do we know about the impact of internships on student outcomes? Results from a preliminary review of the scholarly and practitioner literatures. Wisconsin Center for Education Research. Retrieved from: http://ccwt. wceruw.org/documents/CCWTreport-Designing-Intern ship-Programs.pdf

Hora, M.T., Vivona, B., Chen, Z., Zhang, J., Thompson, M., & Brown, R. (2020). What do we know about online internships? A review of the academic and practitioner literatures. Wisconsin Center for Education Research. Retrieved from http://ccwt.wceruw.org/documents/CCWT_Report%20 %2310_Online_Internships_Lit_Review_May2020.pdf

Learn.org. (2011). The Pros and Cons of Virtual Internships. Retrieved from: https://learn.org/articl es/The_Pros_and_Cons_of_Virtual_Internships.html

Loretto, P. (2019). How Virtual Internships Work. *The Balance Careers.* Retrieved from: https://www.thebalancecareers.com/virtual-internships-are-growing-in-a-wide-range-of-fields-1986578

National Center for Education Statistics (NCES), U.S. Department of Education. (2019). "Table 216.20. Number and Enrollment of Public Elementary and Secondary Schools, by School Level, Type, and Charter, Magnet, and Virtual Status: Selected Years, 1990–91 Through 2017–18" Digest of Education Statistics: 2019, Institute of Education Sciences, U.S. Department of Education, December 2019. Retrieved from: https://nces.ed.gov/programs/digest/d19/tables/dt19_ 208.20.asp.

Smith, A. (2015). The Internet and Job Seeking. Pew Research Center: Internet and Technology. Retrieved from: https://www.pewresearch.org

Virtual & Remote Internships During COVID-19: Guidelines & Assessment

/internet/2015/11/19/1-the-internet-and-job-seeking/

Spiteri, G. (2020). First cases of coronavirus disease 2019 (COVID-19) in the WHO European Region. 24 January to 21 February 2020. *Euro Surveillance, 25*(9). doi: 10.2807/1560-7917.ES.2020.25.9.2000178

U.S. Census Bureau. (2019). CPS Historical Time Series Tables on School Enrollment Table A-1. School Enrollment of the Population 3 Years Old and Over, by Level and Control of School, Race, and Hispanic Origin: October 1955 to 2018. CPS Historical Time Series Tables on School Enrollment (census.gov).
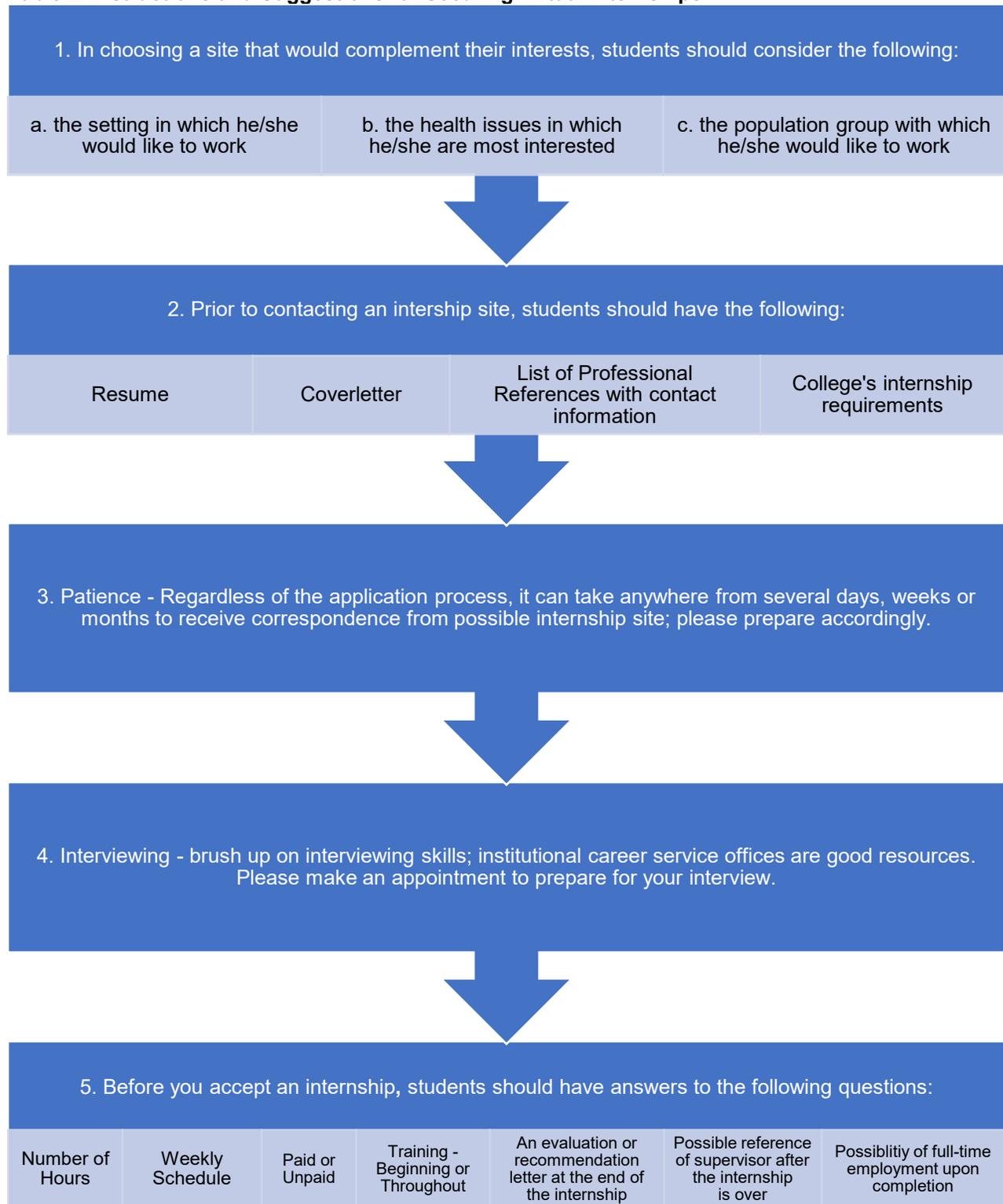
WayUp. (2020). Virtual Internships. Retrieved from: https://www.wayup.com/s/internships/virtual/

WayUp. (2021). Remote Virtual Internships. Retrieved from: https://www.wayup.com/s/internships/virtual/remote/

Table 1: Benefits and Drawbacks of Virtual Internships

Benefits	Possible Drawbacks
Students can intern for any company, regardless of location, without relocating. This can increase students' network outside their physical proximity and even include internal organizations.	Lack of direct supervision and structure, students must be self-motivated and organized. Students will need to be able to work without having direct access to someone to ask constant questions or receive immediate feedback.
Increase in internet literacy, experience with digital tools, tech-based work, and other diverse skills. The addition of the experience can be good resume boosters and desirable for future employment. According to the Pew Research Center, internet literacy is an extremely important career skill (Smith, 2015).	Less guidance or mentoring and on-the-job training. Thus, students need to make sure the internship is carefully designed so that it is more than just a "short-term" project that is outsourced to a college-student.
Schedule Flexibility. Students will have more flexibility completing their internship hours; especially helpful for students juggling class and work schedules. This may also make it easier to obtain college credits than a traditional internship.	Students do not get to experience the office environment, office etiquette, and corporate culture. Thus, students may miss out on some professional development, relationship building, and other benefits of an employee/employer relationship. These relationships are especially meaningful for early career professionals (Freeland Fisher, 2019).
No commuting. This saves time, money and reduces students' carbon footprint. Also, it provides students a safer environment during times such as a pandemic.	Being treated as an employee and not an intern. James Ernst, a former virtual intern, writes that he found himself being treated like an actual employee rather than as an intern (Learn.org, 2011). If this happens, this can make it difficult for the internships to be a true learning experience.
Possibility of obtaining a full-time job. While there is always this possibility with traditional internships, it may not be with companies that are not located in diverse areas.	Miscommunication. It is more difficult to communicate from a remote internship since there are no face-to-face conversations.

Virtual & Remote Internships During COVID-19: Guidelines & Assessment

Table 2: Instructions and Suggestions for Securing Virtual Internships

1. In choosing a site that would complement their interests, students should consider the following:		
a. the setting in which he/she would like to work	b. the health issues in which he/she are most interested	c. the population group with which he/she would like to work

2. Prior to contacting an intership site, students should have the following:			
Resume	Coverletter	List of Professional References with contact information	College's internship requirements

3. Patience - Regardless of the application process, it can take anywhere from several days, weeks or months to receive correspondence from possible internship site; please prepare accordingly.

4. Interviewing - brush up on interviewing skills; institutional career service offices are good resources. Please make an appointment to prepare for your interview.

5. Before you accept an internship, students should have answers to the following questions:						
Number of Hours	Weekly Schedule	Paid or Unpaid	Training - Beginning or Throughout	An evaluation or recommendation letter at the end of the internship	Possible reference of supervisor after the internship is over	Possiblitiy of full-time employment upon completion

Virtual & Remote Internships During COVID-19: Guidelines & Assessment

Table 3: Sample List of Online Educational Activities Available

CDC Learning Connection: https://www.cdc.gov/learning/index.html (CDC resource).
Health Literacy: Students can use the Clear Communication Index tool to evaluate websites for plain language and health literacy. https://www.cdc.gov/healthliteracy/index.html; or https://www.cdc.gov/ccindex/index.html
NY NJ Public Health Training: https://phtc-online.org/
Region 2 Public Health Training Center: https://region2phtc.org/ (various offerings)
The American Public Health Association: https://www.apha.org/professional-development/ Continuing-education/ce-courses
Johns Hopkins MidAtlantic Public Health Training Center: https://www.jhsph.edu/research/centers-and-institutes/mid-atlantic-public-health-training-center/ Training events/online_training.html
New Jersey Learning Management Network: https://njlmn.njlincs.net/
NJDOH Communicable Disease videos: https://www.nj.gov/health/cd/edutraining/ (videos are posted to the far right side of webpage). There is an accompanying "Guide" that provides more insight and includes quiz questions.
CHES prep videos/NJSOPHE: https://njsophe.org/ches-intro
Rutgers School of Public Health Centers for education and Training (archived public health seminar series and training archives): https://rutgerstraining.sph.rutgers.edu/Office_of_Public_Health_Practice/ Office_of_Public_Health_Practice.html (This is where the cultural competency and logic models/eval videos are posted) https://rutgerstraining.sph.rutgers.edu/njphtc/Upcoming_Programs.html

Table 4: Possible On-line Internship / Volunteering Opportunities

Volunteer to Translate with Translators without Borders.	https://translatorswithoutborders.org/volunteer/
Be an online emotional support person at 7 Cups.	https://www.7cups.com/listener/become-a-volunteer-listener.php
Lend your eyes to solve tasks for blind and low vision people. Visit Be My Eyes.	https://www.bemyeyes.com/
Identify New York Wildlife, map our galaxy or assist researchers in many other ways with Zooniverse.	https://www.zooniverse.org/projects
Proofread ebooks for Project Gutenberg.	https://www.gutenberg.org/wiki/Gutenberg:Volunteering_for_Project_Gutenberg
Become a volunteer Crisis Counselor for Crisis Text Line	https://www.crisistextline.org/volunteer/
Track bird populations with eBird.	https://ebird.org/home
Record audiobooks for Librivox.	https://librivox.org/pages/volunteer-for-librivox/
Transcribe historical documents for the Smithsonian.	https://transcription.si.edu/sites/default/files/uploads/transcribing_on_the_transcription_center_-_quick_guide_1.pdf
Send a card, letter or note once a week to someone undergoing chemotherapy. Apply at Chemo Angels.	https://www.chemoangels.com/angel-pre-app
Share your voice and help drive innovation in voice technology through Vocalid.	https://vocalid.ai/voicebank/
Provide learning and encouragement to children around the world via Skype and the Granny Cloud website.	http://thegrannycloud.org/become-a-granny/
Test, evaluate or develop elements of the National Park Service's online presence.	https://www.nps.gov/subjects/digital/getinvolved.htm
Train others in technology to help overcome poverty with Right Here at Home.	http://rhah.org/volunteer/
The United Nations Volunteers (UNV) programme contributes to peace and development through volunteerism worldwide.	https://www.onlinevolunteering.org/en
Join a global network of digital volunteers helping us research and expose human rights violations.	https://decoders.amnesty.org/

Virtual & Remote Internships During COVID-19: Guidelines & Assessment

Table 5: Descriptive Statistics Results

	N	Minimum	Maximum	Mean	Std. Deviation
Develop Interpersonal Skills	71	3.00	5.00	4.7887	.44451
Develop Presentational Skills	67	2.00	5.00	4.3284	.92749
Develop Creativity Skills	70	1.00	5.00	4.1429	.99689
Develop Problem-solving Skills	71	1.00	5.00	4.3521	.84682
Develop Critical Thinking Skills	72	2.00	5.00	4.3611	.84429
Develop Writing Skills	69	2.00	5.00	4.0290	.95442
Develop Realistic Skills	72	3.00	5.00	4.5278	.62736
Better Understanding of Field	71	2.00	5.00	4.4507	.84158
Adequate Training	72	2.00	5.00	4.4583	.80382
Supervisor Feedback	72	2.00	5.00	4.5278	.76861
Adequate Level of Responsibilities	71	1.00	5.00	4.5775	.78671
Supervisor Accessible	73	3.00	5.00	4.8194	.42215
Work Challenging & Stimulating	74	1.00	5.00	4.0685	.90260
Treated Equal with Employees	73	2.00	5.00	4.0164	.69980
Good Working Relationship w/Co-workers	70	4.00	5.00	4.2286	.37960
Amble Opportunity for Learning	72	2.00	5.00	4.5556	.68974
Better Prepared upon Completion	71	3.00	5.00	4.5915	.59946
Valid N (listwise)	61				

Overall Experience

		Frequency	Percent
Valid	Average	3	4.1
	Good learning	25	33.8
	Excellent learning experience	44	59.5
	Total	72	97.3
Missing	99.00	2	2.7
Total		74	100.0

Virtual & Remote Internships During COVID-19: Guidelines & Assessment

Recommendation of Internship

		Frequency	Percent
Valid	Recommend with reservations	6	8.1
	Recommend	24	32.4
	Highly recommend	42	56.8
	Total	72	97.3
Missing	99.00	2	2.7
Total		74	100.0

Table 6: Student Open-ended Responses

Suggestions for Future Students	Additional Information: General	Additional Information: COVID-19 Specific
- Ask questions. - Network. - Work hard; learn to multitask. - Take on as much responsibility as possible & ask for more when applicable. - Consider logistics of site – location (money for gas), time-management (work and class schedule). - Intern as a site that you are interested in / passionate about (health-related area and / or population) – e.g., nutrition, mental health, substance abuse/addiction, elderly population or youth.	- Great learning experience. - Prepared for future career. - Enjoyed the experience.	- Harder to navigate virtual vs. in-person internship. - Wished there was more in-office time. - Wished there was more in-class time. - Wished there was more breadth to internship – so much was focused on COVID (since Public Health) and less on other public health areas. - Lots of appreciation for internship coordinator, institution, and sites for adaptability give unprecedented times – helped with not only learning, but internship logistics and student mental health (anxiety and stress).

Virtual & Remote Internships During COVID-19: Guidelines & Assessment