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Backdrop
Stakeholders across Boston’s education and industry ecosystem broadly recognize the value of work-based learning experiences for high school students.

Boston Public School (BPS) Central Office administrators, high school leaders, and teachers see work-based learning as an opportunity to engage students in real-world applications of the knowledge and competencies shared in classrooms. Internships are a way to expose students to professional environments and help them develop comfort and fluency in professional practices, build confidence and agency, and better understand a range of career paths.

Industry leaders across the greater Boston area equally find value in student engagement. In addition to the benefits to students, these experiences help employers to build employee pipelines, to identify and to nurture emerging talent. For some employers, student internships are connected to objectives around diversity and inclusion, as they seek to develop a workforce that better reflects our city. And these connections with students and schools are ways to connect to the Boston community through the lens of real work.
THE PILOT:
PURPOSE AND HYPOTHESIS

In 2018, supported by a grant from GE, four BPS schools worked with the Private Industry Council (PIC) and the BPS Office of External Affairs to pilot a new approach to high school STEM internships. This playbook is a result of the lessons learned through this pilot.

The pilot was designed to remove barriers to internships for students not currently accessing these opportunities. The pilot’s hypothesis was that there are “second row” students within BPS who could thrive at STEM internships if opportunity and supports were available to them. These students are not accessing these internships today because they may not be as visible in the way the system currently serves students and schools.

“Students in the Second Row”

Second row students are those who have strong potential to thrive in work-based learning contexts but may not come to the attention of Career Specialists. These are students who:

• May not proactively seek out internship opportunities
• May not be savvy system navigators
• May not yet have clear or focused interests
• May not be polished in how they present themselves and their ideas
• May not connect strongly to academic work

This pilot was designed to identify, engage and support these students.
In today’s system, relationships are currency. The schools and students who are less-equipped to build and manage relationships are left under-served. Relationships are essential because they are a primary proxy that the PIC and employers have to understand the qualifications of students who to date have not established an employment track record.

High school students have minimal relevant experience, and that’s ok. Employers are clear that they are looking for interns who have enthusiasm and curiosity. They don’t expect them to have the hard skills; that’s what they’re coming to work to begin to learn.

This means, however, that it can be difficult to assess student readiness prior to interviewing. The best proxy for a high school student’s qualifications becomes a real person — a teacher or other adult who understands the student’s academic background, experiences, and qualities.

At times, the Employer Engagement team pushes specific employer opportunities directly to specific schools that the employer has prior experience with.

School utilization of PIC Career Specialists is uneven. In the best cases, career specialists are integrated into pathways and/or are a resource that students are required to utilize. In other schools, the CS resource is not integrated and one-step removed from students’ academic and extra-curricular work. As such, they are only able to access those students who respond to opportunities rather than proactively reaching out to all students to explore potentials together.
COMMON LANGUAGE

Through the pilot, a common language emerged that can unite the district and its partners in delivering high quality STEM internships.

A high quality STEM internship

In the school context, STEM and its content areas and instructional approaches are fairly well understood, if still emergent in many BPS schools. It’s not as clear how these academic experiences translate to the working world, where STEM content areas bleed into each other and cross over into non-STEM endeavors.

During the pilot, we faced questions like...

Would a role in STEM environment but doing non-STEM activities count?
For example, a student working in food service at a hospital.

Would a role conducting STEM activities in a non-STEM environment count?
For example, a student working in IT for an arts non-profit.
A HIGH QUALITY STEM INTERNSHIP HAS THE FOLLOWING ATTRIBUTES:

- Exposes students to professionals and the norms of work environments
- Enables students to understand the variety of occupations and roles within a STEM field
- Provides students with exposure and/or access to STEM tools (hardware, software, problem-solving models, etc.) that they may not normally have access to or practice with
- Engages students in a project (or set of projects) that are facilitated by these tools
Internships are a year-round job

Although internship placement begins in the spring, student preparation must be a year-round activity for schools that make work-based learning part of their strategy for student success. Build a coherent experience for students that connects their in-class experience to their internships...and ladders these to longer-term goals.
Create iterative cycles for student preparation throughout the school year. Help students see that their readiness is something that they build and improve through their activities, whether class projects or out-of-school experiences. By identifying gaps early in the year, they have the opportunity to pursue experiences that will help them to fill these. By the time that PIC internship preparation starts in late winter/early spring, your students will be ready to engage in these discussions.

Based on the pilot experience, we believe that the more career/internship preparation activities can be integrated into the school day, the higher the potential for student attendance and attention. As much as possible, build career readiness habits and protocols into coursework.

Make work and internships part of larger conversations about college, career and life readiness. Help students place internships within a broader context and to see internships as a stepping stone to their longer-term goals and growth. Help them to understand the palette of STEM careers and pathways into these: job shadow day is an existing PIC resource; this can be supplemented by events such as career fairs (live or virtual), TED-like talks from professionals, or the Road Trip Nation tool on Naviance that provides videos from professionals in a host of fields.

Use the experience of the previous summer’s interns to everyone’s advantage. Students can make meaning of their own experiences by communicating them to their peers; students in lower grades can begin to see themselves in roles and industries by hearing about the direct experiences of their peers.
## SUGGESTED TIMELINE

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<thead>
<tr>
<th></th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
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<tbody>
<tr>
<td><strong>Goals</strong></td>
<td>Identify strengths and opportunities</td>
<td>Match students to activities</td>
<td>Identify strengths and opportunities</td>
</tr>
<tr>
<td><strong>Sample Activities</strong></td>
<td>ELA/humanities classes often begin the fall with identity work. Integrate resume writing into this, supported by Career Specialists (CS). Use the district's college, career, life readiness framework to help students identify strengths and areas for improvement. Develop goal for fall semester resume building.</td>
<td>Teacher Leaders (TL) work with CSs to catalogue students' readiness levels and potential areas of interest. TLs and CSs work with students to identify how to grow through classwork or out-of-class activities. Naviance's Road Trip Nation feature has stories from professionals in a range of fields.</td>
<td>Bringing professionals to school for conversations connected to classroom work. College students can serve as near-peer models to talk about internships.</td>
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<td><strong>Mar</strong></td>
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<tr>
<td><strong>Apr</strong></td>
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<tr>
<td><strong>Job shadow</strong></td>
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<td><strong>Applications</strong></td>
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<tr>
<td><strong>Students participate in job shadow opportunities, tailored to the interests that have been identified</strong></td>
<td></td>
<td>Use CCLR framework to help students identify strengths and highlight examples from their work. Support student research into companies to prepare interview questions</td>
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### Dec

- **Assess interests**
- Tls and Cs work with students to explore a range of internship opportunities.
- Last year’s interns share their experiences.

### Jan

- **Match students to activities**
- Tls and Cs work with students to reflect on their goals from the start of school year and to discuss growth based on coursework and extracurriculars.

### Feb

- **Identify strengths and opportunities**
- Tls and Cs work with students to revise resume based on fall goal and accomplishments.

### May

- **Interviews**
- Tls and Cs work with students to explore a range of internship opportunities.
- Last year’s interns share their experiences.

### June

- **Internship preparation**
- Tls and Cs coordinate employment paperwork with students.
- Offer a financial literacy activity and opportunity for students to open bank accounts.
- Tls connect with employers to understand role and to be able to support students throughout summer.

### July

- **Internship support**
- Tls support students in first weeks, ready to talk about on-the-job issues.
- Cs & Tls available to employers for special issues.

### Aug

- **Internship insights**
- Tls and school leader integrate internship insights into school start-of-year PD.
New Structures
NEW ROLE: TEACHER LEADER

The pilot introduced a new role: the Teacher Leader. These Teacher Leaders supplemented the work of the Career Specialists and brought a more in-depth understanding of their students into the process.
CRAFTING THE TEACHER LEADER ROLE

The Teacher Leader is a new role that emerged through the pilot. This role supplements the PIC Career Specialist in identifying students, particularly the “second row” students, and in supporting their preparation for the world of work.

Look for Teacher Leaders with the following characteristics:

In a current role with responsibilities that overlap with the Teacher Leader role

Some schools in the pilot had positions already focused on work-based learning, guidance counseling, or related. Because the responsibilities were complementary to their core job, these individuals were high effective Teacher Leaders.

Know students well enough to be able to draw out qualities and experiences they may not know to highlight

To be able to help a student capture their story in a resume or interview, strong Teacher Leaders have enough ongoing exposure to students to know them and their work.

Connected to the world of work

Able to understand what employers seek and to help students translate this to their own strengths and experiences.

Proactive and highly responsive

Opportunities come and go quickly and Teacher Leaders can be effective promoters to get students to apply and also to advocate for students for these positions.

Able to wrangle students effectively

Teacher Leaders were the best mechanism to get students to show up for supplemental activities.
TEACHER LEADER PRIMARY RESPONSIBILITIES

1 Scouting students
The Teacher Leader role provides greater insight into student preparedness and a supportive personal relationship throughout the internship experience. Teacher Leaders help to identify students early in the process, sussing out whether students are interested, available, and appropriate for these STEM internship positions. Teacher Leaders are a channel into the “second row” students who may not seek out the Career Specialist.

2 Knowing students
As students complete PIC paperwork and, eventually, applications and interviews, Teacher Leaders work alongside them to coach and prepare, highlighting aspects of their experience to surface in their resumes or applications. Because Teacher Leaders have a deeper relationship with students than Career Specialists typically do, they are more aware of relevant classwork, extracurriculars, or personal traits and are able to help students emphasize these.

3 Supporting students
Finally, Teacher Leaders work leading up to and throughout the internships to support their students. Teacher Leaders are the point of connection between student participants, responsible for communicating information about PD and wrangling student participation. They check in with students by text/phone as well as in-person during the internship period.

4 Bridging insights
Teacher Leaders help the broader school community integrate lessons from its student internships. The Teacher Leaders can share internship insights with relevant teachers, inform PD, or shape events on the school’s internship prep calendar.
Regardless of how your school chooses to structure your work-based learning approach, we recommend the following:

1 **Make summer internships someone’s clear responsibility**

There are limits to what the Career Specialist’s role encompasses, and these activities are essential to nurturing work-based learning opportunities for all students. It is necessary for schools with this objective to have a person or team that is responsible for:

- knowing students’ strengths and interests
- helping them identify areas for growth and access resources to support this growth
- actively tracking and monitoring their objectives and progress
- considering how best to position and communicate both student and school strengths
- managing relationships with employers or other post-secondary opportunities
- communicating with students and families about the responsibilities and opportunities of an internship so that conflicts (e.g. vacations) can be avoided
- managing workflow across students and adults so that energy is focused on the appropriate opportunities

2 **Schools benefit from integrating their Career Specialist as closely as they can into the work that the school is doing to prepare students for college and career**

Career Specialists benefit from opportunities to more deeply understand the range of courses, extracurriculars, class projects, and other activities that students are engaged in. Recognizing that personal relationships with students allow Career Specialists to be able to help them to more powerfully represent their strengths, give Career Specialists ways to engage with students in multiple modes and spaces.
# BUDGET PLANNING

<table>
<thead>
<tr>
<th>School Expense</th>
<th>Description</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Leader Stipend</td>
<td>1 TL at a school for 122 hours of work through December - August at BTU contract rate</td>
<td>$6,000</td>
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</table>

<table>
<thead>
<tr>
<th>District Expense</th>
<th>Description</th>
<th>Budget</th>
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</thead>
<tbody>
<tr>
<td>Catie's Closet</td>
<td>Catie's Closet for one school if they do not already have.</td>
<td>$10,000</td>
</tr>
<tr>
<td>MBTA M7 July &amp; August</td>
<td>$60 for two months of M7's for 10 students at each school</td>
<td>$600</td>
</tr>
<tr>
<td>Transportation to PD's</td>
<td>This can range from $90-90/session depending if students already have an M7 or S-card for 20 students. $90x7 sessions = $630</td>
<td>$630</td>
</tr>
<tr>
<td>PD Sessions</td>
<td>A PD session for one school can range from $2000 - $0.00 depending on the type of session and how many students can attend. It is assumed that PD sessions will happen with multiple schools to keep costs low. Based on the current type's of PDs, it would cost schools $2600 each to provide the PD's on their own to pay the vendors/program partners.</td>
<td>$2,600</td>
</tr>
<tr>
<td>Food/snacks for students</td>
<td>$100 of snacks &amp; water for 20 students at 1 PD session. $100 x 7 days = $700</td>
<td>$700</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employer Expense</th>
<th>Description</th>
<th>Budget</th>
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<tbody>
<tr>
<td>Student Summer Internship</td>
<td>For one student: Shr/day x $11/hr = $55/day x 5 days/wk x 6 weeks = $1650. This cost is assumed to be taken on by the employer. 10 students x 1650 = $16500</td>
<td>$16,500</td>
</tr>
</tbody>
</table>

**TOTAL**  
It is hoped that in the future schools would take on the cost of the TL (16% of the program cost)  
$37,030
Preparing students

To meet the needs of “second row” students, schools should recognize that additional development may be necessary to get these students ready for internship experiences. Based on the pilot, we suggest here a set of supports for students, spanning knowledge-building, employability skill development, mentorship, and logistics.
THE GOAL:
A READY STUDENT INTERN

College, career, and life readiness competencies

Of the CCLR competencies, employers most often emphasized the following:

- **Communication**: students who are able to express themselves clearly, ask for direction when needed, and articulate perspectives in speaking and writing
- **Curiosity**: students who care about the work that the employer organization does and who are interested in learning more
- **Collaboration**: students who can work in teams, work together to solve problems, and take both direction and initiative

Hard skills that some employers seek

Though less common, some employers did seek hard skills, mostly in ability to navigate some basic office tools and platforms.

- **Software fluency**, such as ability to navigate Microsoft Office suite, Adobe suite, database softwares, or basic programming language

While technical skills and content knowledge may be important to some roles, the majority of employers emphasized that they do not expect these from their high school interns. Instead, they are looking for students who expressed soft skill competencies.
THE RESUME AND INTERVIEW

Students have two primary avenues with which to express these strengths and to connect with employers. In both resumes and interviews, students should be coached to be concrete and authentic to themselves. Trying to say the “right” thing is less impactful than genuinely expressing their interests and stories of the work that they have cared about.

THE RESUME

Resumes are a place for students to highlight their strengths. Again, these strengths can relate to both hard skills and content interests as well as soft, employability skills. Things to consider might include:

1. Relevant or unique classes taken
   For example, one student in the pilot had taken a video game design class, which was unique enough to start a more general conversation about design.

2. Extracurricular activities, including non-school sponsored
   For example, one student in the pilot was working independently with a friend to design and produce their own clothing line.

3. Examples of projects they are proud of
   For example, one student in the pilot participated in BUILD and was able to speak about the product her team had created.

4. Articulation of student’s interests
   For example, one student in the pilot was able to describe her love of stories and storytelling.
INTERVIEW READINESS

The interview is an opportunity for students to connect with the employer and to express some of their personality and passion. Interviews are typically brief, around 20 minutes in length. To prepare students to do well interviewing, it is useful for them to have:

1. **Some amount of knowledge about the employer organization or field of work**

   Employers want to know that the student is interested in their organization specifically, not just any job.

2. **Ability to talk about strengths**

   It can be hard and abstract to talk about what you are good at, especially when these are soft skills. We recommend the City’s College, Career, and Life Readiness definition as a way for students to identify strengths.

3. **Specific example(s) of how these strengths have been demonstrated**

   Students can prepare a story of a project, class, or extracurricular activity that brings to life each of their strengths.

4. **Questions about employer and/or role**

   These questions should demonstrate that the student has interest in the employer and/or the specific role. They are an opportunity to show their curiosity. They can be about the day-to-day aspects of the internship, or broader questions about the work the organization does.
PROFESSIONAL DEVELOPMENT SESSIONS

The pilot designed six professional development sessions intended to prepare students for their summer internships and to support their engagement in STEM careers.

WORKSHOP 1
Office basics

Students were given hands-on experience with typical office software and learned communications best practices. Content areas included the Google Suite of products, Microsoft Office, email and calendar etiquette and management, and web research.

This bootcamp was taught by members of the BPS Office of Instructional and Information Technology. Staff conducted workshops at each of the participating schools.
WORKSHOP 2

Soft skills

Through the techniques of improv comedy, students learned about listening, teamwork, when to speak, when not to speak, and how to think quickly on their feet. Skills were taught in a fun, interactive atmosphere.

This bootcamp was hosted by the Improv Asylum, a comedy theater that also uses improv as a tool for corporate skills training.

WORKSHOP 3

Relationships

To build the group’s identity as a STEM program cohort, the students were brought together for a rapport building event.

This bootcamp was held at Fenway Park. Red Sox employees spoke with students about how they apply their STEM skills in their jobs as baseball and business analysts. Students toured the park, watched batting practice, and enjoyed the game.
WORKSHOP 4
STEM professionals

This TED-style speaking event placed students in front of industry leaders and creatives who showcased the innovative ways that they use STEM education in the workplace. Speakers included Jen Briselli, an experience designer at the consultancy Mad*Pow, Doug Ruuska, an artist and maker who brings his physics background to his art installations, and Leonie Man-shanden, who works in video game development at Ghost Story Games.

WORKSHOP 5
STEM workplaces

To expose the group to STEM work environments, students toured two innovative office spaces at the Innovation & Design Building in Boston’s Seaport. Reebok highlighted how its newly designed office supports its focus on fitness and innovation — and gave students a taste of its fitness programs. Autodesk toured students through its BUILD space, a collaborative research and development workshop.

WORKSHOP 6
STEM careers

This event highlighted STEM pathways and potential careers. Danielle Wood from the Space Enabled Research Group at the MIT Media Lab blew students minds with a description of her work in the design of space technology, talking about how her lab uses satellite data to improve communities on Earth. Beforehand, students participating in a Young People’s Project MIT Learning Lab program shared with their peers their summer coding work and activities.
Logistical barriers to a summer internship can stand in the way of students’ appetite for and ability to access work.

1 Transportation
M7 passes for the months of July and August enable students to get to work. These should be delivered to students directly — at schools or via workplaces.

2 Clothes
Work-appropriate clothing can be made available to students via Catie’s Closet.

3 Bank account
Lack of a bank account can be an issue for students, either because of concern carrying cash or fees charged by check cashing institutions.

4 Identification
Applying for a state ID card takes some time and paperwork. Some students may need support with this.
Making your school’s work visible

Because nuances of student strengths and experiences can be hard to suss out, employers often look to understand school programs and strengths. Across BPS, schools can use the same language to mean different things, so it can be hard for employers to level-set as they look across the schools, programs and courses.
BE CLEAR ABOUT WHAT YOUR SCHOOL IS DOING WELL

Build communications that speak loudly about the programs you have in place, what hard and soft skills they build, and why you think they empower your students to succeed. Talk about your rationale as an educator and the details of your programs that you think are differentiated and powerful.

CONSIDER THE EMPLOYER’S PERSPECTIVE

If you have opportunities to understand how employers frame what they look for in their interns, take them! Opportunities to speak directly with employers, to visit workplaces, or to participate in industry-crafted PD are all chances to learn about what employers seek. This will help you to position your school in ways that resonate with employers, to use the language of the industry rather than the educator, or to emphasize the elements that professionals find most compelling.

BUILD TOOLS THAT STUDENTS CAN USE

Imagine a one-pager that a student can append to their resume that describes their school’s philosophy, approach, and programs, or websites for key clubs or programs that a student can provide links to, or classroom work that feeds naturally into a shareable portfolio for students.

DON’T FORGET THE SOFT STUFF

The most common thing we heard that employers seek in their candidates were employability skills. At this level communications, collaboration, curiosity, and accountability count more than hard skills.
Building strategic relationships

While these recommendations seek to provide more access to high-quality STEM internships for students, direct relationships between schools (or even teachers) and employers remain a consistent source of opportunities for students.
DIRECT RELATIONSHIPS BETWEEN SCHOOLS AND EMPLOYERS

Though the PIC is a resource for internship opportunities, many schools maintain direct relationships with employers, and it’s common for employers to return to known schools for interns year after year.

Building direct relationships with employers also provides your school with more ways to engage these professionals with your school and your students — over and above the internship.

These might include:

- Professionals co-teaching a unit with one of your teachers
- A former intern and their manager speaking to the school about their workplace
- Opportunities for your teachers or counselors to shadow professionals to more deeply understand the work world their students will enter

Insight from employers can help you to shape the pathways you design for students.

This insight can translate these pathways from academic pursuits to those grounded in the needs of today’s workplace.