

Board #443 - High Impact Student Engagement at an Urban Commuter Institution in a Remote Environment During COVID-19 Pandemic and Continuation Post COVID

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HIGH IMPACT STUDENT ENGAGEMENT AT AN URBAN COMMUTER INSTITUTION IN A REMOTE ENVIRONMENT DURING COVID-19 PANDEMIC CONTINUATION POST COVID

The covid-19 pandemic brought the traditional in-person student engagement activities to a halt and resulted in the redesign and thinking around student engagement that would still maintain the concepts of High Impact Practices that includes experiential experiences. The paper will focus on two programs at the City College/City University of New York (CUNY) that were utilized in this process. The first, Career Launch was designed for CUNY students who have not had an internship, and the second, the Federal Work Study (FWS) program (established in 1964) and designed to allow students of lower-income backgrounds to gain work experience while studying were utilized. The host site was established in the School of Engineering office of Student Resources and Services. The Career Launch utilized a matching algorithm that matched student's interest with the host preferences/job description. Students were matched and were very diverse with majors in Liberal Arts and Sciences, Communications/Journalism, Computer Science, Forensic Science, Computer Information Systems, Computer Science and Engineering and Digital Media. Students selected from the FWS program had no such algorithm for matching (all majors were accepted) and consisted of an interview followed by a selection by the host office. The assignments were guided by the student's major and interest. The paper will present the recruitment, selection, project operation, timeline, management, and project development of the participants. This paper will also focus on the continued use of remote internships and experiential opportunities as a High Impact Practice to engage students at an urban commuter university across all majors.

Background

High Impact Practices (HIPs) have been shown to be effective in retention, persistence, and overall student success [1-5]. These practices include activities such as undergraduate research, service learning, experiential learning opportunities, internships, study abroad, collaborative projects and writing intensive courses. These activities have been found to be very beneficial for underrepresented students. Institutional resources, curriculums and student body demographics limit the effectiveness of the activities and combinations of HIPs or a focus on a few may be more effective than others for individual institutions [6-11].

The City University of New York and City College

The City University of New York, (CUNY), is the nation's largest urban university, comprised of 11 senior colleges, 7 community colleges, a graduate school, a law school, a school of journalism, school of labor and urban studies, school of professional studies, school of public health and a medical school. At present, CUNY serves more than 225,000 students. At CUNY's Senior and Community Colleges the student body is 20.4% White, 26% Black, 31.7% Hispanic, 21.6% Asian and 0.3% American Indian/Native Alaskan. Over sixty percent (60.6%) were Pell Grant Recipients, and of those who worked, 52.8% worked more than 20 hours per week. Many students attend part time (32.7%) and 60.5% were the first generation in college. Over 40,500 were first-time freshmen. The City College of New York, (CCNY), has eight schools and divisions and an enrollment of 15,031 students. A total of 12,364 are enrolled in bachelor's programs. At CCNY, the student body is 13% White, 14% Black, 38% Hispanic, 25% Asian and 0.2% American Indian/Native Alaskan.

New York City was one of the epicenters of the covid-19 pandemic and the onset created severe disruption for many students at CUNY an urban commuter university. Many institutions were thrust into online instructional models with little to no training and were required to accelerate new methods of operation, research, student engagement and instruction. CUNY students as well as many others nationwide faced loss of employment, health, technology access, food insecurity and mental health challenges during this period [12-15]. HIPs that were in existence in some form at campuses were now more important in continuing the engagement and success of students. The Federal Work Study program and the CUNY Career Launch programs were two vehicles used and continue to be used at CCNY. The paper will present the recruitment, selection, project operation, timeline, management, and project development of the participants. This paper

will also focus on the continued use of remote internships and experiential opportunities as a High Impact Practice to engage students at an urban commuter university across all majors.

CUNY Career Launch Model for Engagement

After multiple small demonstrative projects, CUNY Career Launch was scaled up to include all CUNY campuses with a target of 2,000 summer interns for CUNY students who have not had an internship. The intention is to jump start their career by offering them an experiential experience. The Grove School of Engineering (GSOE) office of Student Resources and Services served as a host site for Social Media/Technology Interns. Utilizing a matching algorithm that matched student’s interest with the host preferences, students were matched and were very diverse with majors in Journalism, Computer Science, Forensic Science, Computer Information Systems, Liberal Arts and Sciences, Computer Science and Engineering and Digital Media. Twenty-four students were accepted in the remote internship, eight withdrew and sixteen completed the internship (Tables 1 and 2).

Each student had an individual project (Table 3) around social media/technology and were provided with two hours of training with fundamentals on social media. The group’s project assignment required the participants to create posts and reels from the monthly The RICC.com, an E-newsletter produced by the Office of Research at City College. The monthly publication covers Research and Innovation at City College (RICC). Each issue has a specific theme and in total over 200 posts/reels were produced by the interns. Each student sets their work schedule and weekly meeting time and submits an online profile with their career goals. The one-on-one session covered the project update, extended into career goals, academic year planning, and progress towards degree. The Career Launch Social Media Interns have two meetings each week, one as a group where they present their updates to the group and a second one-on-one meeting.

Table 1: Career Launch Participants Summary

Campus	Number of Interns	Major	Completed	Withdraw	Transfer
City College	4	Mechanical Engineering Digital Media Computer Science Communications	4		
Queens College	3	Computer Science (3)	3		
John Jay	2	Forensic Science Computer Science	2		
Baruch College	5	Comp. Info Systems (3) Business	3	2	
Bronx CC	1	Computer Science		1	
La Guardia CC	2	Liberal Arts and Sciences (2)		2	
Brooklyn College	2	Computer Engineering Communications	1	1	1
Borough of Manhattan CC	4	Liberal Arts and Sciences (4)	2	2	1
Hunter	1	Computer Science		1	
Queensborough CC	1	Liberal Arts and Sciences	1		1
Total	24	-	16	8	3

T= Transferred, C= Completed, W= Withdrew

Table 2: Career Launch Participants Summary – College Type and Majors

Major	Senior College	Community College
Computer Science	6	
Computer Info Sys	4	
Engineering	2	
Forensic Science	1	
Liberal Arts and Sciences	-	7
Humanities/Social Science/Business	4	
STEM	13	

The preparation for, motivation and commitment to the program was a major hurdle for the community college students and led to a very high attrition rate. Three were leaving CUNY for other university systems and others withdrew due to the program requirements (Table 1 and 2).

Participants were required to submit a report, a final PowerPoint recorded presentation, create, and present a poster at the summer poster session with students from other CCNY/CUNY Summer Research programs.

Table 3: Career Launch Participants Individual Projects

Individual Project
Web Accessibility And User Experience.
Digital Media For Engagement
Using Web Scrapers And Apis From Social Media Channels And Web Sites
Examining Mentor Collective, Handshake, City Tutors, And City Mentors As Models For The Hipenetwork
Artificial Intelligence In Social Media Networks: Opportunities
Comprehensive Survey Of CUNY Social Media Landscape
An Internet Platform Designed To Improve The Experience Of Users With Disabilities
Implementing Machine Learning In The Hipenetwork.Net Platform
Improving Student Engagement Via Social Media At City College
Building An Entrepreneurship Centered Community At CUNY
Design And Building A Platform Centered On Web Safety And Security
Hiplife: An Online Community Dedicated To Civic Engagement
Developing A Comprehensive Helpsite Platform To Facilitate The Smooth Integration And Success Of Transfer Students
Using SEO, Apis, And Other Methodology To Increase Profile Analytics

Federal Work Study Program

A program of employment available to CUNY/CCNY students is the Federal Work Study (FWS) program, which is funded by the Federal Student Aid (FSA) Program. The FSA Program provides federal grant funding to schools for wage purposes, through the Department of Education (DOE). As of Award Year (AY) 2021-2022, the City University of New York (CUNY) campuses received \$12,049,751 in funding for the FWS program. A requirement for colleges is to use 75% of the funding for each FWS student wage, with the remaining 25% of funding for the wages paid by the college. A second requirement is for participants is to

work in, a Reading Tutoring Project, a Family Literacy Project, a Math Tutoring Project, or a Community Service Project. These projects and programs all support the well-being of the communities around the campuses.

The types of jobs available to students include tutoring, research, information technology, office administration, teaching assistant and additional jobs. The types of jobs available are at the discretion of the institutions as the host sites/offices are screened by the Financial Aid office. For students to be eligible for the FWS program, they must be receiving Financial Aid. The students must have satisfactory academic performance, which means they must be passing at least 12 credits directed towards their major per semester and be enrolled in at least six credits or more for the semester they plan to receive FWS. They must also have remaining financial need, and they must indicate interest for FWS on the FAFSA (Free Application for Federal Student Aid).

Student Recruitment And Selection

Two campus wide Zoom sessions are run at the start of each semester to bring to the attention of CCNY students the value of undergraduate research as a HIP and provide them with information on the FWS program and the process to utilize it in an area that has career impact. Students selected to participate as FWS students with the Office of Academic Affairs:

- Conduct research (laboratory and/or literature based) 8 - 15 hours per week (per Mentor's instruction).
- Research assignments may be part of a larger project, a pilot project, or be designed to provide preliminary data for future research, scholarly or creative projects.
- Are required to attend a monthly research seminar given by the GSOE.
- Complete a variety of research assignments (per Mentor's instruction/project description).
- Write a Research Report at the end of each semester.

The Process for FWS - A half page description of the overall project (goals, objectives, and methodology), student tasks and responsibilities, minimum qualifications, number of hours per week (8 - 15 hours a week) was posted on the FWS website on approval and students interested in participating were invited for a brief interview if they indicated an interest. The interview allows for additional details of the experience, and a preliminary match is done for potential research research/project based on their interest, background, career goals. This may require a second discussion and exploration.

Selected students for the Career Launch and FWS meet individually with the Director of Student Resources and Services weekly for a one-on-one for at least 30 minutes, provide a PowerPoint update on their weekly tasks, and discuss the actions for the upcoming week. A Dropbox is maintained with project info that includes, research papers/references, meeting notes, weekly presentations, and all written reports. Each student sets their work schedule and weekly meeting time and submits an online profile with their career goals. The one-on-one session covers the project update, extend into career goals, academic year planning, progress towards degree. The Career Launch Social Media/Technology Interns had two meetings each week: one as a group where they present their updates to the group and a second one-on-one meeting. On conclusion of the Career Launch internship, students who are eligible for FWS are encouraged to continue participating in research/projects related to their majors during the academic year, apply to research fellowship programs,

FWS allows a student to work on a project 8 - 15 hours a week during the academic year (September - May) and the Career Launch in the summer. The CUNY Career launch runs for six weeks from early July through mid-August for 19 hours per week. Though different in time of operation during the year, both programs allow the hosting of students engaging in HIPs that will address the need to work, gain experience that will be value added, develop both soft and hard skills, At the center of the experience is the research/project.

Table 4: Selected FWS Project Descriptions/Titles

FWS Project Descriptions/Titles
Creating videos/webinars and creating templates for social media engagement at the Grove School of Engineering
Utilizing US census information related to my local neighborhood (Flatbush) to understand policies that could be made/improved, as well as areas political parties might want to focus on (SNAP Program, Health Insurance, etc.). Initially, this project involved neighborhoods such as Borough Park and Crown Heights. Categories such as internet subscriptions/connections, racial and ethnic demographics, as well as housing information (renter/ownership).
Predicting grade distributions with Rate My Professor reviews using Machine Learning so students can make better-informed decisions about what classes to take.
Creating opensource tools to assess the Social Mobility and Career trajectories of the CUNY education.
Creating virtual survey tools to better understand how students can engage with the campus and each other more productively.
Currently, I am doing research and writing a report on the change sweeping through my neighborhood of Crown Heights with the aid of analytical tools such as excel and python. The research probes into the different components that incite/affect change, such as economic, crime, education, demographics, migration of peoples in and out of the community, housing, sanitation, and pollution.
Creating a presentation for incoming college students to understand how the Financial Aid Program works, the requirements for various grants and scholarships, and the method of achieving them.
Transportation Engineering in New York City.
Makerspaces usage and use in the engagement of engineering students at City College.
An Exploratory Study into NYC Motor Vehicle Collisions
Exploring Mentorship Programs Across CUNY
Developing a model to create online platforms utilizing opensource tools
Analyzing the impact of Hurricane Sandy on waste/sanitation in NYC
Social Media engagement on Instagram via Hipenetwork

I am working on creating a communal space within the City College Campus. The Rooftop of the Marshak building is an abandoned tennis court that has been seeking some sort of renovation for years. The rooftop receives sunlight and lacks green spaces. CCNY in general lacks green spaces other than the few months of summer or spring in the NYC Climate. I set up to challenge myself and create a space that interacts with both humans and nature. The project consists of an organically shaped indoor atrium greenhouse space.

This space allows people to experience nature all year round (even during winter). Its design sends a message of nature taking back control of the infrastructures. And emerging from the greenhouse is a tour that bridges with the different Marshak floor levels and extends its elevated views of the City.

FWS Architecture Student

The current project I am working on is the HIPE website. The goal here is to improve functionality so that users can utilize the platform as a tool to connect with prospective employers and professors who seek students for internships and other opportunities. Initially, I conducted market research on what other competitors were providing in terms of service through their online platforms. How HIPE is different is that professors and other employers can reach out to students and select students based on who fits their criteria the best. It also allows for peer to peer communication between students as well. This semester we will add a decent amount of functionality to the platform and hopefully see the results of our work.

FWS Computer Science Student

We see a large drop off in the number of FWS students at the GSOE in going from 2019 to 2020 at the start of the pandemic. The college lockdown and the in-person mode of some positions severely impacted the opportunities for students. Other trends in the economy, the changing nature of work and students leaving university/college may be contributing factors to the numbers seen in the GSOE. However, this may not be representative of CCNY or other CUNY schools. Due to the flexibility offered by virtual internships and the normalization of this practice at the college, virtual internships allow for widespread use post pandemic versus pre-pandemic.

Table 3: FWS Hires by Office of the Dean

Academic Year	Number of FWS	Virtual RA/Projects
2023-24	17	11
2022-23	16	9
2021-22	17	13
2020-21	6	6
2019-20	32	6
2018-19	28	
2017-18	47	
2016-17	30	
2015-16	27	
2014-15	34	
TOTAL	254	

Student participants come from many majors and include Liberal Arts and Sciences, Social Sciences, STEM, Humanities and Architecture. Figure 1 provides a graphic of the Career Goals of FWS participants.



Figure 1: Career Goals Word Cloud of FWS participants

Discussion

The pandemic brought to the attention a few issues related to online methodology/mode. For example, a student residing in New York State may be enrolled in Arizona State University Online Campus and may lose their eligibility for FWS due to their physical location. Due to the pandemic, many have called for an online adaptation of the FWS for students not physically able to work at a location. Adapting the FWS program to both online and in-person would not hinder the experience FWS provides for its participants [16]. As referenced [16]the selected participants were administered a 28-item survey, along with the 8 Competency NACE Career Readiness survey. There was no statistical significance between the responses for hybrid, in-person, or online forms of FWS participation.

Additionally, a private college FWS experience may be very different from that at a public college/university. Private institutions generally have higher tuition rates and offer more in financial aid compared to their public counterparts. Private institutions may have additional resources from endowment funds and in made awards of almost \$905 million in 2020 [17]. Even though public institutions have lower tuition fees, they are funded through tax dollars, and offer less financial aid. This drastic difference in the funding may lead to significant differences in the formation, presentation, and execution of the FWS program at public and private schools. It was found that in the AY 2015-2016, only 2 percent of public college students participated in FWS, meanwhile 16 percent of the private college students participated in FWS in the same AY2015-2016 [18].

Some FWS participants did experienced many benefits that were short-lived due to deficits in the FWS model. These deficits include, but are not limited to, negative wage impacts, reduced work hours, and relatedness of job to the student's line of study [19]. The level of work intensity and race were also explored and shows that working in college impacts completion rates but has a greater influence for Black and Latinx students. Race was not a great influence in determining the completion of college but work intensity greater impacted the completion of a college degree. Additionally, it was found that students that conducted light work were more likely to complete a college degree than students who did not work, and those who conducted heavy work [20]. FWS programs have been shown to have impact on the career outcomes of participants and provide resources for department/organizations in-person and in a virtual or remote context [21-25]. The changing nature of work post covid requires the use of collaborative work platforms for an increasing number of positions.

Conclusion and Future Work

At CUNY/CCNY, the two programs described above can be seen as vehicles to a post pandemic recovery at the nation's largest urban university whose diverse student population were severely impacted. The expanding use of hybrid and virtual internship/experiential opportunities will play a critical part in the recovery and CUNY/CCNY provides a living laboratory for this. As an urban commuter university, the Career Launch program supported by philanthropic funds allowed CUNY to serve a significant number of students independent of FWS eligibility, and in industries/internships that mirror opportunities in New York City. Both programs may prove to be crucial in providing students with experiential experiences that were severely curtailed during the pandemic. In addition, other HIPs for student engagement in addition to research/internships should include student-led workshops and HIP related activities such as tutoring, skill development, leadership,

and mentoring. Others have shown this to be the case for peer led team learning in chemistry, science writing on critical thinking [21].

Acknowledgements

We acknowledge the support of the CUNY Career Launch and faculty and staff of City College/CUNY in supporting the activities..

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