NYU STEINHARDT

# The CTE Summer Scholars Program

# Evaluation Report Year 4

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The opinions expressed are those of the authors.

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## Executive Summary

Now with four graduating classes, the Career and Technical Education (CTE) Summer Scholars Program, created by the New York City Department of Education (NYCDOE) and funded by Bank of America, supports the career development and work readiness skills of its students. This year, 96 students partook in the six week program, consisting of an internship placement in a field of their choosing, a classroom and project-based work readiness curriculum, and mentorship with industry leaders. Students worked at their internships Monday through Wednesday, and met in the classroom on Thursday and Friday. In the classroom, much of the time was dedicated to their final research projects on this year's theme, youth unemployment. Additionally, students partook in a three-day Work Readiness Boot Camp, attended two seminars hosted by Bank of America, visited their mentors at their workplace, and presented their final research projects to their peers, policy-makers, community members, and industry leaders.

Since the program's inception, the NYU Institute for Education and Social Policy (IESP) has evaluated the implementation and effectiveness of the CTE Summer Scholars Program. Using pre and post-survey interventions for students and internship supervisors, observations of student mentorship and extracurricular seminars, and interviews with teachers, mentors, and program staff, we examine the program from a holistic perspective. The student pre and post-surveys measured students' cognitive and non-cognitive growth, and the post-survey measured students' perceptions of their internships, supervisors, mentors, as well as the program as a whole. We asked supervisors to report the expectations of their interns on the pre-survey, and the post-survey questioned supervisors on their interns' performance, communication with program staff, and satisfaction with their interns and CTE Summer Scholars overall.

Results from our fourth evaluation suggest that the CTE Summer Scholars curriculum builds work readiness skills and advances the career development of its students. Analyses of the student pre and post-survey interventions demonstrate statistically significant and positive growth in students' soft skills, self-efficacy, and career competencies. Teachers and mentors interviewed also noticed marked improvement in the students throughout the course of the program. Overall, internship supervisors reported high satisfaction with their interns and the CTE Summer Scholars Program on the post-survey. Further, when looking at results from the supervisor pre-survey, interns surpassed the supervisors' expectations on most skills. Program staff interviewed felt that, especially in comparison to previous years, the CTE Summer Scholars Program ran smoothly, with interns matched with agencies in a timely manner and the curriculum fully-flushed. Teachers interviewed, however, wished that they had more input in the development of the curriculum, and complained about the curriculum's breadth, lack of classroom time to debrief student internships, and issues with payroll for them and their students.

Based on the qualitative and quantitative analyses, we identified several areas of program strength:

- The CTE Summer Scholars Program significantly increases students' self-efficacy, career competencies, and work readiness skills.
- The addition of industry mentors to the program this year was beneficial to both teachers and students. Recruitment of students, schools, and internship host companies continues to improve.
- Teachers, mentors, and supervisors consistently reported that the CTE Office staff responded to all their program needs.
- Students valued the CTE Summer Scholars Program.

We also provide recommendations to the program for future years. Select recommendations are highlighted:

- Inclusion of teachers in the development of the curriculum may improve understanding and support the goals of the curriculum, and advanced sharing of the curriculum's details will help teachers adapt the curriculum to their students' needs.
- Consider the tradeoff between assigning mentors to classes so there is more time for mentors to help students or continuing to allow mentors to choose their class during the first seminar session.
- Develop on-the-job lesson plans that internship supervisors can access electronically for times when students experience down time.
- Revamp the Work Readiness Boot Camp to meet students at their level. While it presents students with relevant tools and knowledge, the information should be conveyed in a manner that urban high school students will understand and appreciate.
- To the extent possible, funding should be distributed earlier in the school year to speed-up the hiring of staff and hasten the recruitment of schools, students, and host companies.

# I. Introduction and Overview

## *Introduction*

The Career and Technical Education (CTE) Summer Scholars Program was created by the New York City Department of Education (NYCDOE) and is funded by Bank of America. The program engages select CTE high school students in classroom instruction, internship experiences in the field they are studying (e.g., technology, media and advertising), and for the first time this year, mentorship with industry leaders. After four years, CTE Summer Scholars is a "well-oiled machine" compared to the initial pilot program launched in 2012 (Year 1). In the summer of 2013 (Year 2), the program expanded to 120 students in six schools with a restructured program schedule and uniform curriculum. In the subsequent summer of 2014 (Year 3), the program again accepted 120 students in six schools. For the summer of 2015 (Year 4), 96 students from six schools enrolled in the program and the curriculum was again restructured to include a mentorship component. The NYU Institute for Education and Social Policy (IESP) has been working with the NYCDOE to conduct an external evaluation on the implementation and effectiveness of the program for the past four years (since the program's inception). This report presents the findings from the Year 4 CTE Summer Scholars program evaluation.

## *Program Description and Curriculum*

### *Classroom Curriculum, Mentors and Project*

Similar to the previous two years, students worked at their internships Monday through Wednesday, and met in the classroom on Thursdays and Fridays. During class time students: a) reflected on their internship experiences and career development, and b) researched youth unemployment and proposed policy solutions to ameliorate it for their final projects. Additionally, students attended a three-day Work Readiness Boot Camp and two seminars throughout the summer at the Bank of America building in Midtown Manhattan. At the final seminar, students presented their research projects on youth employment to their peers, policy-makers, community members, and industry leaders.

This year for the first time each of the six schools in the program were matched with a mentor (or mentors) with a high-level of expertise in their industry. The six mentors were recruited from the fields of information technology, accounting, public relations, business, academia and government. The role of the mentor was to help students develop their proposals to address youth unemployment in New York City and provide feedback on the projects as they were developed. The mentors visited the classroom, coordinated with teachers to develop classroom activities, and hosted students at their workplace. Mentors provided feedback on student presentations up until the final seminar.

The majority of class time this year was devoted to the development of the student projects on youth unemployment. The teachers and mentors collaborated to guide the development and presentation of student projects. At the first Bank of America Seminar, mentors were matched to schools based on common interests. Teachers then worked with students during class time to

develop project ideas, identify team roles and responsibilities, and establish timelines. Once students decided on their projects, mentors visited their classrooms to help students transform their ideas into proposals that could be supported by data and evidence. After two more weeks of working on their projects in the classroom, students visited their mentors' worksites to receive feedback on their projects and prepare for the final presentations. The final seminar focused on student presentations of their final projects.

Some aspects of the classroom curriculum remained similar to last year. A number of activities focused on connecting the students' experiences in their internships with the development of their work readiness skills and career interests. The three-day Work Readiness Boot Camp focused on how students are expected to behave in the workplace and how best to utilize their internship experience to advance their career. Each week during class time teachers also debriefed with students on their internships and the class collectively discussed solutions for emerging problems in the workplace. The curriculum also included activities designed to help students identify and describe the skills they are developing, how to describe them on a resume, and how to build on this summer's experience to move toward their ideal career. Students also had a guest lecture from a speaker from Bank of America on financial literacy, which aligned with the first payment students received.

### *Internships*

Following the Work Readiness boot camp, students worked up to 15 hours per week, three days per week, and received minimum wage for their work. Students also had the potential to earn an extra $200 for attending all class and internship days. This year the program was able to provide placements to a total of 96 students from six schools. These students were placed with over 30 employers.

## *Participating Schools*

This year CTE had a total of 96 students from six schools. The schools that participated in this year's program were: Bayside High School, Urban Assembly Gateway School for Technology, Academy for Language and Technology, Bronx High School of Visual Arts, Academy for Software Engineering, and Queens Vocational & Technology High School.

## *Methodology*

For this evaluation, we observed all days of the Work Readiness Boot Camp, the two Bank of America seminars, mentor visits to classrooms, and student visits to mentor worksites. We also interviewed teachers, program staff, and mentors, and surveyed students and internship supervisors. In total, 12 observations of mentorship days in both the classrooms and worksites, three days of boot camp observations, and two days of seminar observations were completed. Additionally, six mentor, four teacher, and two staff interviews were completed, and 181 student surveys (including pre- and post-intervention) and 28 internship supervisor surveys (both pre- and post-surveys) were collected. The staff interview protocol consisted of questions about the staff members' backgrounds, involvement and experience with CTE Summer Scholars, interaction with the curriculum and students' job placements, and opinions on the program as a whole. Similarly, the teacher interview protocol included questions about the teachers'

professional background, involvement and experience with CTE Summer Scholars program, experience with class time and student engagement, the curriculum, mentors, and general opinions of the program as a whole. The mentor interview protocol closely followed the protocol for teachers, however it included questions on the mentor-mentee relationship rather than class time and the curriculum. In most cases, the mentorship observations lasted the duration of the mentor site or classroom visits, and observers were present for the entirety of the Work Readiness Boot Camp and two Bank of America seminars. Internship site supervisors took an online survey before the arrival of their interns and again after the program ended.

For the second year in a row, we utilized pre- and post-surveys to identify changes in students' self-reported cognitive and non-cognitive skills before and after participating in the CTE Summer Scholars program. The pre-survey was administered to the students during the Work Readiness Boot Camp, and the post-survey during the last Bank of America seminar. Of the 96 students who participated in the program, 76 students completed the pre-survey and 82 students completed the post-survey. Findings from pre/post student survey comparisons (reported in Section II) are based on the 47 students who responded to both the pre- and post-surveys and were able to be matched. Results about students' overall perceptions of their summer experiences (described throughout the results in Section II) are based on the 82 student responses to the post-survey.

With robust student survey data from 2014 and 2015, we undertook two additional analyses: 1) a comparison of post-survey results of students' overall perceptions of the CTE Summer Scholars program from 2014 to 2015, and 2) a pooled pre-post analysis of the cognitive and non-cognitive constructs using 187 total pre- and post-survey responses from both years 3 and 4. Results on the post-survey changes from year to year can be found in Appendix C. Results from the pooled pre-post analysis can be found in Appendix D.

## *Major Findings*

### *Classroom*

Students and teachers both agree that there should be more time in the classroom to focus on the internships. On the student post-survey, students reported that discussing their internship and learning about professionalism were the most helpful components of the classroom curriculum. Teachers stated in their interviews that so much class time was dedicated to the project, and that there was often not enough time to fully debrief and discuss the students' internship experiences in-depth.

### *Student Research Projects*

All CTE Summer Scholars stakeholders—students, teachers, mentors, and staff—valued the final project. Teachers, mentors, and staff applauded the project's ability to directly connect the internship to the classroom and scaffold teamwork skills in the students. Our observers noted that the projects engaged the students, from facilitating conversations with mentors on how to scale-up their projects to developing research and oral presentation skills. After learning to work creatively and problem-solve on teams, students presented their projects to policymakers with professionalism.

### *Mentors*

A first for the CTE Summer Scholars program, the addition of a mentorship component added value to the program. Students, teachers, staff, and our own observers share positive views of the mentorship component. Eighty percent of students who completed the post-survey not only strongly agree or agree that their mentors were inspiring, but that the mentors also helped them improve skills like organization and time management and encouraged them to reflect on their CTE Summer Scholars experience (79 percent). Teachers and observers reported that the mentors connected with the students about the real world by sharing their own personal and professional experiences. Because the mentors were so helpful, teachers wished that the mentors could begin interacting with the students earlier in the summer and spend more time helping the students with their projects.

### *Internships*

The internship experience continues to improve for students and internship supervisors. Supervisors were very satisfied with their interns; all of the supervisors who completed the post-survey reported that they would take another intern from the Summer Scholars program. Students also had positive perceptions of their supervisors, and 83 percent of students felt that they made an important contribution to their agency. Thirty-percent of students, however, reported that they spent their time at work on menial computer or clerical tasks, and teachers noted in their interviews that students would sometimes complain about a lack of meaningful work.

### *Student Pre-Post Analysis*

Positive and statistically significant changes in students' self-reported soft skills, self-efficacy, and career competencies were observed. More students, 15 and 12 percent, respectively, reported very strong or strong time management and goal setting skills on the post-survey than on the pre-survey. Additionally, 25 percent more students than in the pre-test students completely agreed or agreed that they are able to explore possibilities on the labor market at the end of CTE Summer Scholars. On the supervisors post-survey, supervisors also reported positive improvements in their interns' skills. Further, teachers observed immense growth in their students over the course of the six week program.

### *Overall Program*

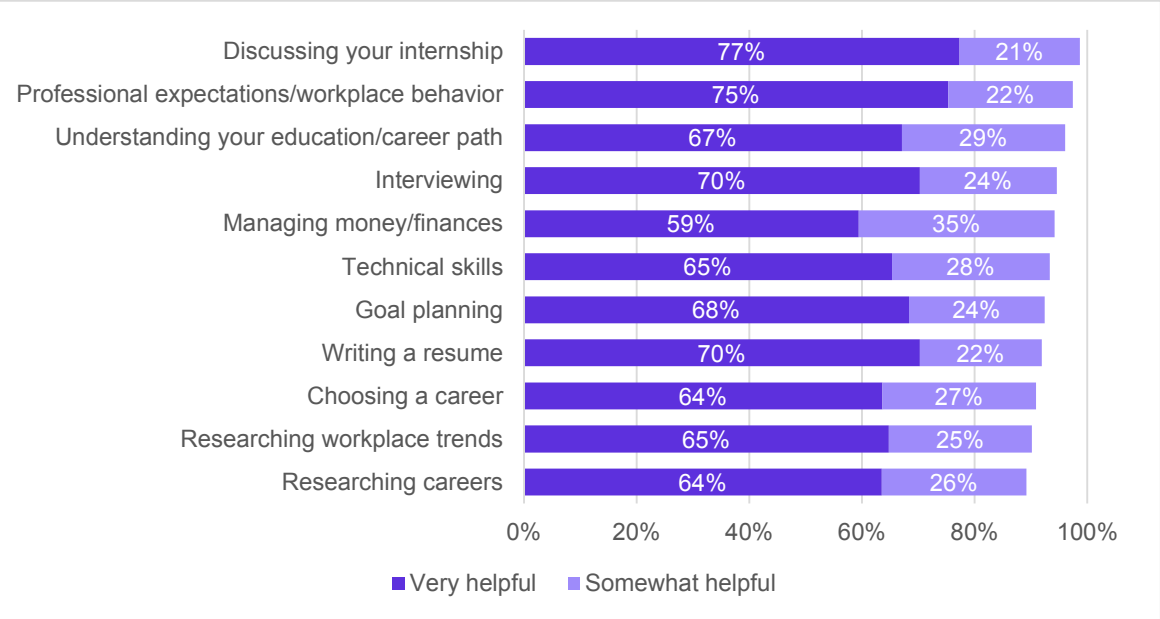
Students this year reported overall higher satisfaction with the Summer Scholars program compared to previous years. Ninety-nine percent of students would recommend CTE Summer Scholars to a classmate, and 93 percent strongly agree or agree that the program helped them prepare for being in the workplace. Teachers and supervisors also indicated that overall, program staff communicated frequently and responded to requests for support. In their interviews, teachers reported that if they experienced an issue in the classroom, staff would assist them. Despite this, lingering paperwork and payroll issues remained a challenge, affecting teachers and students.

# II. Results

## *Classroom Curriculum*

The vast majority of students found their time spent in the classroom on work readiness skills valuable for their internship or career planning (Figure 1). Ninety-eight percent of students said they found the task very or somewhat helpful. Students also found time spent in the classroom on professional expectations/workplace behavior (97 percent), understanding their education/career path (96 percent), interviewing (94 percent), and technical skills (93 percent) very or somewhat helpful.

**Figure 1: "How helpful for your internship or career planning was time spent in class on:"**




Similarly, teachers found the discussion of student's workplace interactions to be an important part of classroom time.

> "Although the check-in wasn't a big part of the curriculum it was an important part of the schedule. It was really super-helpful to have that space to talk about what they were doing on the job, and questions they had and issues that came up. They enjoyed coming together and hearing about what everyone else was doing as well."

> "Some of the important topics we covered included - how to talk to your boss, how to be respectful when you feel that your boss may not respect you. Or they may look at you as a child instead of finding ways to treat you as a professional. How do you word things was very important. How do you make sure your tone is in such a way that the person you are talking to would actually want to receive the input that you are giving."

Mentors identified communication skills in the workplace as an essential skill for students to develop:

> "I think it's really interesting to hear their perspective – the overall message is that even when there are internships that they're involved in, they feel like they're not understood. The basic issue is communication between what the employers want and what the students feel they need and are capable of. I think they need to be given a little bit more direction in terms of how to show up and communicate their needs or wants."

> "As a high school student, you may not see how beneficial the opportunity is, so I stress to them to take advantage of it by talking to people, learning new things, making contacts."

Many CTE high schools specialize in particular fields of study. As a result, some teachers tailored the curriculum to fit the needs and interests of their students. Recognizing an overlap in student interest in both CTE and another summer program, one school was able to pool the faculty and funds of CTE and another program to meet student interests in both areas. Another teacher recommended placements that would best match their students' interests. One teacher described the process of adaptation:

> "I would look at what the bigger picture was and decide ways for me to get my students there. So I might have used some of their activities but not all – I might decide, my students need more time working on their projects…or if I felt the students were really struggling in their workplace, let's work on this."

Similarly, teachers adapted the curriculum to specific school populations:

> "They all come from different neighborhoods and different school cultures. They're still different learning environments. One size does not fit all…You can have great ideas but when you break it down into specific lesson plans, if you don't have the kids in your mind, it's hard to implement. As teachers I felt it was our job to find ways to differentiate it for our kids."

Piloting the new curriculum was a challenge for teachers. Program staff acknowledge that delivery of this year's curriculum to teachers was delayed due to the development of two new aspects of the program - the in-depth student research project and the recruitment and assignment of work-based mentors.

> *"*Because we were building it as we went, the actual time from when we finished the curriculum and got it to the teachers to the time when they were delivering it was way too short. They never had enough time with it in advance. Although they did remarkably well under those circumstances, we were building the actual lesson plans up until the last minute, and so it just made it really stressful to plan and put that together."

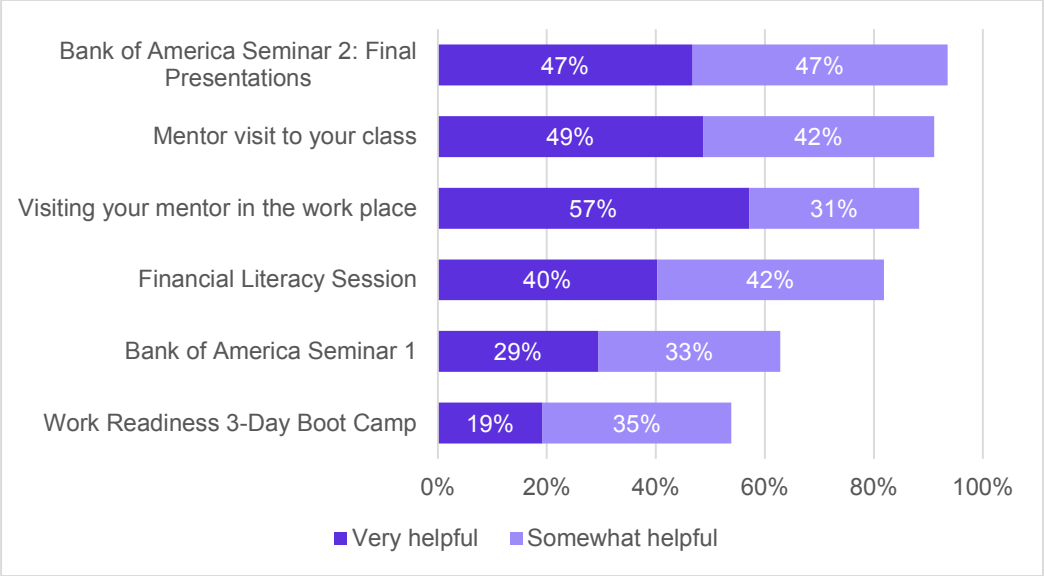
Teachers felt that having all the components of the curriculum in advance would allow them more time for adaptation and input.

"The curriculum should be given ahead of time so it can be reviewed and refined. It would be great if the teachers could have input into the curriculum, rather than have it given it to them week-by-week."

### *Student Research Projects*

While students were not asked about their impressions of the project as a whole, students reported that the activities where they developed, refined and presented their projects to be the most helpful for their internship or future career (Figure 2). On the post-survey, 94 percent of students reported that the final presentations at the final Bank of America seminar very much or somewhat helped their internship or future career. Ninety-one percent of students reported that the mentor visit to their class (where mentors helped develop the project) was very or somewhat helpful, and 88 percent of students indicated that the visit to their mentors in the work place (where mentors helped refine project presentations) was just as helpful.

**Figure 2: "How helpful for your internship or future career were each of the following sessions?"**




Mentors in particular found the project to be both relevant and rigorous for students.

"Giving them a project that allows them to think analytically and critically about a policy issue, and that is very pertinent to their community, is a very strong idea. It puts them in the driver's seat. By giving them different roles in the project - project manager, etc – and having them devise their own teams and ideas was pretty impressive. And they may not realize it now, but those are experiences that are going to be helpful down the line, whether in school or in their professional lives."

"I thought the idea of having students think about what's involved in an internship program and having them think about the issue of youth unemployment was brilliant. It's a great way to get students to think about all the

other pieces of the puzzle - to see other people's perspectives and what it would take to interest employers. It helped students think outside their position as students."

Some mentors suggested real-world follow-up to student's proposed projects.

> "I wanted to see some of these great ideas the students came up with be put into action. Maybe the projects from the top two schools could do a pilot program with their ideas to see how far they could take it into the real world. I thought our students ideas of developing a website to specifically connect high school and middle school students to employer internships opportunities – not just college students - I'd like to see someone in NYC really get behind that idea and really take some ownership in terms of building the next generation of employees."

Some students were able to make direct connections between their internship experiences and the project.

> "Some of the students were able to bring things they learned at their workplace to their projects, which was helpful… They were taking some of the things they learned on the job and applying it in a new context so I think that was very helpful."

> "[Were mentees able to draw connections between their time in the classroom and internships?] To a large extent it was automatic. Here they are being exposed to a new work environment and allowing that work environment to frame their thinking about the project but I don't know that it was directly discussed as "So you're working at a start-up and you're getting this particular experience and how do you use this experience to work in other startups. I think it was more implicit and assumed rather than directly discussed."

Both teachers and mentors thought the final product of the project could be specified in advance.

> "They weren't very specific in terms of the final product we would be presenting at the final seminar. There was some uncertainty about how to set up our poster boards at the seminar, and whether we'd have access to computers. So instead we focused a lot on practicing presentation skills."

One mentor explained how knowing the details of the project could help the mentor understand his/her role better:

> "…We need to know ahead of time what are we working toward. I presumed incorrectly that the final product would be a presentation. So that really needs to be communicated to the mentors and of course the students as well. That needs to be specific, precise – even where exactly the students will be presenting – so that we know what we're mentoring for. To get all the organizational issues worked out in advance helps everyone."

Teachers experienced a time crunch in finishing the research projects.

> "The time crunch is tough. There was limited time to work on the project, but then again it was also an opportunity to learn about time management."

A few teachers suggested redistributing the mentor's time in the classroom to occur at the end of the program to help meet the project deadlines.

> "I'd have the students go to the mentor work places during the second week and have the mentors visit the school sites during the fourth week, since at the end of the program the students need all the time they can get finishing the project and getting more feedback and input from the mentors in the classroom setting would be very helpful."

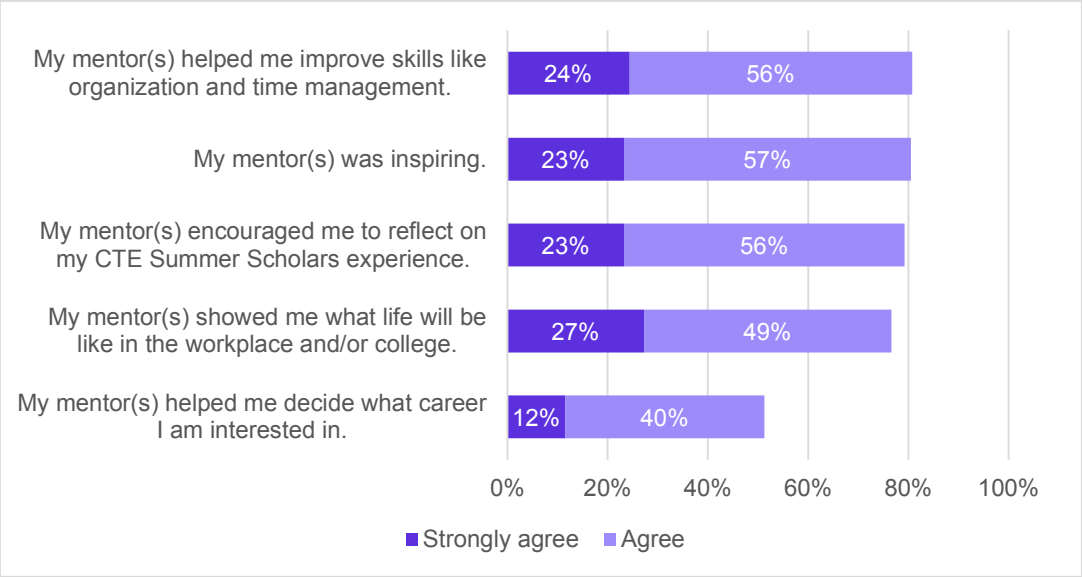
Reflecting on the difference between this year and last year's project, one CTE staff member observed:

> "The level of student engagement was so much higher in the classroom and in the final projects. Also, the depth of inquiry and owning their own identity as people who are part of this process. That was true of every school and every group this year. Some groups got into it last year, but for others last year the level of commitment wasn't the same. I'd also say the commitment from the teachers. The curriculum asked them to do a lot. To give up their usual ways of organizing and controlling the classroom – through letting the students lead it. And I think the teachers were actually excited to do that. One of them spoke explicitly about that."

### *Mentors*

Overall, results from the student post-survey indicate that students valued their interactions with their mentors, a new addition to the CTE Summer Scholars program (Figure 3). Eighty percent of students not only strongly agreed or agreed that their mentor(s) were inspiring, but that they also helped them improve skills like organization and time management. Students also strongly agreed or agreed that their mentor(s) encouraged them to reflect on their CTE Summer Scholars experience (79 percent) and showed them what life will be like in the workplace and/or college (76 percent). Fifty-two percent of students strongly agreed or agreed that their mentor(s) helped them decide what career they are interested in.

**Figure 3: "How much do you agree or disagree with the following statements about your mentors?"**




All mentors interviewed reported that their involvement in the CTE program this summer was a rewarding experience and expressed interest in being involved in the program in the future.

> "It was inspiring hearing the student's progression in the six week program. It's amazing. It's wonderful to be able to see them really develop and have their eyes open and mind open and to get to watch them as they gain confidence that there are career options that they might not have thought of that are available to them, outside of the corporate environment. And in a few cases, students admitted that their placement showed them that this work was something they were not interested in, which is something even more valuable for them to find out at an early age - that there's a world of opportunity available to them if they work hard and do well in school."

> "The students are awesome and so appreciative. It amazes me when I can touch students in that way. Some of the girls made a point of saying how nice it was that they thought we liked them and appreciated what we were teaching them. I've already told a few [employers] about the program because of what a great experience it was."

Mentors thought that student work on the projects was a productive and successful activity, and that it both drew on both student workplace experiences and helped them develop essential workplace skills.

> "They developed skills in doing research and finding data from websites that would support their case. Depending on what their focus was they worked on brochures or posters, or PSAs, or planning for job fairs, so they developed a variety of different skills depending on the focus of their project."

> "Yes, the projects the students did – where they built a website to connect employers and students – drew on their internship experiences. They talked to their employers about what they expected from interns and thought about what it would take to make real-life referrals."

> "Yes, the project forced them to think a lot about professional workplace expectations and they also got a lot of experience in project management and working on a team."

Mentors also used their time with the students to discuss their perspectives on work, education, and careers.

> "I shared with young people my work experience and different strategies around how to achieve work-life balance. Also I discussed my college experience – how to afford college and issues around financial aid."

> "I talked to them a lot about how you can pick up skills without being formally employed and what's useful for getting to college, the importance of trying different fields and taking different classes. So it was more general."

All teachers we spoke with also found the mentors very helpful in developing and providing feedback on the student projects.

> "I really appreciated having the opportunity to work with the mentors and I wish we had had more time – more than just two days to go over the projects with them, because they brought a lot of insight. I'd like more time to finalize the pieces [of the project] with them."

Some mentors were interested in getting more input and giving more feedback into the workplace experiences of students.

> "I would have liked more one on one time with each student. Maybe next time schedule 10 minute one-on-one sessions – 5 to 10 minute sessions with each student to tailor advice and get a better sense of each student's interests and where each student was coming from. To engage with 18 students at once, it's really hard to get a sense of where each student is at. This could be built into the classroom visit."

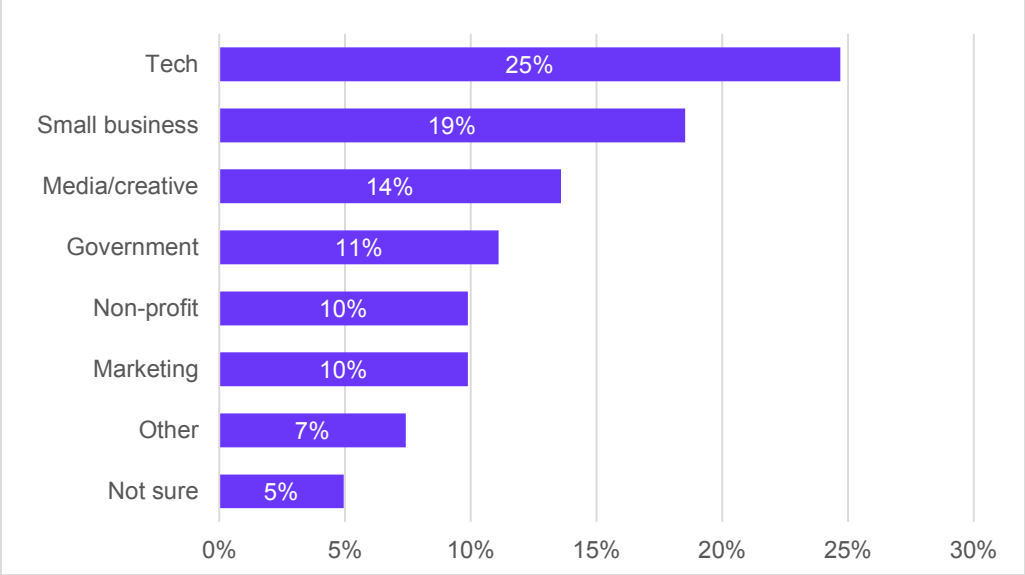
> "I was curious about what was really happening at the internships themselves…I was curious to know how they were doing and maybe in the future there's a role for the mentors to get a little bit more involved in that piece of it.."

## *Internships*

### *Placements*

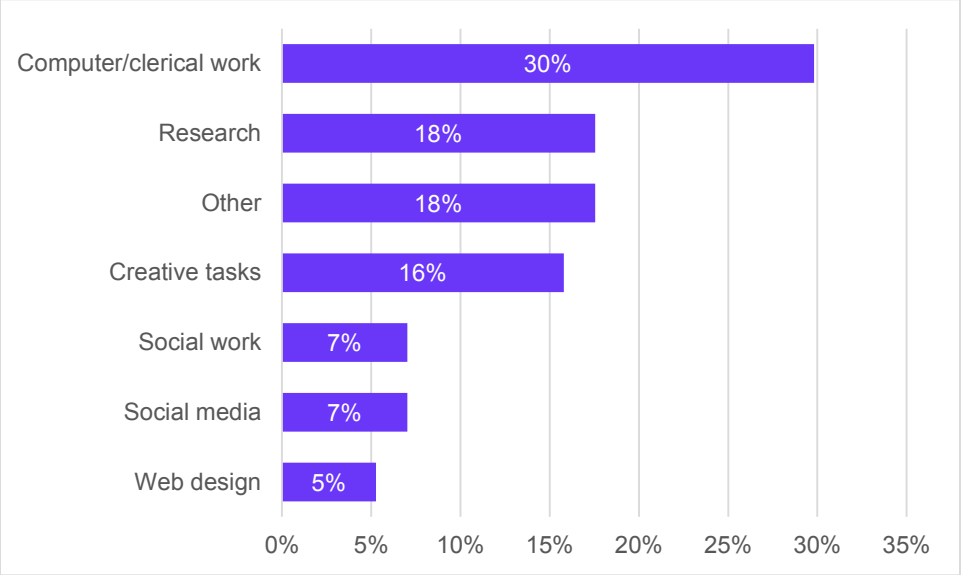
Students reported working in a wide variety of workplaces this summer (Figure 4). Twenty-five percent of students reported that they worked in technology for their internship; 19 percent of students worked at a small business, and 14 percent in the media and creative industries. Eleven percent of students interned at government agencies, and 10 percent worked in marketing or at a non-profit. Some students were not sure what type of agency they worked at (5 percent), and 7 percent of students reported working at agencies such as senior centers that did not fit into the general themes observed in most workplaces.

**Figure 4: "What type of agency did you work at? (check all that apply)"**




On the post-test, students were asked "over an average day at work, how did you spend your time?" Based on common themes we observed in students' responses (see Figure 5 below), 30 percent of students reported on the post-test that they spent their time on the computer or completing clerical tasks. Students in this category said they did "data entry," "filing and stamping paperwork," and "working on the computer." Many students (18 percent) also indicated that they performed research while at their internships, responding such as "researching" or "I spent my time researching." Sixteen percent of students reported working on creative tasks such as "3D modeling/printing," "wireframing," or "taking photos." Eighteen percent of students spent their time on a diverse array of activities (other), from "job shadowing" to "IT repair." Additionally, 7 percent of students spent their time working with social media, 7 percent in social work settings such as at senior care centers, and 5 percent on web design.

**Figure 5: "Over an average day at work, how did you spend your time?"**




Supervisors reported that, on an average day, interns were working with databases using programs like Excel or Access, completing general office work, working with media software, and working with clients. A smaller number of supervisors reported that interns completed creative tasks or did more advanced IT work.

### *Supervisor Expectations*

The following questions from the supervisor pre-survey asked supervisors to indicate their expectations of their interns from the CTE Summer Scholars program.

The results indicate that supervisors expect their interns to come into their internships with twenty-first century work readiness skills (Figure 6). All internship supervisors surveyed strongly agreed or agreed that they expect their interns are able to utilize current techniques to complete tasks, convey information to others, comply with established working hours, exhibit a professional work ethic, apply knowledge of their field of study, be professional in appearance, and respond well to supervisors. Further, 93 percent of supervisors strongly agreed or agreed that they expect their interns to exercise initiative and creativity, work well as a team player, and manage time well.

**Figure 6: Please rate the degree to which you expect your CTE Summer Scholars intern(s) to have the following skills in order to complete the job well (selected questions):**

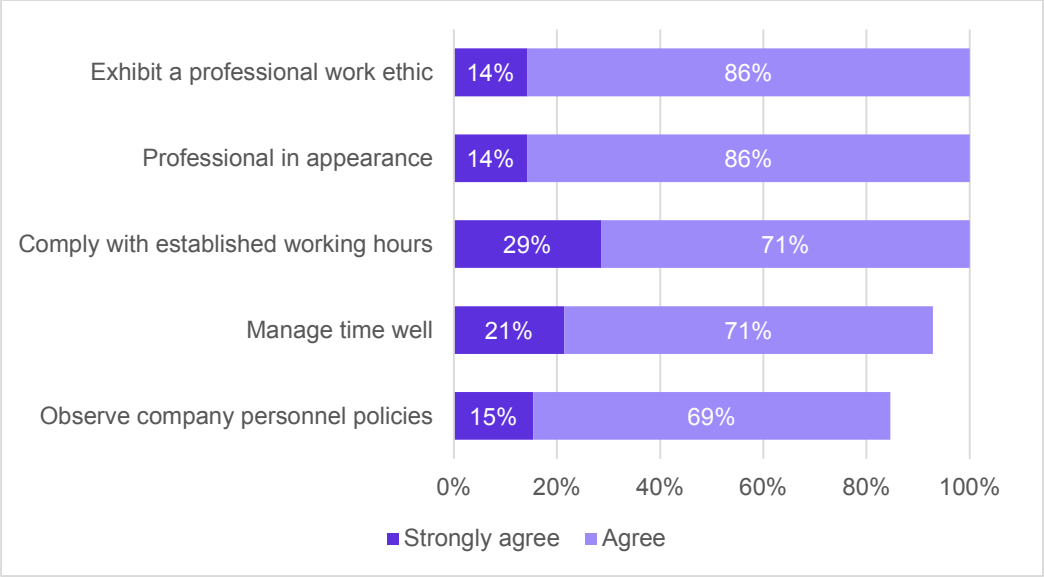



Figure 7 displays the results of supervisors' expectations of students' soft-skills. First, 86 percent of supervisors expected their interns to be very strong or strong listeners coming into their internships, and 79 percent expected their interns to have very strong or strong communication skills. 69 percent reported that they expect their interns to have very strong or strong research, critical thinking, teamwork, and time management skills. Supervisors also reported low expectations for a number of soft skills. Thirty-one percent of internship supervisors expected their interns to have very strong or strong networking skills, and 38 percent expected very strong or strong writing, oral presentation, and career development skills.

**Figure 7: To complete the job well, how strong do you expect your intern(s) to be on the following skills?**

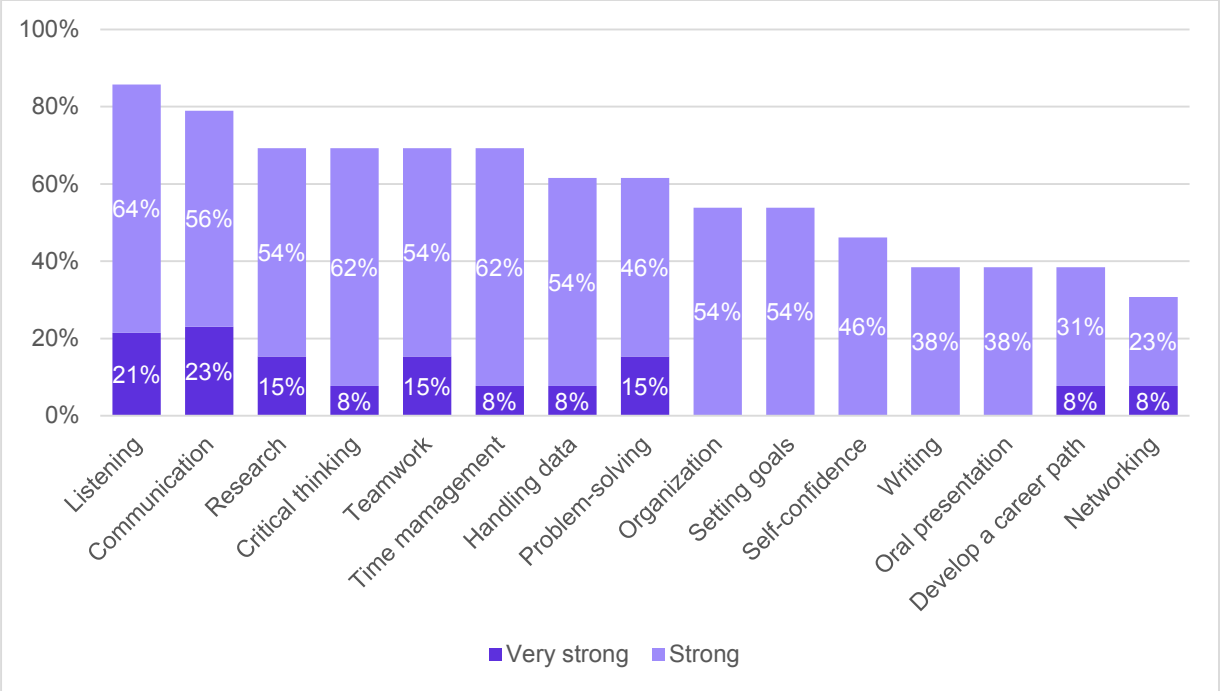
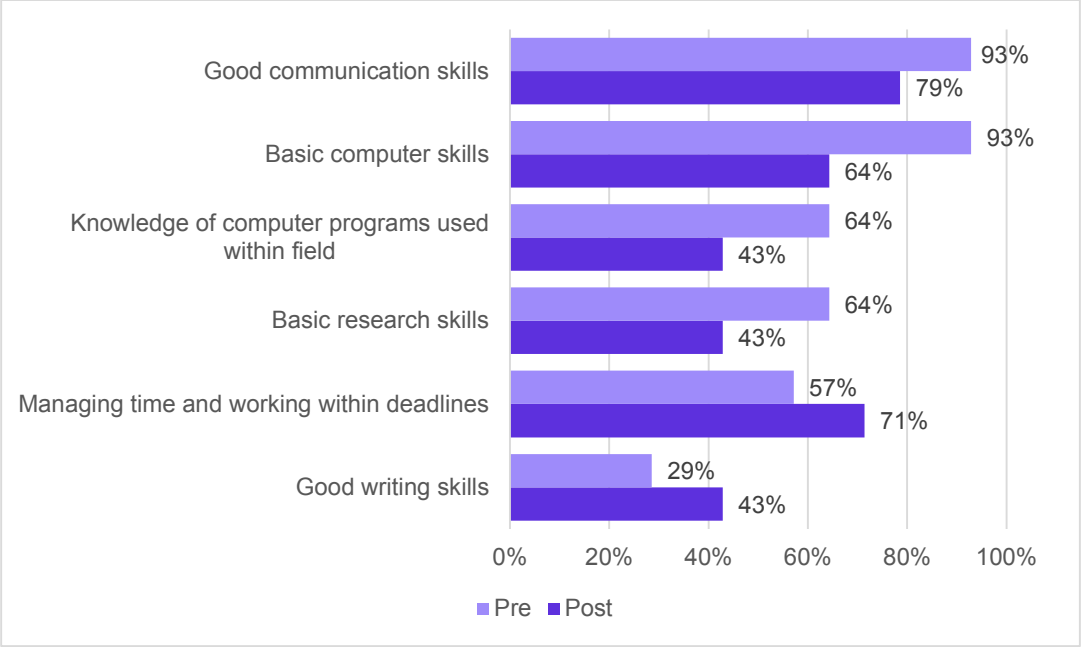



Figure 8 compares supervisors' expectations before the program with their reflections after the program. Supervisors indicated mixed expectations for their interns' working knowledge coming into the internship. Most supervisors thought it was necessary for their interns to arrive with good communication and basic computer skills (93 percent). However, after the program, only 79 percent of supervisors reported that good communication skills were necessary, and 64 percent reported the same of basic computer skills. Supervisors also reported that they believed knowledge of computer programs and basic research skills were necessary on the pre-survey (64 percent), however by the end of the program 43 percent of supervisors believed that these skills would be necessary for students to have coming into the internship. Conversely, 57 and 29 percent of supervisors reported on the pre-survey that they thought time management and good writing skills were necessary prerequisites, while more (71 and 43 percent, respectively) reported otherwise on the post-test.

**Figure 8: What skills do you think are necessary for an intern to have before he/she comes to this internship? (Check all that apply)**



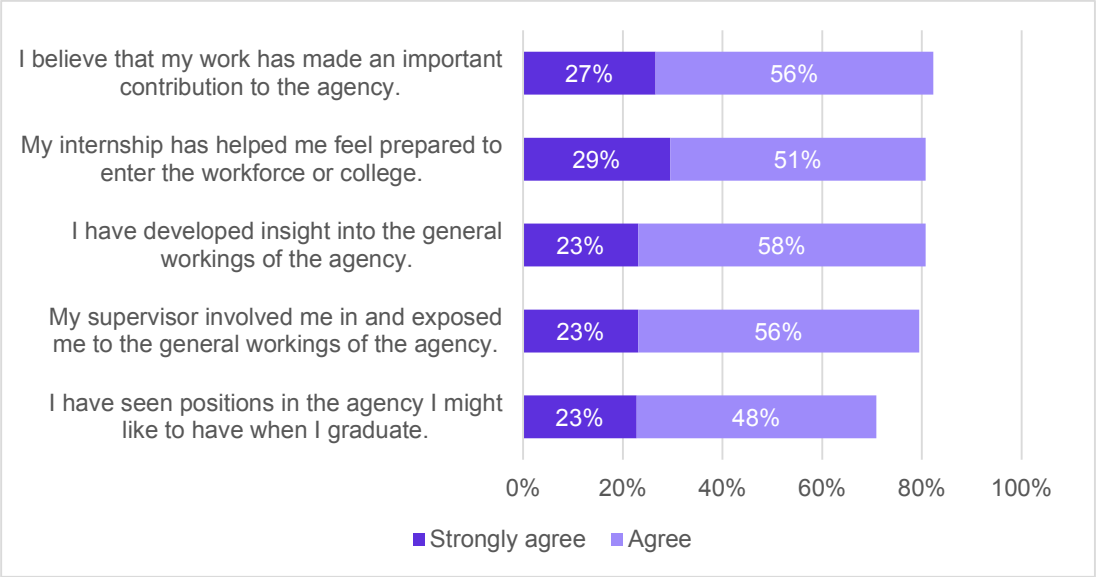

*On the supervisor post-survey, the conditional "Reflecting on your experience with your CTE Summer Scholars intern(s)" preceded the question.

### *Work Readiness and Career Development*

Supervisors were generally satisfied with their interns (Appendix E, Tables 7, 9, and 12). Fifty-seven percent of supervisors reported that their interns produced "excellent" work, based on his or her education level, and another 36 percent reported that the quality of the work was "good." Furthermore, 43 percent of supervisors indicated that their interns from CTE Summer Scholars were just as competent as other interns with similar education levels, and 36 percent reported that their CTE interns were even more competent. As such, 100 percent of internship supervisors reported that they would take another intern from the CTE Summer Scholars program, and 69 percent would offer employment to their interns from this summer if a permanent position was available.

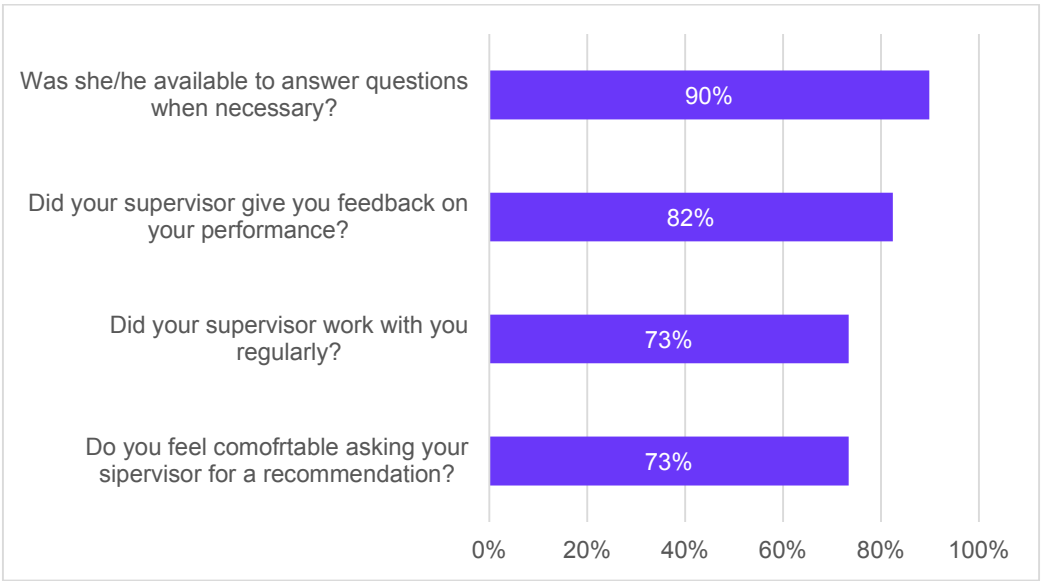
Most students found their internships valuable for learning about the workplace and potential career paths (Figure 9). Eighty-three percent of students strongly agree or agree that they made an important contribution to their agency. Similarly, 80 percent of students strongly agree or agree that their internship helped them feel prepared to enter the workforce or college, and that they were able to develop insight into the general workings of their agency. Students also reported that their supervisor involved them in and exposed them to the general workings of their agency (79 percent). Seventy-one percent of students strongly agree or agree that they saw positions at their internships they might like to have when they graduate. On a separate measure item, more than half (58 percent) of students reported that they strongly agree or agree that their internship helped them decide what career they are interested in.

**Figure 9: "How much do you agree or disagree with the following statements about your internship?"**



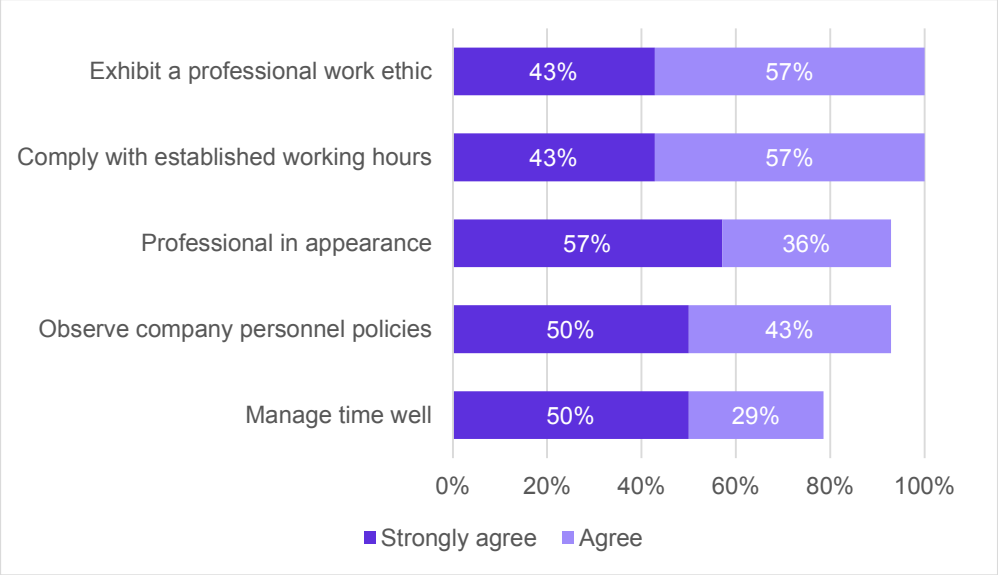

A majority of students indicated that they had positive relationships with their internship supervisors (Figure 10). Ninety percent of students answered "yes" to the question, "was she/he available to answer questions when necessary." Eighty-two percent of students reported that their supervisor gave feedback on their performance, and 73 percent answered "yes" when asked if their supervisor worked with them regularly. Lastly, 73 percent of students reported that they do feel comfortable asking their supervisor for a recommendation, although 23 percent of students reported that they were unsure whether they felt comfortable asking their supervisor for a recommendation.

**Figure 10: Student post-survey questions about their internship supervisors.**



In post-program surveys, supervisors were asked to report how well their CTE Summer Scholars interns completed the job using 21st century work readiness skills (Figure 11).

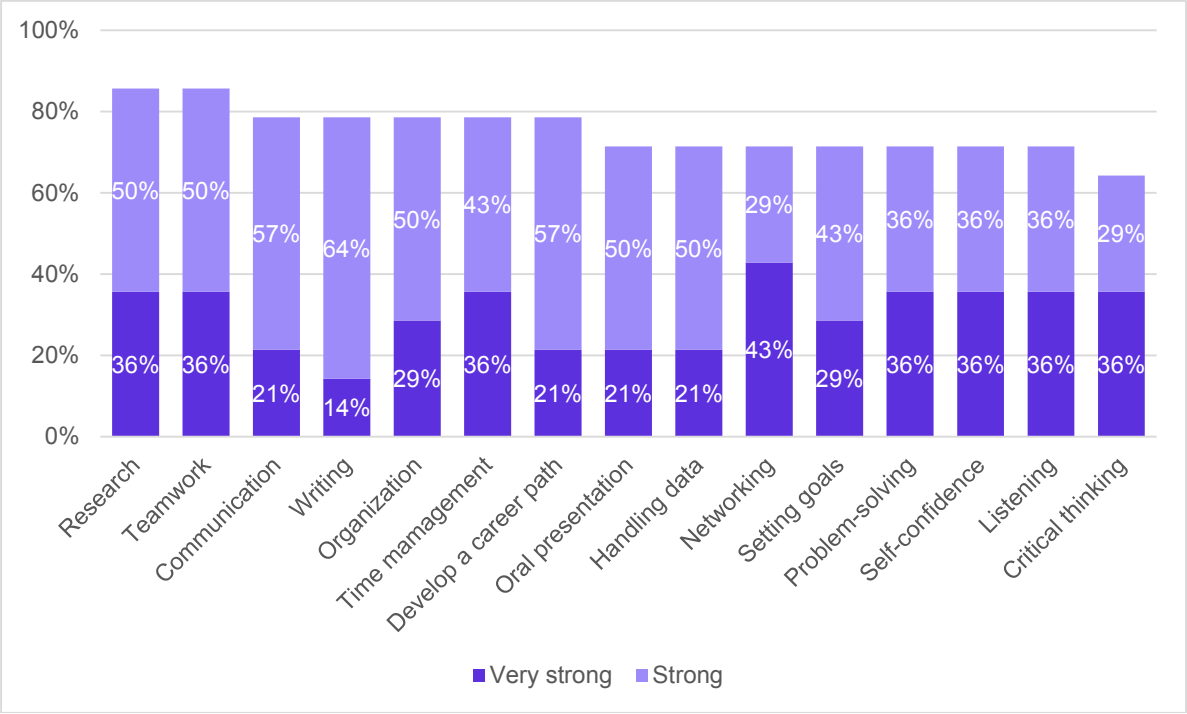
**Figure 11: Please rate the degree to which your CTE Summer Scholars intern(s) completed the job well with the following skills (selected questions):**




All supervisors who completed the survey reported that they strongly agree or agree that their interns worked well as a team player, exhibited a professional work ethic, and complied with established working hours. Further, almost all supervisors strongly agreed or agreed that their interns met all expectations, utilized current techniques, observed company personnel policies, applied knowledge of their field of study, were professional in appearance, responded well to supervisors, and exercised initiative and creativity. Supervisors also reported that they strongly agree or agree that interns produced work that was professional (86 percent), managed time well (79 percent), and were able to convey information to others (79 percent).

Moreover, internship supervisors indicated that they observed some improvements in their interns' soft skills (Figure 12).

**Figure 12: How much do you think your interns improve on the following skills over the six week internship?**




Eighty-six percent of supervisors reported seeing very strong or strong research and teamwork skills in their interns. Seventy-nine percent reported very strong or strong organization and time management skills, and 78 percent reported very strong or strong communication, writing, and career development skills. Many supervisors (71 percent) also indicated that their interns were very strong or strong oral presenters and problem-solvers, and that they possessed very strong or strong skills in self-confidence (72 percent), handling data (71 percent), and goal setting (72 percent). Lastly, 64 percent of supervisors reported that their interns had very strong or strong critical thinking skills by the end of the program.

Teachers reported growth in their students as a result of the internships.

> "I thought it was a fantastic six weeks that utilized the students' prior skills sets. It was also the first time many of my students had a chance to do real work in a workplace and I thought they got a great experience."

> "Everybody walked away with a very good exposure to what a work environment can be like. They also got a sense of the real variety of work places, because we talked about it. I also saw so much growth in my students… it was very fulfilling to see how much they got out of it."

Similarly, CTE staff report that feedback from individual supervisors on student interns has been positive:

> "Feedback from the supervisors has generally been very positive. Several said it was the best group of internships they've had yet. One site specifically said they wanted to send a

letter of recommendations for the students so they would have something in hand. So they did that on their own initiative. And many of them developed really strong relationships with the students and just spoke so highly of them."

Teachers also reported that some students' internships develop their specific skills, while others felt they did not.

> "Some [students] told me they felt they weren't being utilized fully or their supervisors didn't know what they would be doing that day."

> "It was mixed. Some kids had a great experience and learned a lot. And then I had other students where they were only filing papers for seven or eight hours a day. It was about half and half."

> "In terms of the placements, nine of my students were at one worksite and so I'm not sure if they got the same experience as some of my students where there were only two of them. I think their experience was a little richer (the two) because they were able to get more attention and more feedback."

### *Employer Recruitment*

This year CTE staff reported that recruiting host companies went much smoother than in previous years. The combination of returning program staff, returning host companies and a web-based recruitment process all contributed to recruiting host companies in advanced of the program's start.

Approximately 46 percent of supervisors reported that it was their first year participating in the CTE Summer Scholars program (Appendix E, Table 12). Thirty-six percent of supervisors were recruited directly by CTE Summer Scholars staff or heard about the program through word of mouth, respectively, and 21 percent were recruited by another person within their industry. Most internship sites hosted only one or two interns (57 percent), 36 percent hosted three or four interns, and seven percent hosted five or more.

According to data from the supervisor post-survey, internship sites were in a variety of fields such as media (36 percent), nonprofit (36 percent), small business (28 percent), advertising (21 percent), tech (12 percent), and government (seven percent) (Appendix E, Table 11).

Despite a much improved recruitment process, some program staff still suggest recruiting host companies even earlier, in order to better understand the student intern roles to make student recruit and student matching to internship sites more meaningful.

Mentors reported that a high-quality internship experience requires both preparing students well for the placement and ensuring a structured learning experience:

> "From my perspective, companies struggle with the babysitting element of internship programs. They don't want to spend the time explaining basic stuff. So the more prepared the students are the better. If you can guarantee that students know particular skills (especially computer science skills) and that they will be on time, then employers are more willing to do it."

> "If students are just assigned an internship, sometimes students can get really lost. Like I said it's hard sometime to make that work, some students admitted sometimes they didn't have enough to do on their internship so I think for those students I think the class part of it really structured things for them and grounded it for them."

### *Other Sessions*

The CTE Summer Scholars program includes two sessions for students at the beginning of the program to help them prepare for their internship and research project and one at the end of the program where students present their projects. Additionally, a speaker from Bank of America gave a guest lecture on financial literacy to students during class time toward the end of the program.

The CTE Summer Scholars program begins with a three-day work readiness boot camp in early July where students engaged in activities to prepare them to succeed on their internships. These activities include building skills in communication, team work and workplace etiquette. The boot camp also included activities designed to help student's clarify their career interests and build a plan to connect this year's internship experience to their long-term career goals. Fifty-four percent of students reported that the Work Readiness Boot Camp was very or somewhat helpful (Figure 2). Some students described what they valued about the Work Readiness Camp in their reflections:

> "In these three days we learned the proper ways to act in a working site. We learned all the way from dressing to lose our shyness. I am able to say that with this training I was able to lose some of my shyness and be able to talk out loud in front of people."

> "I feel the three day planning at Long Island City High School definitely helped me learn the ropes of how to behave and act in a working environment."

The majority of teachers thought the boot camp was helpful in preparing their students for the workplace. One teacher suggested:

> "Splitting up the kids into groups that are not from their same school….and really dive into what are the expectations for the first week of work, how should you dress, how do you speak to your boss – many have no exposure to this and this is their first job. And to get them out of their comfort zones so they're not talking to their own peers so much.... Splitting them up into groups with students from other schools could have also forced them to figure out ways to work with people that they don't know."

The first Bank of America Seminar occurred during the second week of the program and focused on students' selection and recruitment of a mentor to guide them in the development of their research projects. In addition to listening to guest speakers, students asked questions of potential mentors on youth unemployment and then met with mentors to determine the best match in terms of research and career interests. Sixty-two percent of students reported that the

first Bank of America seminar was very or somewhat helpful (Figure 2). One teacher noted that a lot of time was spent on choosing mentors.

> "We spent a lot of time at the beginning of the program picking a mentor. I think I would've preferred being assigned a mentor and spend more hands-on time developing the project with the mentor instead of developing a presentation to pick a mentor."

At the second and final seminar, students presented their research projects on youth employment to educators, employers, and policy-makers. Projects were displayed in a trade show format so that guests had the opportunity to visit many different projects and engage in extended question and answer sessions with the students. Students received rich feedback on their work and had the opportunity to make connections with a variety of adults. On the post-survey, 94 percent of students reported that the final Bank of America seminar and final presentations very much or somewhat helped their internship or future career (Figure 2). One teacher suggested that parents be included earlier in the day so they'd have a chance to watch the students present their projects to the other adult guests.

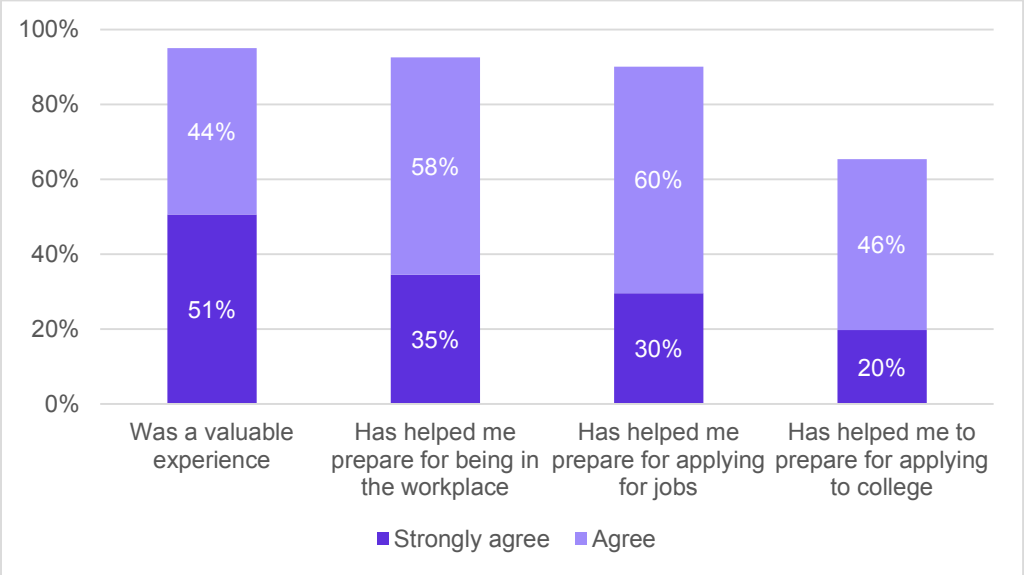
> "The students are super-proud of their accomplishments. The only regret I have is I wish the parents had had time at the Seminar on Friday to come and see the students present their projects to the guests. To have parents have a chance to watch their children interact with the adults, that needs to be added. But overall, I thought it worked. "

Finally, students in this year's CTE program received a guest lecture on financial literacy from a speaker from Bank of America. The financial literacy session was found to be very or somewhat helpful by 82 percent of students (Figure 2). All teachers interviewed reported the financial literacy presentation to be helpful, though some suggested it be scheduled for earlier in the summer.

### *Overall Program*

The CTE Summer Scholars program continues to improve over time. Both students and employers report a high degree of satisfaction with the program. This year, 99 percent of student post-survey respondents said that they would recommend the CTE Summer Scholars program to a classmate, reflecting high student satisfaction with the program. Students praised the CTE Summer Scholars program's ability to prepare them for the workplace and applying for jobs, as 93 and 90 percent of students reported that they strongly agree or agree with these sentiments, respectively (Figure 13). Further, 95 percent of students strongly agreed or agreed that CTE Summer Scholars was a valuable experience, while 66 percent strongly agreed or agreed that the program prepared them for applying to college.

**Figure 13: "The CTE Summer Scholars program:"**



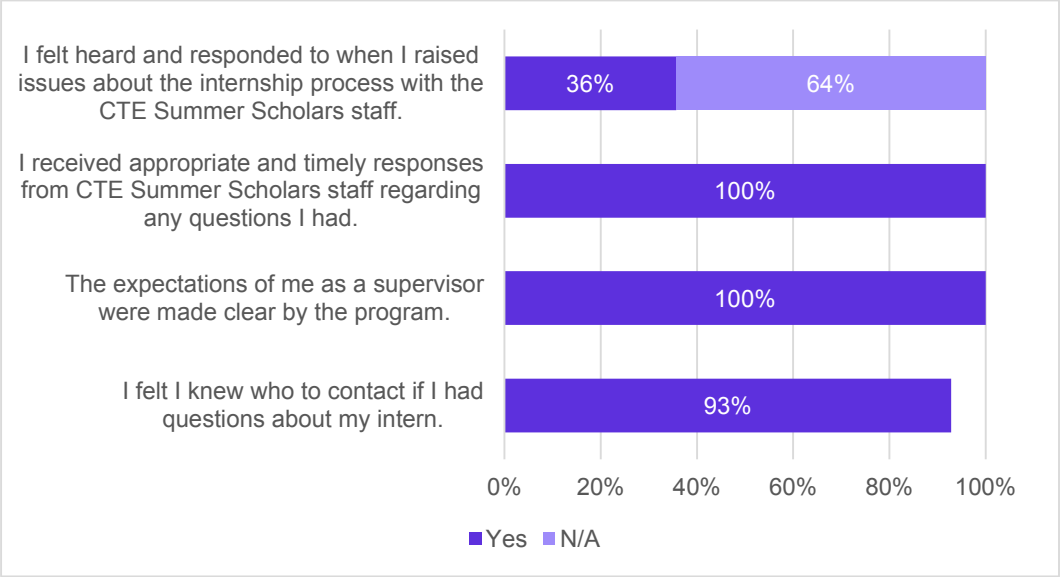

Student reflections corroborated survey results:

> "When I first joined this program I did not feel I was ready to get a job and become part of the work force, but after going through this entire program I definitely feel that I can absolutely get a job outside this program and in the real world. This program has taught me how to handle responsibilities and how to communicate with others to complete tasks in the work space. I feel the three day planning at Long Island City High School definitely helped me learn the ropes of how to behave and act in a working environment."

Supervisors reported satisfaction with their interns (Appendix E, Tables 7, 9, and 12). Fifty-seven percent of supervisors reported "excellent" intern work quality, based on his or her education level, and another 36 percent reported that the quality of the work was "good." Furthermore, 43 percent of supervisors indicated that their interns from CTE Summer Scholars were just as competent as other interns with similar education levels, and 36 percent reported that their CTE interns were even more competent. As such, all internship supervisors surveyed reported that they would take another intern from the CTE Summer Scholars program, and 69 percent would offer employment to their interns from this summer if a permanent position was available.

Supervisors were also satisfied with the process and logistics of the CTE Summer Scholars program itself (Figure 14). All supervisors surveyed communicated that the expectations of them were made clear by the program, and that they received appropriate and timely responses from staff regarding any questions they had, respectively. Further, all supervisors who answered the survey and raised issues about the internship process with staff said they felt heard and responded to, and 93 percent indicated that they knew who to contact if they had any questions about their intern.

**Figure 14: Program Communication.**




Supervisors indicated that they received an array of support from CTE Summer Scholars staff (Appendix E, Table 8). All supervisors surveyed reported that worksite monitors visited their agencies and 79 percent reported that staff was available to answer questions throughout the six week program. Additionally, 71 percent reported contact from program staff and 43 percent reported that they received support on the purpose of the internship. Only 29 percent, however, said they received training before the arrival of their interns. None of the supervisors who responded to the post-survey attended the workshop for internship supervisors, however, 14 percent reported that someone else from their organization did attend. Twenty-nine percent were unaware that there was a workshop provided for internship supervisors.

The majority of teachers interviewed said they would consider working in the program next summer. One teacher explains her reasons:

> "I also saw so much growth in my students. This is the first summer I opted to work and it was very fulfilling to see how much they got out of it….I would because of how much I've seen the students walk away with from the opportunity."

Teachers and mentors reported that the CTE office staff were responsive and provided for all their needs.

> "I got a lot of help from the program office, if I needed any help or didn't understand what was required they would send in a site liaison who would come in and help me teach the lesson as well as provide me with laptops and extra paper, handouts, and supplies if we needed."

CTE staff members interviewed agreed that now that the project component of the curriculum has been refined, staff should have more time to engage and recruit schools, students, and employers earlier in the school year. Providing a clear and detailed curriculum in advance may facilitate the process of engagement and recruitment.

> "One [suggestion for next year] would be to…[not only] start producing materials [earlier] but even earlier engagement of the schools and the teachers so that they really have a voice in that planning process."

> "The systems are already created with all of the things that don't change- such as the school agreements, the interview piece, the host recruitment, the website is user-friendly and will help us recruit and make good matches for the students. If we use this time now to make sure all those things are in place, then the curriculum piece that was added this year would probably run a lot smoother."

Program staff suggested building a program advisory board comprised of educators and employers to help develop and sustain student research projects to continue to improve the rigor and relevance of the program.

> "Having some sort of year-round support to continuously engage the community and to build on the youth think tank idea. Developing an advisory board that has input into this that includes both schools and industry would help rocket the program to a level where it's replicable and has presence and is really contributing to the conversation about youth employment needs and not just a one-off 'hey we gave the kids an internship for the summer.'"

Additionally, some of the mentors we spoke with suggested the program consider the need to stay in touch with and utilize CTE Summer Scholars' alumni.

> "I've always wondered about what happens to these kids later on? The CTE alumni. I wonder what happened to these kids that came through here. They're going to be in college now and maybe they're looking for full-time jobs. How can we stay connected with them?"

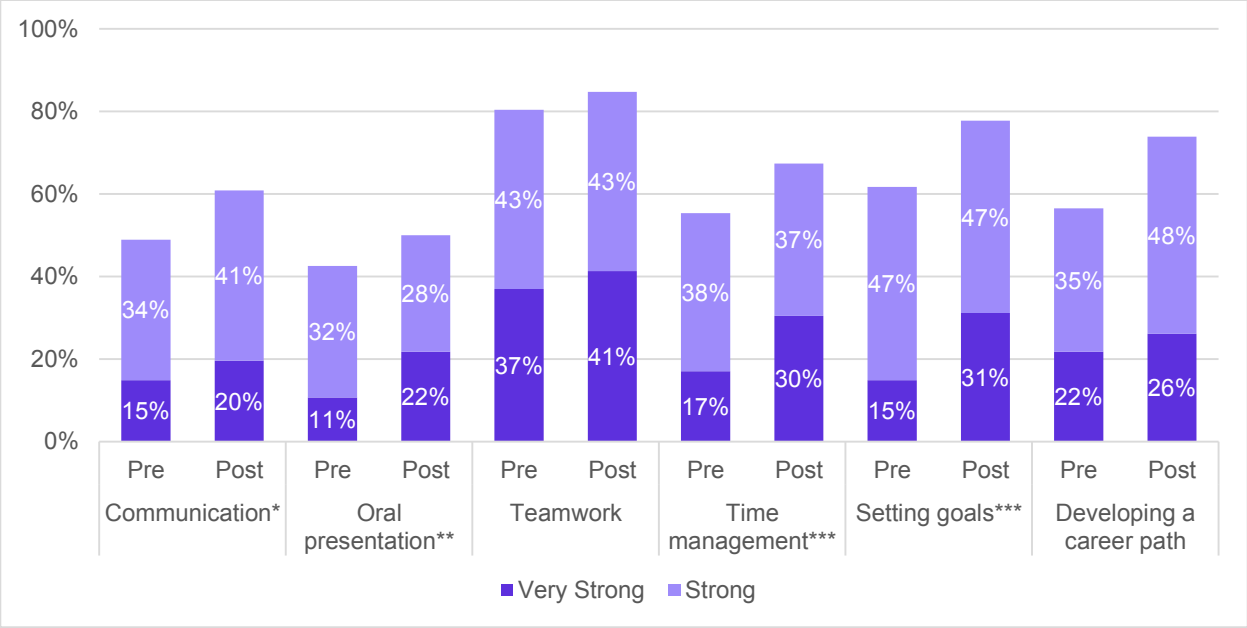
Some logistical challenges remain for the program. For classes not working in their home schools, issues of printing and production of project materials became an issue toward the end of the program. Additionally, managing the paperwork remains a challenge for the small number of administrators and teachers involved in the program.

### *Pre/Post Comparison of Student Survey Responses*

IESP surveyed students at the beginning and end of the CTE Summer Scholars program to measure their cognitive and non-cognitive growth. Seventy-six students completed the pre-test and 82 student completed the post-test. Students were asked to create a unique identification code that was used to match the pre- and post- surveys. The analysis below is based on 47 matched surveys. Students were asked questions about perceptions of their own soft skills, self-efficacy, career competencies, occupational engagement, and career goals. This year, all statistically significant student growth was positive and occurred mostly in the soft skills, career competencies, and occupational engagement measurements. Select results are presented below, and tables displaying all results can be found in Appendices A and B.

Improvements in students' perceptions of their soft skills were observed (Figure 15). Students reported the greatest improvement in their time management and goal setting skills ($p < 0.001$). On the pre-test, 55 percent of students reported very strong or strong time management skills, while 67 percent of the same students reported this on the post-test. The measure item "setting goals" also increased, as 63 percent of students reported very strong or strong goal setting skills on the pre-test, and 78 percent on the post-test. Students' oral presentation skills also increased significantly; 43 percent of students reported very strong or strong oral presentation abilities on the pre-test, and 50 percent on the post-test ($p < 0.01$).

**Figure 15: Soft Skills. "How would you rate yourself on each of the following skills?"**

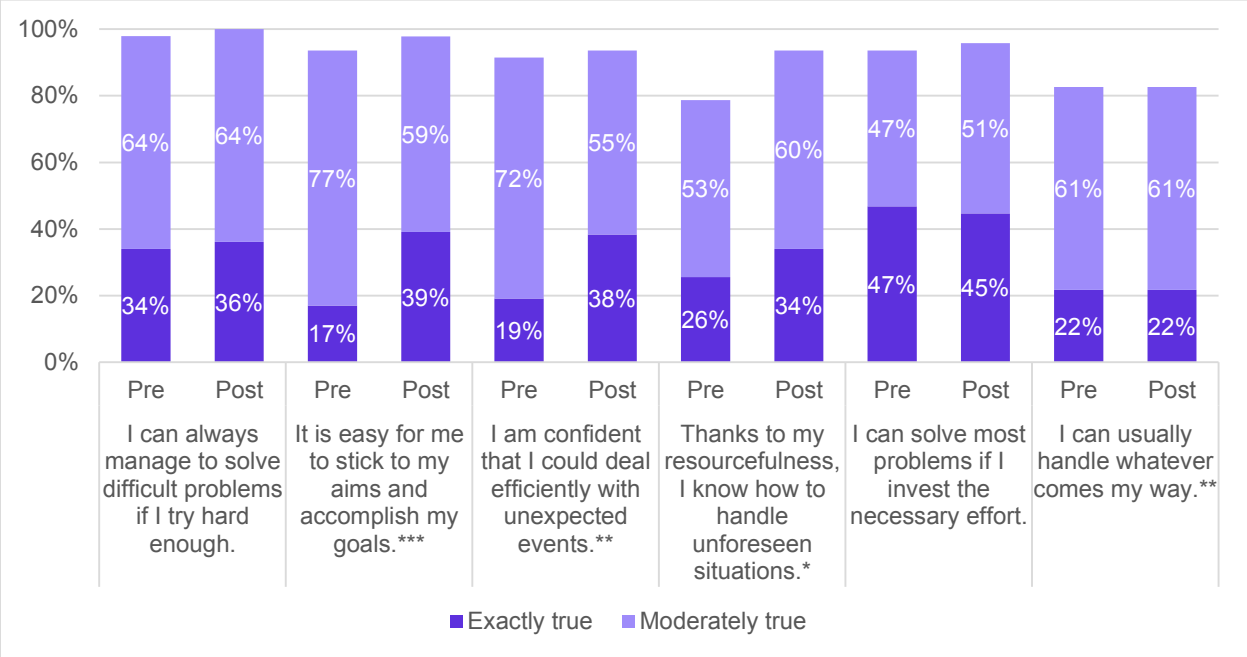



*p < 0.05, ** p < 0.01, *** p < 0.001

Significant differences were also found for communication skills -- 49 percent of students reported very strong or strong communication skills on the pre-test, and 61 percent on the post-test ($p < 0.05$). While not statistically significant, gains were observed in students' abilities to work on a team and develop a career path. On the pre-test, 80 percent of students reported very strong or strong teamwork skills, as did 84 percent on the post-test. Students reported greater confidence in their ability to develop a career path at the end of the summer; 74 percent of students reported very strong or strong skills in this category on the post-test compared to 57 percent on the pre-test.

Although already high on the pre-test, we note several statistically significant changes on the self-efficacy questions (Figure 16). On the item "it is easy for me to stick to my aims and accomplish my goals," 94 percent of students reported that this statement is exactly or moderately true of them on the pre-test and 98 percent on the post-test ($p < 0.001$). Also significant, student responses of exactly or moderately true for the item "I am confident that I could deal efficiently with unexpected events" increased from 91 percent to 93 percent ($p < 0.01$). For these two items, more than twice as many students reported that this would be "exactly true" of them at the end of the program compared to results on the pre-test.

**Figure 16: Self-Efficacy. "How true are each of the following statements?" (selected questions)**

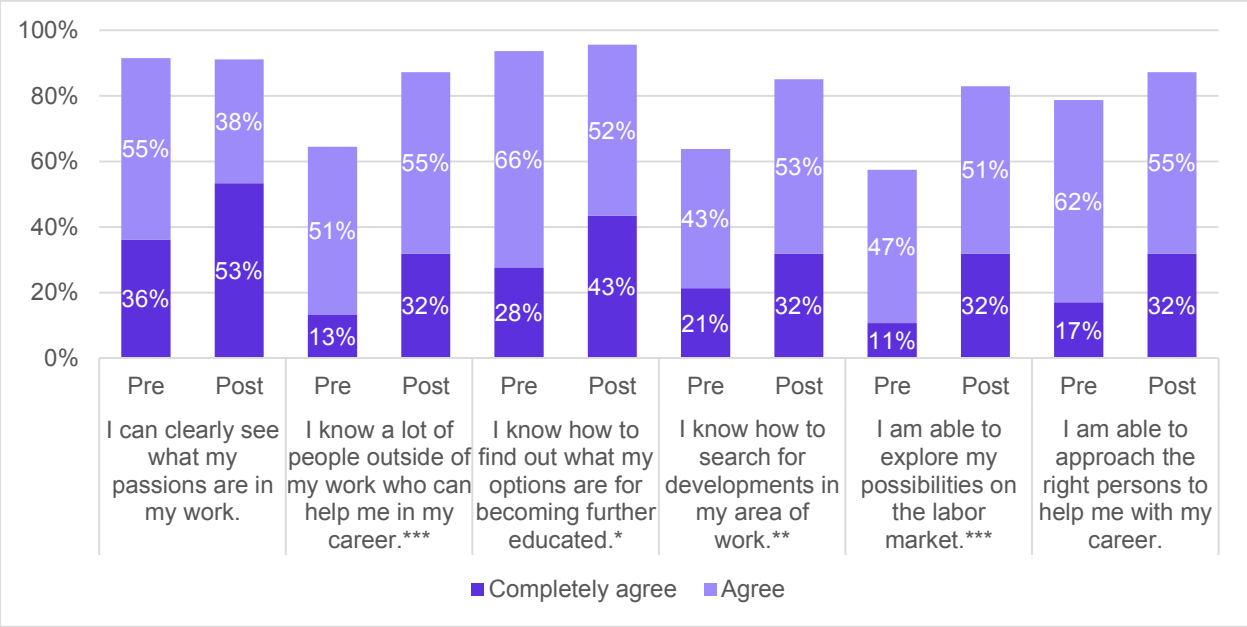



*p < 0.05, ** p < 0.01, *** p < 0.001

Students reported greater confidence in their ability to handle unforeseen situations with their resourcefulness; 79 percent of students reported that this was exactly or moderately true of them on the pre-test, growing to 94 percent on the post-test ($p < 0.05$). Two other measures, although not statistically significant, also increased slightly; students reported combined scores of 98 and 94 percent on the pre-test for the items "I can always manage to solve difficult problems if I try hard enough" and "I can solve most problems if I invest the necessary effort," respectively, increasing slightly to 100 and 96 percent on the post-test.

Results indicate that CTE Summer Scholars helped students improve their career competencies, particularly those related to networking (Figure 17). For the item "I know a lot of people outside of my work who can help me in my career" 64 percent of students completely agreed or agreed on the pre-test, and 87 percent on the post-test ($p < 0.001$). For "I am able to explore my possibilities on the labor market," 58 percent of students completely agreed or agreed on the pre-test, and 83 percent on the post-test ($p < 0.001$). Again, twice as many students reported "completely agree" on each of these measurements on the post-test than on the pre-test. Eighty-five percent of students on the post-test completely agreed or agreed that they know how to search for developments in their area of work compared to 64 percent on the pre-test ($p < 0.01$). Students also demonstrated improvement in their ability to find out what options were available to them for becoming further educated, as 96 percent of students completely agreed or agreed on the post-test compared to 94 percent on the pre-test, and 15 percent more indicated that they completely agree ($p < 0.05$).

**Figure 17: Career Competencies. "How much do you agree or disagree with the following statements?" (selected questions)**

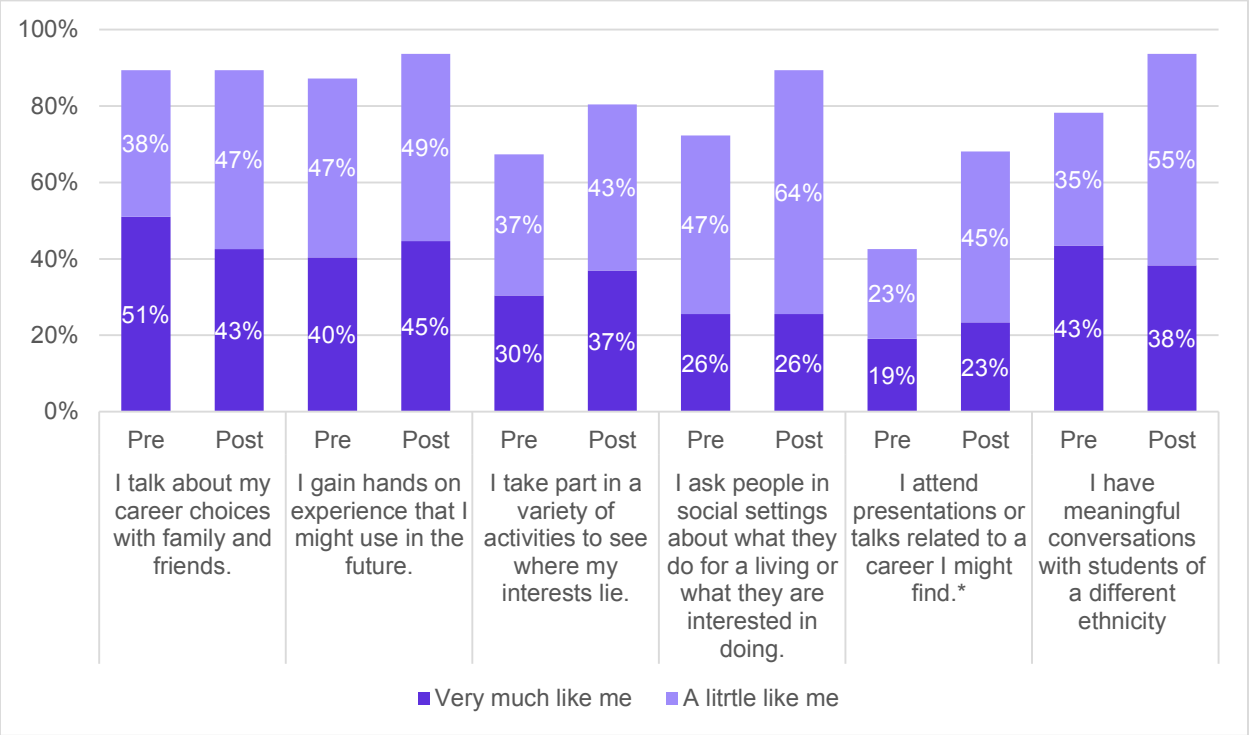



*p < 0.05, ** p < 0.01, *** p < 0.001

More students also reported that they completely agree or agree that they are able to approach the right persons to help them with their careers (87 percent post versus 79 percent on the pre-test), and the same number of students (91 percent) indicated that they agree or completely agree that they can clearly see what their passions are in their work on both the pre and post-test. While these two items were not statistically significant, a higher percentage of students reported "completely agree" on the post-test than on the pre-test, indicating greater student confidence in their career competencies.

Only one of the occupational engagement constructs was statistically significant in the pre-/post analysis. (Figure 18). On the pre-test, 42 percent students reported that it would be very much like them or a little like them to attend presentations or talks related to a career they might find interesting, and on the post-test, 68 percent of students reported this degree of engagement ($p < 0.05$). Results for other measurements indicated mostly positive changes, albeit without statistical significance. For example, 93 percent of students reported that it was very much or a little like them to have meaningful conversations with students of a difference ethnicity after CTE Summer Scholars compared to 78 percent at the work readiness camp. More students reported that it would be very much or a little like them to gain hands on experience that they might use in the future on the post-test than on the pre-test (94 vs 87 percent), and positive differences were also observed for the measurement "I ask people in social settings about what they do for a living or what they are interested in doing" (90 vs 73 percent).

**Figure 18: Occupational Engagement. "How well does each statement describe you?" (selected questions)**

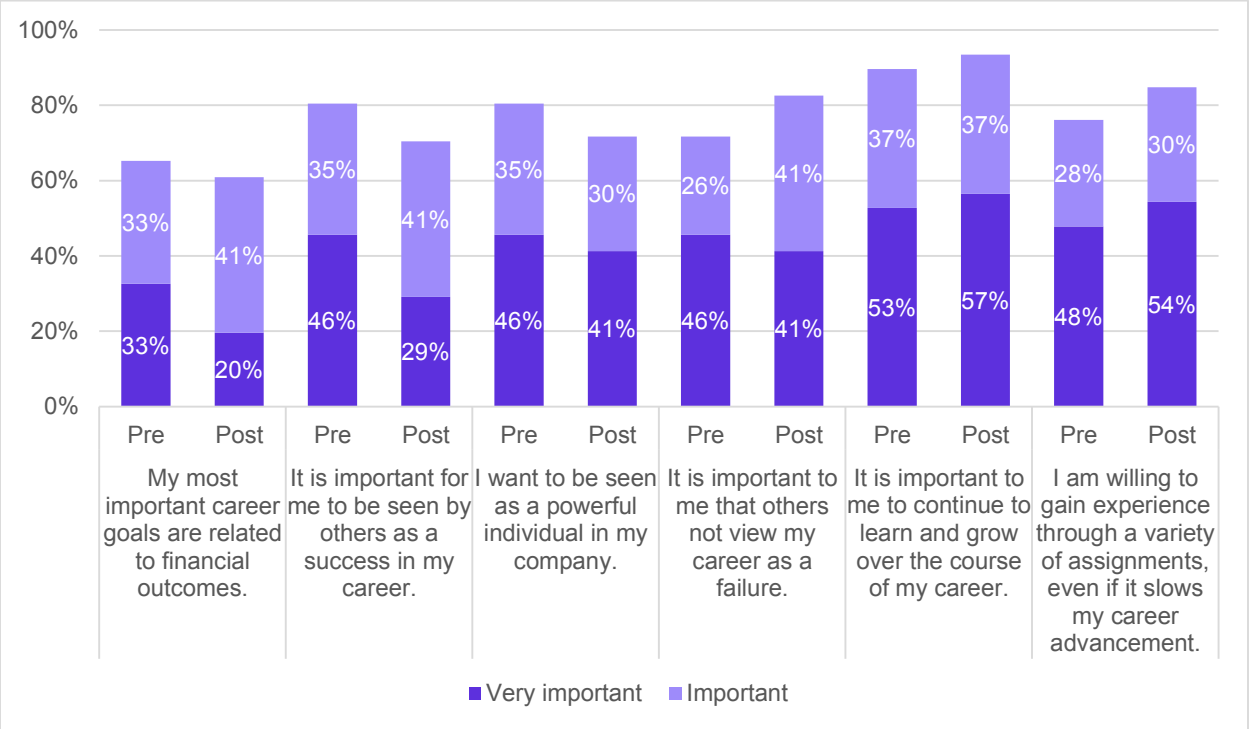



*p < 0.05, ** p < 0.01, *** p < 0.001

Further, 67 percent of students on the pre-test reported that it was very much or a little like them to take part in a variety of activities to see where their interested lay, while 80 percent reported such on the post-test. Students indicated that they were just as likely to talk about their career choices with family and friends after the CTE Summer Scholars program as when they entered, with 89 percent of students reporting it would be very much or a little like them on both the pre- and post-test.

Overall, results indicate a mix of positive and negative changes between the pre- and post-test for the career goals construct, with no statistically significant differences (Figure 19). Students exhibited the most advancement on measures related to career growth and success. Compared to results on the pre-test, more students reported on the post-test that it is very important or important that they continue to learn and grow over the course of their careers (94 vs 90 percent), they are willing to gain experience through a wide variety of jobs and work assignments, even if it slows down their "up-ward" career advancement (84 vs 76 percent), and others not view their career as a failure" (82 vs 72 percent).

**Figure 19: Career Goals. "How important are the following statements to you?" (selected questions)**




*p < 0.05, ** p < 0.01, *** p < 0.001

Though none were significant, students showed a lower degree of importance overall from the pre- to post-test for measurement items related to power. On the pre-test, more students reported that it was very important or important than on the post-test to be seen as a powerful individual in their company (81 vs 71 percent), that it is important for them to be seen by others as a success in their careers (81 vs 70 percent), and that their most important career goals are related to financial outcomes (66 vs 61 percent). None of these changes were statistically significant, however.

# III. Discussion

## *Summary*

In its fourth year, CTE Summer Scholars is a robust program. With high student satisfaction, the program scaffolds work readiness skills in its students through the curriculum, exposes them to the workplace through meaningful internships, and inspires them through mentorship with industry leaders. In particular, the mentorship component, new to the program this year, successfully addressed a core issue seen in previous years: linking the internship to the classroom. While there is still room for improvement in this area, the mentors encouraged

students to reflect on their internship experiences and helped them to see the value their present work will have for their future careers.

Teachers in particular observed the value the mentors provided for their students, particularly in helping the students develop their projects. The mentors carefully guided the students' thought processes, making sure that they understood the multitude of facets that go into producing a project as complex as the one asked of students this year. Classroom observers watched the students grow as mentors helped craft emails to reach out to companies, simultaneously bolstering the students' communication and networking skills, self-confidence, and self-efficacy. And, by bringing the stories of their careers into the classroom, the mentors also helped students see how their time in the program will ultimately help form their career trajectories.

Internship supervisors were impressed with the students' abilities, and some even reported that their interns from CTE Summer Scholars program were better than others they have had with similar education levels. More than in previous years, supervisors reported that the communication with staff and program logistics ran smoothly. Unfortunately, most supervisors surveyed did not receive proper training before the arrival of the interns. As a result, some students reported that they spent time at their internships on the computer, doing clerical work, or other relatively meaningless work. Teachers also voiced their students' complaints, and expressed additional concerns about too many students working at the same agencies. A robust training, or at least some sort of guide or curriculum, for internship supervisors, along with a wider array of host agencies, could help mitigate these issues in future years.

Another area where CTE Summer Scholars can grow the most is in continuity. With the curriculum under constant revision, it is hard to build on the pillars of a successful curriculum from week to week and year to year. Teachers reported feeling frustrated with all of the changes, and wished that a sturdy, adaptable curriculum had been in place weeks before the program started. Year over year, the program has also experienced high staff and teacher turnover, limiting its ability to build a fluid, adaptable curriculum. Despite this, the CTE Summer Scholars program has the infrastructure to build a continuous curriculum; this year's successful mentorship addition, the final project, and an improved student internship experience are a strong foundation to build off of.

CTE Summer Scholars stakeholders feel that the program now has the capacity to expand to a much larger number of students. Teachers, staff, and mentors identified many areas of growth for the program in their interviews. Combined with our survey and observation data, we have identified CTE Summer Scholar's major strengths and weaknesses. In the next two section we discuss some of the program's areas of strength and provide a number of recommendations to further improve and streamline the program for future years.

## *Study Limitations*

There are some limitations in our evaluation. First, unlike in previous years, we did not do regular classroom observations. Most of our qualitative analysis this year focused on the new mentorship component. This limited our ability to fully understand the implementation and adaptation of the curriculum in the classroom. That being said, teachers are in the classroom with the students using the curriculum every day. We believe that gaining insight from teachers would help bolster any modifications to the curriculum (see recommendations below).

Second, we again had difficulty matching all students on the pre-and post-surveys, matching only 46 students (62 percent). We believe that the identification method used to uniquely identify students was inconsistently applied by students. Though some students may not have answered both a pre and post-survey, we believe we could have still matched a higher percentage. In future evaluations, we will use a better method to ensure that we can match more students from the pre- to post-survey.

Third, only 14 supervisors responded to the pre- and post-surveys. While last year we only administered a post-survey, we had 27 respondents. This year's low response rate could be attributed to sending two surveys; supervisors who completed the first survey may not have seen a need to complete the second. In future years, our emails will stress the importance of these surveys, and CTE program staff could also reach out to supervisors to ensure that they completed the surveys. Additionally, to learn more about the experiences of supervisors, in future work researchers would benefit from supplementing the internship supervisor survey with interviews.

### *Program Strengths*

**The addition of industry mentors to the program this year was beneficial to both teachers and students.** Each school was assigned a mentor from a specific industry to help students and teachers develop their research projects and presentations. Approximately 90 percent of students reported that the mentor site visits were helpful. Both teachers and students found the mentor's perspective on youth employment in the workplace and feedback on their projects insightful and informative. Mentors also found participation in the program rewarding and the vast majority said they would be willing to participate in the future.

**The newly designed research project has increased the academic rigor of student time spent in the classroom.** A much larger proportion of class time was spent on the project this year. This year's research project asked students to address a challenging policy question using a broad range of critical thinking and presentation skills. The project required students to collaborate with each other, manage their own time, and explain and defend a clear proposal to policy-makers. Students received feedback from teachers, mentors and each other throughout the process.

**Final project presentations continue to be a successful culmination to the program.** On Ninety-four percent of students reported that the final presentations very much or somewhat helped their internship or future career. Mentors, teachers and CTE staff all reported satisfaction with the quality of student presentations and felt students were able to articulately communicate their ideas. Guests who left comments on the project presentations found them to be both informative and inspiring.

**The three-day Work Readiness Boot Camp was considered effective by the majority of teachers**. Teachers reported that the three-day boot camp created a foundation for the career exploration activities students did later in class. Moreover, both teachers and students reported that many students had no knowledge of what behavior would be expected of them in their internships and that the boot camp prepared them effectively for the workplace.

**The program continues to recruit qualified CTE teachers with relevant experience in the field.** All teachers interviewed had had prior experience in private industry prior to going into teaching and were actively involved in work-based learning programs in their schools.

**The CTE Summer Scholars Program significantly increases students' self-efficacy, career competencies, and work readiness skills.** The combination of the curriculum, internship experiences, and mentorship effectively build the work readiness skills the program is designed to scaffold. More students reported after the program that it was true of them to exhibit behavioral traits reflective of self-efficacy, or one's confidence to in his or her ability to use certain skills to achieve a specific goal. Students also exhibited a greater degree of confidence in certain career competencies and work readiness skills such as oral presentation, networking, and time management.

**The matching of students to appropriate work placements continues to improve.** CTE staff report that the match between the host companies and CTE students' fields of study was closer than in previous years. In matching students to work placements, CTE staff took into consideration student interests, the job description, where the student lived and the location of the job. Earlier host recruitment also facilitated better student matching, as no students were placed in internships after the program began.

**Internship supervisors report that their CTE Summer Scholars interns exhibited professionalism.** Likely due to the emphasis on professionalism in the curriculum, all supervisors who completed the post-survey strongly agree or agree that their interns exhibited a professional work ethic and complied with established working hours. Interns also received high praise for other skills related to professionalism from their supervisors.

**The recruitment process of host companies ran smoother than in past years.** A majority of host companies this year were returning host companies. Moreover, returning program staff were able to contact and recruit host companies more easily, and a web-based registration platform facilitated a smoother employer recruitment process. As a result, all host companies were recruited about three weeks before the program began.

**Recruitment of students and schools also ran smoother than in the past.** The continuity of program staff helped facilitate a quicker selection of appropriate schools. Unlike past years, all participating schools were able to recruit a full cohort of students so that all students worked with teachers from their school. This increased a sense of accountability and focus among students. CTE staff were also able to provide an orientation to the program for both students and parents at each school. This increased excitement and support for the program within each school.

**Teachers, mentors, and supervisors consistently reported that the CTE Office staff responded to all their program needs.** Teachers, especially those who were not able to work in their home buildings, reported that CTE staff provided them with the supplies they needed (such as laptops, copies of handouts, and extra paper) in a timely manner. Turnover of some junior staff members in the middle of the summer did not affect the delivery of services.

**Students valued the CTE Summer Scholars Program.** Ninety-nine percent of students said that they would recommend CTE Summer Scholars to a classmate, and 95 percent agreed that

it was a valuable experience.  Over 90 percent of students also reported that the program helped to prepare them for applying to jobs and the future workplace.

## *Recommendations*

Below are specific recommendations to the CTE Summer Scholars Program in the areas of classroom experiences, internship placements, the Bank of America Seminars, and the program overall.

### *Curriculum*

This year the curriculum was expanded to include both a more challenging research project and the integration of mentors into classroom activities. Next year's curriculum should build on this foundation and be shared with participating teachers and mentors prior to the start of the program.

1. The details of the curriculum should be shared in advance with participating teachers for feedback and/or adaptations. Inclusion of teachers in the development and/or adaptation of the curriculum may improve understanding and support of the goals of the curriculum.

2. Class time should be added to the curriculum for students to debrief their workplace experiences.

3. Maintain a consistent cohort of teachers to build familiarity and expertise in teaching the program.

### *Research Project*

The student research project was overhauled this year to increase its rigor and relevance. Next year's project should build on and refine this year's project, with the details shared in advance with participating teachers and mentors for feedback. This should improve lesson planning and reduce the sense of "time crunch" on the project for teachers and students.

4. Specify in advance the details of the research project, including how they will be presented.

5. Articulate the direct connections between the research project and the specific workplace experiences of students to enhance the sense of relevance for students.

6. Develop an advisory board of educators and employers to sustain the program and support the launch of student project proposals.

### *Mentor Role*

The addition of industry mentors to the program this year represented a new addition to the curriculum. While the mentors were a highly successful addition, the details of their role only evolved over the course of the program. The specific functions of their role in the curriculum and project should be spelled out in more detail, ideally with input from both teachers and this year's and next year's mentors.

7. The role of the mentors in the program and the project should be specified in detail in advance.

8. Consider the tradeoff between assigning mentors to classes so there is more time for the mentors to help students or continuing to allow mentors to choose their class.

9. Mentor time in the classroom should be re-allocated to the end of the program when students and teachers need the most help finalizing projects.

10. Class time should include opportunities for mentors to provide feedback on issues students are encountering in the workplace.

11. Add more opportunities for mentors to discuss their program experiences with each other.

12. More mentors should be recruited to the program so that each school has multiple mentors. Ideally each project group would have their own mentor.

13. Create a channel of communication between mentors and students outside of the classroom, such as via email.

### *Internships*

Internships were in a wide range of industries with the plurality in the Information Technology sector**.** While the range of placements has improved, the variety of sectors involved should continue to expand to meet the diversity of student interests. The connections of mentors, teachers, and CTE program allies should be utilized to widen the employer recruitment process.

Matching students with worthwhile internships is a delicate art; a more student-centric matching process would help students receive a more suitable placement. Further, 30 percent of students reported that they were working on a computer or doing clerical work while at their internships rather than producing more meaningful work that they could take with them to the workplace in the future. Staff should continue to monitor placements to ensure a high-quality internship experience for all students.

14. Create a role for teachers and mentors to provide feedback on the matching of students to host companies.

15. Communicate with internship hosts before interns are matched with sites to ensure that the interns will be completing meaningful work.

16. Ensure that all internship supervisors receive training before the interns arrive.

17. Add a program event where internship supervisors and mentors discuss best practices and new ideas for internship activities.

18. Continue to broaden the range of industries from which host companies are drawn to improve the match between student interests and employers' needs.

19. Develop on-the-job lesson plans that internship supervisors can access electronically for times when students experience down time.

20. Continue to stress to participants the importance of a work experience so that even students who feel their specific skills are not being used understand the value of an internship for gaining more general career readiness and workplace skills.

### *Seminars*

The seminars provide students with key tools and experience to help them succeed in their internships as well as in their future careers. Supervisors reported that their interns needed to arrive with better communication skills. Students perceived the least value from the Work Readiness Boot Camp compared to other sessions, perhaps a missed opportunity to bolster their communication skills. While the final seminar gave students an excellent opportunity to practice their oral presentation skills by articulating their projects to policy makers, teachers wished that students had the opportunity to share this work with their families and other community members.

21. During role-play activities at the Work Readiness Boot Camp, consistently mix students across schools so they gain experience communicating and negotiating with people they don't know.

22. Revamp the Work Readiness Boot Camp to meet the students at their level. While popular with teachers and staff because of the tools and knowledge it presents students, the information should be conveyed in a manner that urban high school students will understand and appreciate.

23. Match mentors to schools in advance before the first seminar so that more time at the seminar can be dedicated to mentors working with students on their projects.

24. At the final seminar, invite parents to observe student presentations along with the other adult guests and members of the community, so they have the opportunity to watch their children articulate their ideas in front of policy-makers.

25. The guest lecture on financial literacy should be moved toward the beginning of the summer to maximize time for presentation preparation at the end of the program.

### *Overall Program*

The CTE Summer Scholars program continues to improve over time. Both students and employers report a high degree of satisfaction with the program. Teachers, mentors, and supervisors reported that the CTE office staff consistently responded to their program needs**.** CTE staff can build on this strong foundation by engaging schools, students, and employers earlier in the school year, refining administrative procedures, and growing support for the program by establishing an advisory board and an alumni network.

26. Staff should recruit schools, students, and employers even earlier in the next school year.

27. To the extent possible, funding should be distributed earlier in the school year to speed-up the hiring of staff and hasten the recruitment of schools, students, and host companies.

28. Continue to streamline and improve the collection of all administrative paperwork necessary for the timely payment of staff and students.

29. Continue to ensure that classes unable to work in their home schools have equal access to the equipment and materials necessary to produce high quality projects and presentations.

30. Staff should stay in touch with CTE Summer Scholar's alumni electronically through a newsletter, a listserv, or a Facebook group.

# APPENDICES

## Student Post-Survey Results by Grade and School

***Methodology:*** We analyzed results from the student post-survey by students' self-reported grade and school, and used one-way analyses of variance to determine if there were any statistically significant differences between grades and schools.

***Major findings:*** Few significant differences were found between grade levels, however on average, seniors reported higher degrees of confidence in their cognitive and non-cognitive skills and found the mentorship component more helpful. Juniors were more likely to report greater satisfaction with their internship experiences. More significant differences were found between schools. Students from Urban Assembly reported the least helpful mentorship experience, and students from the Academy for Software Engineering, Bayside, and Urban Assembly were more likely to report lower degrees of confidence in their cognitive and non-cognitive skills on the post-test.

Appendix A

**Table A1: Soft Skills. "How would you rate yourself on each of the following skills?"**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| Listening | 77.27 | 86.44 | NS | 100 | 75 | 61.54 | 87.6 | 87.5 | 100 | p = 0.022 |
| Communication | 72.73 | 61.01 | NS | 90.91 | 62.5 | 31.49 | 68.75 | 56.25 | 88.89 | NS |
| Writing | 45.46 | 64.41 | NS | 90.91 | 56.25 | 53.84 | 50 | 62.50 | 88.88 | NS |
| Oral Presentation | 50 | 54.24 | NS | 81.82 | 62.5 | 46.15 | 56.25 | 37.5 | 33.33 | NS |
| Research | 59.09 | 66.1 | NS | 90.91 | 50 | 53.84 | 62.5 | 68.75 | 66.67 | NS |
| Problem solving | 63.63 | 72.88 | NS | 90.91 | 81.25 | 38.46 | 56.25 | 75 | 88.89 | p = 0.013 |
| Critical thinking | 68.18 | 65.52 | NS | 90.91 | 66.67 | 53.84 | 52.25 | 68.75 | 66.67 | NS |
| Self-confidence | 63.64 | 74.57 | NS | 90.91 | 75 | 23.08 | 81.25 | 81.25 | 77.78 | p = 0.001 |
| Teamwork | 86.36 | 79.66 | NS | 100 | 81.25 | 76.93 | 75 | 81.25 | 77.78 | NS |
| Organization | 68.18 | 79.66 | NS | 100 | 62.5 | 61.53 | 81.25 | 81.25 | 77.78 | p = 0.028 |
| Time management | 40.91 | 67.79 | NS | 100 | 50 | 46.15 | 43.75 | 68.75 | 66.67 | p = 0.017 |
| Networking/Making connections | 68.19 | 65.52 | NS | 81.82 | 81.25 | 53.85 | 62.5 | 66.67 | 44.44 | p = 0.05 |
| Setting goals | 52.73 | 75.86 | NS | 100 | 75 | 69.23 | 68.75 | 66.67 | 77.78 | NS |
| Developing a career path | 68.18 | 62.71 | NS | 90.91 | 50 | 46.15 | 62.5 | 75 | 66.67 | NS |

*Percentages represent the pooled survey responses of "strong" and "very strong."

Appendix A

**Table A2: Self-Efficacy. "How true are each of the following statements?"**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| I can always manage to solve difficult problems if I try hard enough. | 100 | 96.67 | NS | 100 | 93.75 | 92.31 | 100 | 100 | 100 | NS |
| If someone opposes me, I can find the means and ways to get what I want. | 86.37 | 86.67 | NS | 83.34 | 81.25 | 84.62 | 87.5 | 93.75 | 88.89 | NS |
| It is easy for me to stick to my aims and accomplish my goals. | 95.45 | 94.92 | NS | 100 | 87.5 | 92.31 | 93.75 | 100 | 100 | p = 0.016 |
| I am confident that I could deal efficiently with unexpected events. | 90.91 | 93.33 | NS | 100 | 87.5 | 84.61 | 93.75 | 100 | 88.89 | NS |
| Thanks to my resourcefulness, I know how to handle unforeseen situations. | 90.91 | 93.33 | NS | 100 | 87.5 | 84.62 | 87.5 | 100 | 100 | NS |
| I can solve most problems if I invest the necessary effort. | 90.91 | 96.61 | NS | 100 | 100 | 100 | 81.25 | 93.75 | 100 | NS |
| I can remain calm when facing difficulties because I can rely on my coping abilities. | 86.36 | 88.14 | NS | 91.67 | 87.5 | 84.62 | 87.5 | 100 | 66.67 | NS |
| When I am confronted with a problem, I can usually find several solutions. | 90.91 | 93.33 | NS | 100 | 100 | 92.31 | 93.75 | 93.75 | 66.67 | p = 0.02 |
| If I am in trouble, I can usually think of a solution. | 86.36 | 91.67 | NS | 100 | 87.5 | 84.62 | 81.25 | 100 | 88.89 | p = 0.042 |
| I can usually handle whatever comes my way. | 86.36 | 88.14 | NS | 100 | 87.5 | 76.92 | 87.5 | 93.75 | 78.88 | NS |

*Percentages represent the pooled survey responses of "moderately true" and "exactly true."

Appendix A

**Table A3: Career Competencies. "How much do you agree or disagree with the following statements?"**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| I know what I like in my work. | 90.48 | 88.14 | NS | 100 | 50 | 84.62 | 87.5 | 93.33 | 85 | p = 0.044 |
| I know what is important to me in my career. | 90.48 | 88.14 | NS | 100 | 75 | 92.31 | 93.75 | 93.33 | 75 | NS |
| I can clearly see what my passions are in my work. | 90 | 81.03 | NS | 100 | 75 | 84.61 | 78.58 | 93.33 | 62.5 | p = 0.017 |
| I know a lot of people within my work who can help me in my career. | 61.91 | 77.96 | NS | 91.67 | 62.5 | 69.33 | 75 | 80 | 62.5 | NS |
| I know a lot of people outside of my work who can help me in my career. | 71.43 | 74.58 | NS | 67.67 | 56.25 | 76.92 | 87.5 | 86.67 | 62.5 | NS |
| I know how to ask for advice from people in my network. | 66.67 | 91.53 | p = 0.043 | 100 | 87.5 | 69.23 | 81.25 | 86.67 | 87.5 | NS |
| I know how to find out what my options are for becoming further educated. | 75 | 93.22 | NS | 100 | 87.5 | 76.92 | 86.67 | 93.33 | 87.5 | p = 0.028 |
| I know how to search for developments in my area of work. | 71.43 | 89.83 | NS | 100 | 100 | 53.85 | 81.25 | 93.33 | 75 | p = 0.006 |
| I am able to explore my possibilities on the labor market. | 71.43 | 81.36 | NS | 100 | 75 | 76.92 | 68.75 | 86.67 | 62.5 | NS |
| I am able to approach the right persons to help me with my career. | 85.71 | 86.44 | NS | 91.67 | 100 | 92.31 | 87.5 | 80 | 50 | NS |

*Percentages represent the pooled survey responses of "agree" and "completely agree."

Appendix A

**Table A4: Occupational Engagement. "How well does each statement describe you?"**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| I talk about my career choices with family or friends. | 81.81 | 80 | NS | 100 | 81.25 | 61.54 | 81.25 | 87.5 | 66.66 | NS |
| I am actively involved in groups or organizations. | 61.9 | 76.67 | NS | 100 | 68.75 | 54.85 | 66.66 | 87.5 | 66.66 | p = 0.01 |
| I have contact with people working in fields I find interesting. | 77.28 | 71.67 | NS | 91.67 | 56.25 | 76.92 | 62.5 | 81.25 | 77.78 | NS |
| I gain hands on experience that I might use in the future. | 90.91 | 90 | NS | 100 | 87.5 | 92.31 | 95.75 | 87.5 | 77.77 | NS |
| I volunteer in an area that I find interesting. | 81.82 | 68.33 | NS | 91.67 | 50 | 61.53 | 87.5 | 75 | 66.67 | p = 0.049 |
| I attend lectures, exhibits, and community events. | 40.91 | 46.67 | NS | 83.33 | 25 | 53.85 | 56.25 | 62.5 | 33.33 | p = 0.014 |
| I take part in a variety of activities to see where my interests lie. | 76.19 | 76.66 | NS | 83.34 | 68.75 | 75 | 81.25 | 81.25 | 66.66 | NS |
| I ask people in social settings about what they do for a living or what they are interested in doing. | 77.28 | 80 | NS | 100 | 68.75 | 84.61 | 81.25 | 75 | 66.67 | NS |
| I visit places I'm interested in working at so I can learn more about them. | 59.09 | 71.67 | NS | 91.67 | 56.25 | 76.92 | 56.25 | 68.75 | 66.67 | NS |
| I attend presentations or talks related to a career I might find interesting. | 50 | 60 | NS | 75 | 50 | 46.15 | 62.5 | 62.5 | 44.44 | NS |

Appendix A

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| I pursue opportunities in life because I just know they will come in handy. | 77.27 | 76.66 | NS | 83.34 | 75 | 76.93 | 75 | 81.25 | 66.67 | NS |
| I work with teachers or staff on activities other than coursework | 59.09 | 83.34 | p = 0.011 | 100 | 81.25 | 61.54 | 75 | 87.5 | 44.44 | p = 0.001 |
| I do lots of things that are interesting to me. | 86.36 | 85 | NS | 100 | 68.75 | 84.62 | 87.5 | 87.5 | 88.88 | NS |
| I have meaningful conversations with students of a different ethnicity. | 90.91 | 90 | NS | 100 | 93.75 | 92.31 | 93.75 | 81.25 | 77.78 | NS |

*Percentages represent the pooled survey responses of “a little like me” and “very much like me.”

Appendix A

**Table A5: Career Goals. "How important are the following statements to you?"**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| My most important career goals are related to financial outcomes. | 50 | 63.79 | NS | 81.82 | 69.75 | 61.54 | 56.25 | 50 | 37.5 | NS |
| It is important to me to achieve financial success in my career. | 81.82 | 80.7 | NS | 90.91 | 87.5 | 66.66 | 87.5 | 75 | 75 | p = 0.04 |
| It is important for me to be seen by others as a success in my career. | 77.27 | 67.24 | NS | 90.91 | 81.25 | 38.46 | 87.5 | 56.25 | 72.5 | p = 0.001 |
| I want to be seen as a powerful individual in my company. | 63.64 | 70.69 | NS | 90.91 | 87.5 | 53.84 | 68.75 | 62.5 | 37.5 | p = 0.002 |
| I want a career that gives me high social status. | 59.09 | 68.42 | NS | 81.82 | 75 | 61.54 | 75 | 53.33 | 37.5 | NS |
| It is important to me that others not view my career as a failure. | 86.36 | 79.31 | NS | 81.82 | 87.5 | 76.92 | 87.5 | 75 | 75 | NS |
| It is important for me to continue to learn and grow over the course of my career. | 95.45 | 81.04 | NS | 90.91 | 81.25 | 84.62 | 87.5 | 81.25 | 87.5 | NS |
| It is important that my career offers me opportunities for interesting work. | 82.36 | 89.66 | NS | 100 | 93.75 | 84.62 | 87.5 | 80.25 | 87.5 | NS |

Appendix A

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| I am willing to gain experience through a wide variety of jobs or work assignments, even if it slows down my "up-ward" career advancement. | 81.82 | 75.86 | NS | 100 | 75 | 69.23 | 75 | 91.25 | 62.5 | NS |
| I want to gain experience through a wide variety of jobs or work assignments. | 81.82 | 81.03 | NS | 90.91 | 81.25 | 76.92 | 87.5 | 75 | 75 | NS |
| It is important for me to develop my technical/functional skills over the course of my career. | 77.27 | 82.76 | NS | 100 | 75 | 69.23 | 81.25 | 81.25 | 87.5 | NS |
| I want to have a positive impact on other people or social problems through my work. | 82.36 | 84.48 | NS | 100 | 87.5 | 69.23 | 93.75 | 81.25 | 75 | NS |
| How valuable was your time spent in the classroom or your internship or career planning? | 72.72 | 89.47 | NS | 100 | 87.5 | 76.92 | 81.25 | 87.5 | 75 | NS |

*Percentages represent the pooled survey responses of "important" and "very important."

Appendix A

**Table A6: "How helpful for your internship or career planning was time spent in class on:"**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| Goal planning | 90.91 | 92.98 | NS | 100 | 87.5 | 84.62 | 100 | 83.75 | 87.5 | p = 0.009 |
| Technical skills | 95.24 | 92.59 | NS | 100 | 93.75 | 84.37 | 92.86 | 93.33 | 100 | NS |
| Professional expectations/workplace behavior | 100 | 94.43 | NS | 100 | 93.75 | 100 | 100 | 100 | 75 | NS |
| Choosing a career | 90.91 | 90.91 | NS | 100 | 86.67 | 83.33 | 100 | 50 | 50 | NS |
| Understanding your education/career path | 95.45 | 96.3 | NS | 100 | 93.33 | 91.67 | 100 | 100 | 85.71 | p = 0.006 |
| Interviewing | 95.24 | 94.34 | NS | 100 | 92.86 | 92.31 | 100 | 100 | 71.43 | p = 0.021 |
| Managing money/finances | 100 | 91.84 | NS | 100 | 84.62 | 88.89 | 100 | 100 | 85.71 | NS |
| Writing a resume | 100 | 88.46 | NS | 100 | 76.92 | 91.67 | 100 | 93.75 | 85.71 | NS |
| Researching careers | 95.45 | 86.54 | NS | 100 | 88.57 | 81.82 | 100 | 83.75 | 75 | p = 0.014 |
| Researching workplace trends | 90.48 | 90 | NS | 100 | 83.33 | 75 | 100 | 100 | 71.43 | p = 0.018 |
| Discussing your internship | 100 | 98.19 | NS | 100 | 100 | 92.31 | 100 | 100 | 100 | NS |
| My internship helped me decide what career I'm interested in. | 59.09 | 57.89 | NS | 66.67 | 35.71 | 61.53 | 68.75 | 75 | 25 | NS |
| Did your supervisor work with you regularly? | 77.27 | 71.93 | NS | 91.67 | 64.29 | 76.92 | 68.75 | 75 | 62.5 | NS |
| Was she/he available to answer your question when necessary? | 90.91 | 89.47 | NS | 100 | 85.71 | 92.31 | 87.5 | 87.5 | 87.5 | NS |
| Did your supervisor give you feedback on your performance? | 100 | 89.47 | NS | 100 | 85.71 | 92.31 | 93.75 | 87.5 | 100 | NS |

Appendix A

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| Do you feel comfortable asking your supervisor for a recommendation? | 72.73 | 73.68 | NS | 75 | 57.14 | 76.92 | 75 | 75 | 87.5 | NS |

*Percentages represent the pooled survey responses of “somewhat helpful” and “very helpful.”

Appendix A

**Table A7: "How much do you agree or disagree with the following statements about your internship?"**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| I believe that my work has made an important contribution to the agency. | 86.37 | 80.7 | NS | 100 | 88.57 | 84.61 | 81.25 | 75 | 75 | NS |
| I have seen positions in the agency I might like to have when I graduate. | 63.63 | 73.68 | NS | 83.33 | 71.43 | 84.61 | 68.75 | 68.75 | 37.5 | NS |
| I have developed insight into the general workings of the agency. | 86.09 | 82.46 | NS | 100 | 84.62 | 84.62 | 73.33 | 75 | 75 | NS |
| My supervisor involved me in and exposed me to the general workings of the agency. | 77.28 | 80.36 | NS | 100 | 71.43 | 92.31 | 68.75 | 81.25 | 62.5 | NS |
| Overall, my internship experience has helped me feel prepared to enter the workforce or college. | 77.27 | 82.15 | NS | 100 | 71.43 | 92.31 | 81.25 | 75 | 62.5 | NS |

*Percentages represent the pooled survey responses of "agree" and "strongly agree."

Appendix A

**Table A8: How much do you agree or disagree with the following statements about your mentor(s)?**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| My mentor(s) helped me decide what career I am interested in. | 50 | 51.79 | NS | 63.63 | 57.14 | 61.54 | 56.25 | 43.75 | 12.5 | NS |
| My mentor(s) was inspiring. | 68.19 | 85.45 | NS | 90 | 85.71 | 84.62 | 93.33 | 75 | 37.5 | p = 0.034 |
| My mentor(s) encouraged me to reflect on my CTE Summer Scholars experience | 72.73 | 81.81 | NS | 81.82 | 78.57 | 76.92 | 93.33 | 68.75 | 75 | NS |
| My mentor(s) helped me improve certain skills like organization. | 72.73 | 83.93 | NS | 90.91 | 79.57 | 84.62 | 87.5 | 68.75 | 75 | NS |
| My mentor(s) showed me what life will be like in the workplace and/or college. | 66.67 | 80.36 | NS | 90.91 | 88.57 | 76.92 | 87.5 | 68.75 | 42.86 | p = 0.05 |

*Percentages represent the pooled survey responses of “agree” and “strongly agree.”

Appendix A

**Table A9: How helpful for your internship or future career were each of he following sessions?**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| Work Readiness 3 Day Boot Camp | 68.18 | 48.21 | NS | 72.73 | 35.71 | 69.23 | 68.75 | 37.5 | 37.5 | p = 0.04 |
| Bank of America Seminar 1 | 72.72 | 58.93 | NS | 81.82 | 42.86 | 61.54 | 75 | 43.75 | 87.5 | NS |
| Financial literacy session | 80.95 | 82.14 | NS | 90.91 | 64.29 | 84.61 | 100 | 75 | 75 | p = 0.003 |
| Mentor visit to your class | 86.36 | 92.85 | NS | 90.91 | 85.71 | 92.31 | 100 | 87.5 | 87.5 | |
| Visiting your mentor in the work place | 77.27 | 92.73 | NS | 90.91 | 92.86 | 100 | 87.5 | 81.25 | 71.43 | NS |
| Bank of America Seminar 3: Final Presentations | 86.36 | 93.55 | NS | 100 | 100 | 76.92 | 93.75 | 87.5 | 100 | NS |

*Percentages represent the pooled survey responses of “somewhat helpful” and “very helpful.”

Appendix A

**Table A10: How helpful for your internship or future career were each of the following sessions?**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| Has helped me to prepare for applying to college | 72.73 | 62.71 | NS | 100 | 56.25 | 69.23 | 87.5 | 50 | 22.22 | p = 0.005 |
| Has helped me prepare for being in the workplace | 90.91 | 93.22 | NS | 100 | 100 | 100 | 93.75 | 81.25 | 77.78 | NS |
| Has helped me prepare for applying for jobs | 95.45 | 88.14 | NS | 100 | 87.5 | 92.31 | 93.75 | 87.5 | 77.78 | NS |
| Was a valuable experience | 100 | 93.22 | p = 0.045 | 90.91 | 100 | 100 | 100 | 81.25 | 100 | NS |

*Percentages represent the pooled survey responses of “agree” and “strongly agree.”

**Table A11: CTE Program Recommendation**

| | Grade | | | School | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Junior (%)** | **Senior (%)** | ***Sig*** | **ALT (%)** | **ASE (%)** | **Bayside (%)** | **Bronx (%)** | **Queens (%)** | **UA (%)** | ***Sig*** |
| Would you recommend this program to a classmate? | 100 | 98.28 | NS | 100 | 93.75 | 100 | 100 | 100 | 100 | NS |

*Percentages represent a survey response of “yes.”

## Student Pre- and Post-Survey Results

***Methodology:*** We were able to match 47 pre-and post- surveys using the identification scheme that students supplied. We analyzed each of the items within the five cognitive and non-cognitive work readiness constructs measured on both the pre- and post-survey using repeated measures t-tests to determine if there were any significant changes over the course of the program.

***Major findings:*** Statistically significant and positive changes were observed within the soft skills, self-efficacy, and career competencies constructs. Few significant differences were observed in students' occupational engagement and career goals.

Appendix B

**Table B1: Soft Skills. "How would you rate yourself on each of the following skills?"**

| | Pre (%) | Post (%) | Pre (Mean) | Post (Mean) | Difference | *Sig* |
|---|---|---|---|---|---|---|
| Listening | 86.96 | 86.95 | 4.22 | 4.2 | -0.02 | NS |
| Communication | 48.93 | 60.87 | 3.52 | 3.78 | 0.26 | p = 0.03 |
| Writing | 46.81 | 63.05 | 3.57 | 5.71 | 0.15 | NS |
| Oral presentation | 42.55 | 50 | 3.28 | 3.7 | 0.41 | p = 0.004 |
| Research | 69.57 | 67.39 | 3.89 | 3.96 | 0.07 | NS |
| Problem-solving | 65.96 | 69.57 | 3.87 | 3.96 | 0.09 | NS |
| Critical thinking | 69.57 | 67.39 | 3.89 | 3.93 | 0.04 | NS |
| Self-confidence | 63.82 | 73.91 | 3.83 | 3.96 | 0.13 | NS |
| Teamwork | 80.44 | 84.78 | 4.11 | 4.27 | 0.16 | NS |
| Organization | 68.09 | 78.26 | 3.98 | 4.07 | 0.09 | NS |
| Time management | 55.32 | 67.39 | 3.61 | 3.93 | 0.33 | p < 0.001 |
| Networking | 59.58 | 62.22 | 3.64 | 3.76 | 0.11 | NS |
| Setting goals | 61.7 | 77.78 | 3.67 | 4.07 | 0.4 | p < 0.001 |
| Developing a career path | 56.52 | 73.92 | 3.73 | 4 | 0.27 | NS |

*Percentages represent the pooled survey responses of "strong" and "very strong."
**Significance is reported on the differences in the means.

Appendix B

**Table B2: Self-Efficacy. "How true are each of the following statements?"**

| | Pre (%) | Post (%) | Pre (Mean) | Post (Mean) | Difference | *Sig* |
|---|---|---|---|---|---|---|
| I can always manage to solve difficult problems if I try hard enough. | 97.87 | 100 | 3,32 | 3,36 | 0.04 | NS |
| If someone opposes me, I can find the means and ways to get what I want. | 80.43 | 87.24 | 2.96 | 3.02 | 0.07 | NS |
| It is easy for me to stick to my aims and accomplish my goals. | 93.62 | 97.83 | 3.09 | 3.37 | 0.28 | $p < 0.001$ |
| I am confident that I could deal efficiently with unexpected events. | 91.49 | 93.62 | 3.06 | 3.3 | 0.23 | $p = 0.01$ |
| Thanks to my resourcefulness, I know how to handle unforeseen situations. | 78.72 | 93.61 | 3.04 | 3.28 | 0.23 | $p = 0.03$ |
| I can solve most problems if I invest the necessary effort. | 93.62 | 95.74 | 3.4 | 3.4 | 0 | NS |
| I can remain calm when facing difficulties because I can rely on my coping abilities. | 91.11 | 91.48 | 3.2 | 3.22 | 0.02 | NS |
| When I am confronted with a problem, I can usually find several solutions. | 87.23 | 93.62 | 3.15 | 3.34 | 0.19 | NS |
| If I am in trouble, I can usually think of a solution. | 91.49 | 91.49 | 3.19 | 3.23 | 0.04 | NS |
| I can usually handle whatever comes my way. | 82.61 | 82.61 | 3.04 | 3.28 | 0.24 | $p = 0.01$ |

*Percentages represent the pooled survey responses of "moderately true" and "exactly true."
**Significance is reported on the differences in the means.

Appendix B

**Table B3: Career Competencies. "How much do you agree or disagree with the following statements?"**

| | Pre (%) | Post (%) | Pre (Mean) | Post (Mean) | Difference | *Sig* |
|---|---|---|---|---|---|---|
| I know what I like in my work. | 91.49 | 93.61 | 4.23 | 4.43 | 0.19 | NS |
| I know what is important to me in my career. | 91.49 | 95.74 | 4.34 | 4.49 | 0.15 | NS |
| I can clearly see what my passions are in my work. | 91.49 | 91.11 | 4.27 | 4.44 | 0.17 | NS |
| I know a lot of people with my work who can help me in my career. | 66.67 | 82.98 | 3.78 | 4.09 | 0.31 | NS |
| I know a lot of people outside of my work who can help me in my career. | 64.44 | 87.23 | 3.73 | 4.16 | 0.42 | p = 0.001 |
| I know how to ask for advice from people in my network. | 82.22 | 87.23 | 3.98 | 4.2 | 0.22 | NS |
| I know how to find out what my options are for becoming further educated. | 93.62 | 95.65 | 4.2 | 4.39 | 0.2 | p = 0.04 |
| I know how to search for developments in my area of work. | 63.83 | 85.1 | 3.8 | 4.17 | 0.36 | p = 0.003 |
| I am able to explore my possibilities on the labor market. | 57.45 | 82.97 | 3.64 | 4.15 | 0.51 | p < 0.001 |
| I am able to approach the right persons to help me with my career. | 78.72 | 87.23 | 3.94 | 4.15 | 0.21 | NS |

*Percentages represent the pooled survey responses of "agree" and "completely agree."
**Significance is reported on the differences in the means.

Appendix B

**Table B4: Occupational Engagement. "How well does each statement describe you?"**

| | Pre (%) | Post (%) | Pre (Mean) | Post (Mean) | Difference | *Sig* |
|---|---|---|---|---|---|---|
| I talk about my career choices with family and friends. | 89.36 | 89.36 | 4.38 | 4.23 | -0.14 | NS |
| I am actively involved in groups or organizations. | 69.56 | 76.09 | 3.84 | 3.96 | 0.11 | NS |
| I have contact with people working in fields I find interesting. | 76.6 | 72.34 | 4.02 | 3.89 | -0.13 | NS |
| I gain hands on experience that I might use in the future. | 87.24 | 93.62 | 4.28 | 4.36 | 0.09 | NS |
| I volunteer in an area that I find interesting. | 76.59 | 76.6 | 4.04 | 3.96 | -0.09 | NS |
| I attend lectures, exhibits, and community events. | 63.04 | 57.45 | 3.54 | 3.57 | 0.02 | NS |
| I take part in a variety of activities to see where my interests lie. | 67.39 | 80.44 | 3.91 | 4.07 | 0.15 | NS |
| I ask people in social settings about what they do for a living or what they are interested in doing. | 72.34 | 89.36 | 3.79 | 4.13 | 0.034 | NS |
| I visit places I'm interested in working at so I can learn more about them. | 61.7 | 68.09 | 3.79 | 3.83 | 0.04 | NS |
| I attend presentations or talks related to a career I might find. | 42.55 | 68.08 | 3.38 | 3.72 | 0.34 | p = 0.04 |
| I pursue opportunities in life because I just know they will come in handy. | 91.31 | 80.85 | 4.24 | 4.11 | -0.13 | NS |
| I work with teachers or staff on activities other than coursework (committees, orientation, student life activities, etc) | 76.6 | 80.85 | 4.02 | 3.98 | -0.04 | NS |
| I do lots of things that are interesting to me | 89.13 | 93.62 | 4.33 | 4.43 | 0.11 | NS |
| I have meaningful conversations with students of a different ethnicity | 78.26 | 93.62 | 4.17 | 4.33 | 0.15 | NS |

*Percentages represent the pooled survey responses of "a little like me" and "very much like me."
**Significance is reported on the differences in the means.

Appendix B

**Table B5: Career Goals. "How important are the following statements to you?"**

| | Pre (%) | Post (%) | Pre (Mean) | Post (Mean) | Difference | *Sig* |
|---|---|---|---|---|---|---|
| My most important career goals are related to financial outcomes. | 65.22 | 60.87 | 3.91 | 3.76 | -0.16 | NS |
| It is important to me to achieve financial success in my career. | 89.13 | 89.13 | 4.38 | 4.24 | -0.13 | NS |
| It is important for me to be seen by others as a success in my career. | 80.43 | 70.43 | 4.17 | 4.17 | 0 | NS |
| I want to be seen as a powerful individual in my company. | 80.43 | 71.73 | 4.2 | 4.09 | -0.11 | NS |
| I want a career that gives me high social status. | 69.57 | 71.74 | 3.96 | 4 | 0.04 | NS |
| It is important to me that others not view my career as a failure. | 71.74 | 82.6 | 4.02 | 4.2 | 0.18 | NS |
| It is important to me to continue to learn and grow over the course of my career. | 89.67 | 93.48 | 4.42 | 4.51 | 0.09 | NS |
| It is important that my career offers me opportunities for interesting work. | 89.13 | 95.65 | 4.47 | 4.51 | 0.04 | NS |
| I am willing to gain experience through a wide variety of jobs or work assignments, even if it slows down my "up-ward" career advancement. | 76.09 | 84.78 | 4.2 | 4.22 | 0.22 | NS |
| I want to gain experience through a wide variety of jobs or work assignments. | 91.3 | 78.26 | 4.31 | 4.22 | -0.09 | NS |
| It is important for me to develop my technical/functional skills over the course of my career. | 93.47 | 85.78 | 4.47 | 4.33 | -0.13 | NS |
| I want to have a positive impact on other people or social problems through my work. | 82.6 | 84.78 | 4.35 | 4.35 | 0 | NS |

*Percentages represent the pooled survey responses of "important" and "very important."
**Significance is reported on the differences in the means.

## Years 3 and 4 Comparison

***Methodology:*** We used T-tests to compare the results from the Year 3 post-survey to this year's post-survey.

***Major findings:*** We observed few statistically significant differences between the two years. We believe this demonstrates that reliability of the items used on the student surveys. . Student satisfaction with the CTE Summer Scholars program, however, is higher in the current year.

Appendix C

**Table C1: Soft Skills. "How would you rate yourself on each of the following skills?"**

| | 2014 (%) | 2015 (%) | *Sig* |
|---|---|---|---|
| Listening | 77.92 | 83.95 | NS |
| Communication | 68.83 | 64.2 | NS |
| Writing | 71.05 | 59.26 | p = 0.03 |
| Oral presentation | 55.85 | 53.09 | NS |
| Research | 75.32 | 64.2 | p = 0.04 |
| Problem-solving | 72.73 | 70.37 | NS |
| Critical thinking | 77.63 | 66.25 | p = 0.013 |
| Self-confidence | 69.73 | 71.6 | NS |
| Teamwork | 85.71 | 81.48 | NS |
| Organization | 76.63 | 76.54 | NS |
| Time management | 68.83 | 60.5 | NS |
| Networking | 67.53 | 66.25 | NS |
| Setting goals | 72.37 | 75 | NS |
| Developing a career path | 72.36 | 62.96 | p = 0.05 |

*Percentages represent the pooled survey responses of "strong" and "very strong."

Appendix C

**Table C2: Self-Efficacy. "How true are each of the following statements?"**

| | 2014 (%) | 2015 (%) | *Sig* |
|---|---|---|---|
| I can always manage to solve difficult problems if I try hard enough. | 97.34 | 97.66 | NS |
| If someone opposes me, I can find the means and ways to get what I want. | 91.89 | 86.59 | NS |
| It is easy for me to stick to my aims and accomplish my goals. | 90.79 | 95.06 | NS |
| I am confident that I could deal efficiently with unexpected events. | 96.67 | 92.69 | NS |
| Thanks to my resourcefulness, I know how to handle unforeseen situations. | 82.89 | 92.69 | NS |
| I can solve most problems if I invest the necessary effort. | 94.74 | 95.06 | NS |
| I can remain calm when facing difficulties because I can rely on my coping abilities. | 86.84 | 87.65 | NS |
| When I am confronted with a problem, I can usually find several solutions. | 93.51 | 92.68 | NS |
| If I am in trouble, I can usually think of a solution. | 88.31 | 90.24 | NS |
| I can usually handle whatever comes my way. | 89.61 | 87.65 | NS |

*Percentages represent the pooled survey responses of "moderately true" and "exactly true."

Appendix C

**Table C3: Career Competencies. "How much do you agree or disagree with the following statements?"**

| | 2014 (%) | 2015 (%) | *Sig* |
|---|---|---|---|
| I know what I like in my work. | 89.19 | 88.75 | NS |
| I know what is important to me in my career. | 89.48 | 88.75 | NS |
| I can clearly see what my passions are in my work. | 81.58 | 83.33 | NS |
| I know a lot of people with my work who can help me in my career. | 72 | 73.75 | NS |
| I know a lot of people outside of my work who can help me in my career. | 77.34 | 73.75 | NS |
| I know how to ask for advice from people in my network. | 82.43 | 85 | NS |
| I know how to find out what my options are for becoming further educated. | 85.33 | 88.6 | NS |
| I know how to search for developments in my area of work. | 82.9 | 85 | NS |
| I am able to explore my possibilities on the labor market. | 73.68 | 78.75 | NS |
| I am able to approach the right persons to help me with my career. | 78.67 | 86.25 | NS |

*Percentages represent the pooled survey responses of "agree" and "completely agree."

**Table C4: Occupational Engagement. "How well does each statement describe you?"**

| | 2014 (%) | 2015 (%) | *Sig* |
|---|---|---|---|
| I talk about my career choices with family and friends. | 84 | 80.48 | NS |
| I am actively involved in groups or organizations. | 81.33 | 72.84 | p = 0.015 |
| I have contact with people working in fields I find interesting. | 73.34 | 73.17 | NS |
| I gain hands on experience that I might use in the future. | 88 | 90.24 | NS |
| I volunteer in an area that I find interesting. | 79.73 | 71.95 | NS |
| I attend lectures, exhibits, and community events. | 58.66 | 52.43 | NS |
| I take part in a variety of activities to see where my interests lie. | 72.37 | 76.54 | NS |
| I ask people in social settings about what they do for a living or what they are interested in doing. | 77.63 | 79.27 | NS |
| I visit places I'm interested in working at so I can learn more about them. | 68.92 | 68.29 | NS |
| I attend presentations or talks related to a career I might find. | 64.47 | 57.31 | NS |
| I pursue opportunities in life because I just know they will come in handy. | 84.21 | 76.83 | NS |
| I work with teachers or staff on activities other than coursework (committees, orientation, student life activities, etc) | 71.05 | 76.83 | NS |
| I do lots of things that are interesting to me | 89.33 | 85.36 | NS |
| I have meaningful conversations with students of a different ethnicity | 88.15 | 90.24 | NS |

*Percentages represent the pooled survey responses of "a little like me" and "very much like me."

**Table C5: Career Goals. "How important are the following statements to you?"**

| | 2014 (%) | 2015 (%) | *Sig* |
|---|---|---|---|
| My most important career goals are related to financial outcomes. | 72.37 | 60 | NS |
| It is important to me to achieve financial success in my career. | 79.73 | 81.02 | NS |
| It is important for me to be seen by others as a success in my career. | 73.68 | 70 | NS |
| I want to be seen as a powerful individual in my company. | 71.63 | 68.75 | NS |
| I want a career that gives me high social status. | 67.11 | 65.82 | NS |
| It is important to me that others not view my career as a failure. | 78.09 | 81.25 | NS |
| It is important to me to continue to learn and grow over the course of my career. | 85.34 | 85 | NS |
| It is important that my career offers me opportunities for interesting work. | 83.57 | 88.75 | NS |
| I am willing to gain experience through a wide variety of jobs or work assignments, even if it slows down my "up-ward" career advancement. | 81.08 | 77.5 | NS |
| I want to gain experience through a wide variety of jobs or work assignments. | 82.43 | 81.25 | NS |
| It is important for me to develop my technical/functional skills over the course of my career. | 82.43 | 81.25 | NS |
| I want to have a positive impact on other people or social problems through my work. | 86.66 | 85 | NS |

*Percentages represent the pooled survey responses of "important" and "very important."

**Table C6: Time spent in class. "How helpful for your internship or career planning was time spent in class on:"**

| | 2014 | 2015 |
|---|---|---|
| Goal planning | 93.06 | 92.4 |
| Technical skills | 92.96 | 93.33 |
| Professional expectations/workplace behavior | 95.78 | 97.4 |
| Choosing a career | 88.89 | 90.91 |
| Understanding your education/career path | 94.28 | 96.06 |
| Interviewing | 91.42 | 94.59 |
| Managing money/finances | 87.33 | 94.2 |
| Writing a resume | 92.86 | 91.89 |
| Researching careers | 87.67 | 89.19 |
| Researching workplace trends | 93.15 | 90.14 |
| Discussing your internship | 88.57 | 98.66 |

*Percentages represent the pooled survey responses of "somewhat helpful" and "very helpful."

Appendix C

### Table C7: Classroom Value.

| | 2014 (%) | 2015 (%) | *Sig* |
|---|---|---|---|
| How valuable was your time spent in the classroom for your internship or career planning? | 86.84 | 84.14 | NS |

*Percentages represent the pooled survey responses of "somewhat valuable" and "very valuable."

### Table C8: Travel Time.

| | 2014 (mean) | 2015 (mean) | *Sig* |
|---|---|---|---|
| How much time, on average, did it take you to get to work? | 3.04 | 2.92 | NS |

*Mean values are centered around the coded value 3, or 45-60 minutes as written on the survey

### Table C9: Career Decision.

| | 2014 (%) | 2015 (%) | *Sig* |
|---|---|---|---|
| My internship helped me decide what career I am interested in. | 57.54 | 58.23 | NS |

*Percentages represent the pooled survey responses of "agree" and "strongly agree."

### Table C10: Internship Supervisors.

| | 2014 (%) | 2015 (%) | *Sig* |
|---|---|---|---|
| Did your supervisor work with you regularly? | 78.08 | 73.42 | NS |
| Was she/he available to answer questions when necessary? | 95.89 | 89.87 | NS |
| Did your supervisor give you feedback on your performance? | 89.04 | 92.41 | NS |
| Do you feel comfortable asking your supervisor for a recommendation? | 76.39 | 73.42 | NS |

*Percentages represent the survey responses of "Yes,"
**For question 4, students had the option to select "not sure," of which 18.06% selected in 2014 and 22.78% in 2015.

**Table C11: Internship. "How much do you agree or disagree with the following statements about your internship?"**

| | 2014 (%) | 2015 (%) | *Sig* |
|---|---|---|---|
| I believe that my work has made an important contribution to the agency | 69.48 | 82.28 | NS |
| I have seen positions in the agency I might like to have when I graduate | 63.38 | 70.88 | NS |
| I have developed insight into the general workings of the agency | 73.24 | 80.77 | NS |
| My supervisor involved me in and exposed me to the general workings of the agency | 77.47 | 79.04 | NS |
| Overall, my internship experience has helped me feel prepared to enter the workforce or college | 76.06 | 80.77 | NS |

*Percentages represent the pooled survey responses of "agree" and "strongly agree."

**Table C12: The CTE Summer Scholars program.**

| | 2014 (%) | 2015 (%) | *Sig* |
|---|---|---|---|
| Prepare for applying to college | 67.14 | 65.43 | NS |
| Prepare for being in the workplace | 85.91 | 92.59 | NS |
| Prepare for applying for jobs | 85.71 | 90.12 | NS |
| Was a valuable experience | 87.14 | 95.06 | NS |
| Would you recommend CTE Summer Scholars to a friend? | 94.37 | 98.75 | NS |

*Percentages represent the pooled survey responses of "agree" and "strongly agree" for all questions except the final, "would you recommend CTE Summer Scholars to a friend," which was a simple yes or no question.

## Years 3 and 4 Pooled Student Pre-Post Analysis

***Methodology:*** We pooled the student pre- and post-survey results from 2014 and 2015 to examine whether a larger sample size would increase the power of our sample and yield more statistically significant differences between the pre- and post-surveys. We used T-tests to determine significance.

***Major findings:*** We observed similar significant differences between the pooled pre- and post-surveys as we did for this year's student pre-post analysis, again demonstrating that the student survey measurements are highly reliable.

Appendix D

**Table D1: Soft Skills. "How would you rate yourself on each of the following skills?"**

| | **Pre** | **Post** | ***Sig*** |
|---|---|---|---|
| Listening | 83.78 | 80.77 | NS |
| Communication | 53.33 | 66.66 | p = 0.027 |
| Writing | 46.67 | 65.16 | NS |
| Oral presentation | 42.66 | 54.49 | p = 0.004 |
| Research | 62.16 | 69.88 | NS |
| Problem-solving | 64 | 72.44 | NS |
| Critical thinking | 68.49 | 72.73 | NS |
| Self-confidence | 64.86 | 70.97 | NS |
| Teamwork | 72.97 | 84.62 | NS |
| Organization | 66.67 | 76.78 | NS |
| Time management | 53.34 | 65.38 | p = 0.01 |
| Networking | 52 | 67.74 | NS |
| Setting goals | 58.91 | 74.03 | p < 0.001 |
| Developing a career path | 52.78 | 67.74 | NS |

*Percentages represent the pooled survey responses of "strong" and "very strong."

Appendix D

**Table D2: Self-Efficacy. "How true are each of the following statements?"**

| | Pre | Post | *Sig* |
|---|---|---|---|
| I can always manage to solve difficult problems if I try hard enough. | 97.34 | 97.45 | NS |
| If someone opposes me, I can find the means and ways to get what I want. | 86.48 | 89.61 | NS |
| It is easy for me to stick to my aims and accomplish my goals. | 90.67 | 92.9 | $p < 0.001$ |
| I am confident that I could deal efficiently with unexpected events. | 92 | 94.19 | $p = 0.024$ |
| Thanks to my resourcefulness, I know how to handle unforeseen situations. | 82.66 | 88.46 | $p = 0.05$ |
| I can solve most problems if I invest the necessary effort. | 93.33 | 94.84 | NS |
| I can remain calm when facing difficulties because I can rely on my coping abilities. | 86.3 | 87.74 | NS |
| When I cam confronted with a problem, I can usually find several solutions. | 90.66 | 94.27 | NS |
| If I am in trouble, I can usually think of a solution. | 93.33 | 89.81 | NS |
| I can usually handle whatever comes my way. | 87.83 | 87.83 | $p = 0.015$ |

*Percentages represent the pooled survey responses of "moderately true" and "exactly true."

Appendix D

**Table D3: Career Competencies. "How much do you agree or disagree with the following statements?"**

| | Pre | Post | *Sig* |
|---|---|---|---|
| I know what I like in my work. | 92 | 88.81 | NS |
| I know what is important to me in my career. | 88 | 88.96 | NS |
| I can clearly see what my passions are in my work. | 85.33 | 82.24 | NS |
| I know a lot of people with my work who can help me in my career. | 56.17 | 72.55 | NS |
| I know a lot of people outside of my work who can help me in my career. | 58.91 | 75.16 | p = 0.002 |
| I know how to ask for advice from people in my network. | 79.45 | 83.56 | NS |
| I know how to find out what my options are for becoming further educated. | 88 | 86.64 | p = 0.038 |
| I know how to search for developments in my area of work. | 64 | 83.76 | p = 0.003 |
| I am able to explore my possibilities on the labor market. | 56 | 75.97 | p < 0.001 |
| I am able to approach the right persons to help me with my career. | 73.33 | 82.35 | NS |

*Percentages represent the pooled survey responses of "agree" and "completely agree."

Appendix D

**Table D4: Occupational Engagement. "How well does each statement describe you?"**

| | Pre | Post | *Sig* |
|---|---|---|---|
| I talk about my career choices with family and friends. | 84 | 81.94 | NS |
| I am actively involved in groups or organizations. | 70.27 | 76.63 | NS |
| I have contact with people working in fields I find interesting. | 68 | 73.55 | NS |
| I gain hands on experience that I might use in the future. | 84 | 89.04 | NS |
| I volunteer in an area that I find interesting. | 69.33 | 75.97 | NS |
| I attend lectures, exhibits, and community events. | 51.35 | 54.84 | NS |
| I take part in a variety of activities to see where my interests lie. | 60.81 | 74.84 | NS |
| I ask people in social settings about what they do for a living or what they are interested in doing. | 64 | 78.85 | p = 0.05 |
| I visit places I'm interested in working at so I can learn more about them. | 57.33 | 68.83 | NS |
| I attend presentations or talks related to a career I might find. | 44 | 60.89 | p = 0.037 |
| I pursue opportunities in life because I just know they will come in handy. | 85.14 | 80.77 | NS |
| I work with teachers or staff on activities other than coursework (committees, orientation, student life activities, etc) | 66.67 | 74.36 | NS |
| I do lots of things that are interesting to me | 83.78 | 87.74 | NS |
| I have meaningful conversations with students of a different ethnicity | 71.62 | 89.75 | NS |

*Percentages represent the pooled survey responses of "a little like me" and "very much like me."

Appendix D

**Table D5: Career Goals. "How important are the following statements to you?"**

| | Pre | Post | *Sig* |
|---|---|---|---|
| My most important career goals are related to financial outcomes. | 64.86 | 66.24 | NS |
| It is important to me to achieve financial success in my career. | 87.84 | 80.79 | NS |
| It is important for me to be seen by others as a success in my career. | 87.84 | 72.07 | NS |
| I want to be seen as a powerful individual in my company. | 72.97 | 70.4 | NS |
| I want a career that gives me high social status. | 74.32 | 66.02 | NS |
| It is important to me that others not view my career as a failure. | 66.22 | 79.47 | NS |
| It is important to me to continue to learn and grow over the course of my career. | 68.5 | 85.8 | NS |
| It is important that my career offers me opportunities for interesting work. | 86.31 | 86.76 | NS |
| I am willing to gain experience through a wide variety of jobs or work assignments, even if it slows down my "up-ward" career advancement. | 87.84 | 79.6 | NS |
| I want to gain experience through a wide variety of jobs or work assignments. | 78.38 | 81.58 | NS |
| It is important for me to develop my technical/functional skills over the course of my career. | 83.79 | 81.58 | NS |
| I want to have a positive impact on other people or social problems through my work. | 85.13 | 85.62 | NS |

*Percentages represent the pooled survey responses of "important" and "very important."

## Supervisor Post-Survey Results

***Major findings***: Supervisors were highly satisfied with their interns from the CTE Summer Scholars program, and reported few complaints regarding program logistics. Most supervisors did not utilize the training provided by program staff. After reflecting on their experiences, they noted two skill areas that they felt were necessary for their interns to have before arriving: communication and time management.

**Table E1: How many interns from the CTE Summer Scholars program did you have this summer?**

| | (%) |
|---|---|
| 1-2 interns | 57.15 |
| 3-4 interns | 35.72 |
| 5+ interns | 7.14 |

**Table E2: Twenty-First Century Work Readiness Skills "Please rate the degree to which your CTE Summer Scholars intern(s) completed the job well with the following skills"**

| | (%) |
|---|---|
| Produce work that was professional | 85.71 |
| Exercise initiative and creativity | 92.85 |
| Work well as a team player | 100 |
| Respond well to supervisor(s) | 92.86 |
| Professional in appearance | 92.85 |
| Able to apply knowledge of their field of study | 92.86 |
| Exhibit a professional work ethic | 100 |
| Comply with established working hours | 100 |
| Able to convey information to others | 78.57 |
| Manage time well | 78.57 |
| Observe company personnel policies | 92.86 |
| Able to utilize current techniques to complete tasks | 92.85 |
| Meet all expectations | 92.86 |

*Percentages represent the pooled survey responses of "agree" and "strongly agree."

Appendix E

**Table E3: Soft Skills. "How much do you think your interns improved on the following skills over the six week internship?"**

| | (%) |
|---|---|
| Listening | 71.42 |
| Communication | 78.57 |
| Writing | 78.58 |
| Oral presentation | 71.43 |
| Research | 85.71 |
| Problem-solving | 71.42 |
| Critical thinking | 64.28 |
| Self-confidence | 71.42 |
| Teamwork | 85.71 |
| Organization | 78.57 |
| Time management | 78.57 |
| Handling data | 71.43 |
| Networking | 71.43 |
| Setting goals | 71.43 |
| Develop a career path | 78.57 |

*Percentages represent the pooled survey responses of "strong" and "very strong."

**Table E4: Reflecting on your experience with your CTE Summer Scholars intern(s), what skills do you think are necessary for an intern to have before he/she comes to this internship? (Check all that apply).**

| | (%) |
|---|---|
| Good communication skills | 78.57 |
| Good writing skills | 42.86 |
| Basic computer skills | 64.29 |
| Basic research skills | 42.86 |
| Managing time and working within deadlines | 71.43 |
| Knowledge of computer programs used within field | 42.86 |

**Table E5: Did you attend the workshop for internship supervisors that was given by CTE staff?**

| | (%) |
|---|---|
| No | 57.14 |
| Yes | |
| I didn't but someone from my organization did | 14.29 |
| I didn't know there was one | 28.57 |
| I signed on after the workshop was held | |

**Table E6: On an average day, what type of work was your intern(s) doing? (Check all that apply)**

| | (%) |
|---|---|
| Working with databases (using Excel, Access, Filemaker, etc) | 57.14 |
| General office work | 50 |
| More advanced IT work | 14.29 |
| Working with media software | 42.86 |
| Working with clients | 35.71 |
| Creative | 21.43 |

**Table E7: Please rate the quality of work the intern(s) produced, based on his/her/their current level of education:**

| | (%) |
|---|---|
| Excellent | 57.14 |
| Good | 35.71 |
| Fair | 7.14 |
| Poor | |

**Table E8: What type of support were you provided by the CTE Summer Scholars staff? (Check all that apply)**

| | (%) |
|---|---|
| Training before arrival of intern(s) | 28.57 |
| Available to answer questions during 6 weeks | 78.57 |
| Payroll | |
| Purpose of the internship | 42.86 |
| Onsite visits from program work site monitors | 100 |
| Contact from program staff | 71.43 |
| None | |

**Table E9: How competent was the intern(s) compared to other interns with similar education levels you may have had?**

| | (%) |
|---|---|
| More | 35.71 |
| About the same | 42.86 |
| Less | 7.14 |
| I have not had any other interns | 14.29 |

### Table E10: Questions about CTE Program Logistics

| | Yes (%) | N/A (%) |
|---|---|---|
| The expectations of me as a supervisor were made clear by the program. | 100 | N/A |
| I felt I knew who to contact if I had questions about my intern. | 92.86 | N/A |
| I received appropriate and timely responses from CTE Summer Scholars staff regarding any questions I had. | 100 | N/A |
| I felt heard and responded to when I raised issues about the internship process with the CTE Summer Scholars staff. | 35.71 | 64.29 |

### Table E11: What type of company do you work for? (Check all that apply)

| | (%) |
|---|---|
| Nonprofit | 35.71 |
| Government | 7.14 |
| Small Business | 28.57 |
| Media | 35.71 |
| Advertising | 21.43 |
| Tech | 12.29 |
| Other (please specify) | 7.14 |

### Table E12: Questions about the interns and hosting

| | Yes (%) |
|---|---|
| Was this your first year participating in the CTE Summer Scholars program? | 46.15 |
| Would your organization offer employment to this intern(s) if a permanent position was available? | 69.23 |
| Based on your experience with our student(s), would you take another intern from the CTE Summer Scholars program? | 100 |

*Percentages indicate a response of “yes.”

### Table E13: How did you get involved with the program?

| | (%) |
|---|---|
| Word of mouth | 35.71 |
| Recruited by CTE staff | 35.71 |
| Recruited by professional recruiter | |
| Recruited by another person within industry | 21.43 |
| Other | 7.14 |

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