

P>TECH

WELCOME!

INTRODUCTION TO UNAMA'KI P-TECH

PATHWAYS IN TECHNOLOGY EARLY COLLEGE HIGH SCHOOL

Pathways in Technology Early College High School (P-TECH) is a new type of school that integrates high school, college and the professional world.

- The unique culture of a P-TECH school is built upon high expectations for students and a belief that all students can earn their college diploma should they desire.
- Students see themselves as “college students” and “on a career pathway” from the moment they begin 9th grade.
- The model integrates high school and college coursework, enabling students to begin college courses as soon as they are ready.
- Students also participate in a range of workplace opportunities that include mentoring, site visits and paid internships — all designed to support students’ academic and professional growth.

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New Collar jobs of the future—formula for success



Pathway to college and New Collar careers



www.ptech.org

Source: IBM

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Unama'ki P-TECH Model

- Students from Unama'ki P-Tech will **graduate** with both a Nova Scotia **High School Diploma** and a 2-year Nova Scotia Community College (NSCC) diploma at **no cost**.
- Provides **real world work experiences**/placements, industry mentors, field trips, tech camps and more, in addition to classroom learning.
- Students' **progress** based on their **own abilities and competencies** and can graduate in 4, 5 or 6 years beginning in your grade 9 community school. Grade 10 and beyond see students from across each school come together in one location for completion (most likely Membertou).
- **Mi'kmaq culture and language** will be part of all programs within P-Tech.

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P-TECH Principals

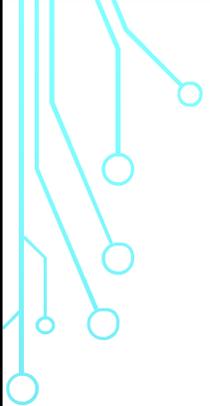
Culture

1. In-College / Career-Ready Culture

P-TECH schools are not just creating a college-going culture but an "in-college" culture. Through deep partnership and alignment, school leaders and teachers, college partners and industry leaders foster an in-college mindset through academic programs and experiential learning opportunities.

When students enter the building on the first day, they know they are entering college and the workplace.

Thus, they have the mindset required to meet rigorous academic demands and develop the full range of technical and workplace skills for college and career success.



2. Values and Norms

P-TECH schools are explicit about their values and norms – and articulate them. As much as possible, these values and norms should be created by all participants == all three partners, students, and families, with a focus on students, rather than having them developed solely by school leadership.

This ensures that everyone is bought in and feels committed to embodying the values over time.

3. Space

Whether a stand-alone school, or a school-within-a-school, P-TECH's physical space should reflect core values and industry needs. From school branding to classroom setup, P-TECH schools should strive to demonstrate themselves as leaders in college and career readiness while also aligning to the global network. Each P-TECH school should have a name and logo along with branded collateral that fosters a distinct presence and identify.

P-TECH schools also reflect the workplace of its industry partners, incorporating workspaces, meeting areas, and other spaces that allow students to truly experience the environments in which work happens.



4. Engaging Parents

An essential element of P-TECH schools is engaging families as partners. Students and their families have chosen a rigorous academic path, and schools must provide significant communication, support, and guidance along the journey so that students and their parents/guardians are informed and have the agency to make the best decisions along the way.

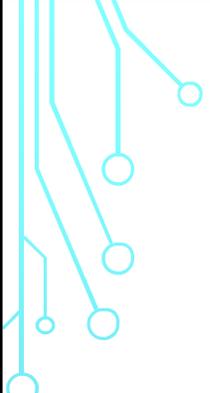
For example, to enable families to fully support their children, the school and college must inform them about the coursework required for students to earn their diploma when students may be experiencing academic trouble. Similarly, families should understand the benefits of a paid internship and the requirements to earn one.

Career Readiness - Building Towards Internships

Cross-Sector Integration for Readiness

To ensure students graduate career-ready, Industry Partners provide a comprehensive set of focused workplace experiences. These experiences are not additional to the high school and college coursework, but instead integrated into the academic Scope & Sequence.

In the early years, these opportunities provide students with direct exposure to professionals in their chosen field and teach them the technical and workplace skills that industry demands. These activities include workplace learning courses, worksite visits, mentorship, and job shadowing.



Project-Based Learning

Students in a P-TECH school need to “learn by doing” as much as possible. This occurs through the curriculum, as well as in project-based learning opportunities in all core academic classes. Project-based learning focuses on real-world issues and teaches students how to collaborate and solve problems. Students learn how to build consensus and compromise as they elicit ideas and feedback.

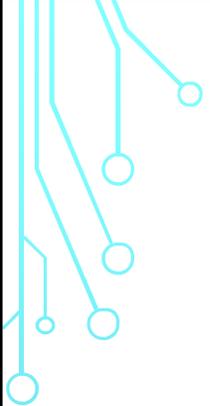
Developing these skills is vital to success in the workplace. Industry Partners play a key role in the school’s project-based learning approach. They should work closely with high school and college faculty to connect academic content to real-world situations and to ensure that workplace readiness skills are also addressed.

Worksite Visit

A Worksite visit is a highly structured career awareness activity in which students visit a workplace, learn about the business, meet employees, ask questions, and observe work in progress. Proper planning and preparation, attention to legal and safety details, maximization of learning potential, and communication and support for the student and industry host will help ensure success.

To ensure that the visit is robust, the opportunity should have specific learning outcomes, including building knowledge about the education and training needed to succeed in the industry and creating awareness of the business’s role in the community.





Mentoring

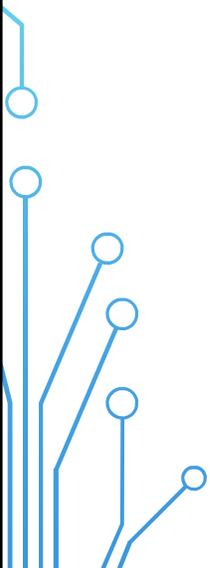
P-TECH students have ample opportunity to interact and build relationships with professionals. Mentors share their skills, lead sessions, model behaviors, and offer support, guidance, and inspiration to students. Mentors should be carefully selected for their ability and willingness to lead and work with students. Regardless of their background, all mentors should be trained, so they understand their roles and responsibilities and the best way to engage students. Students may be matched to the same mentors for the entire course of their P-TECH schooling, or have different mentors throughout their experience.

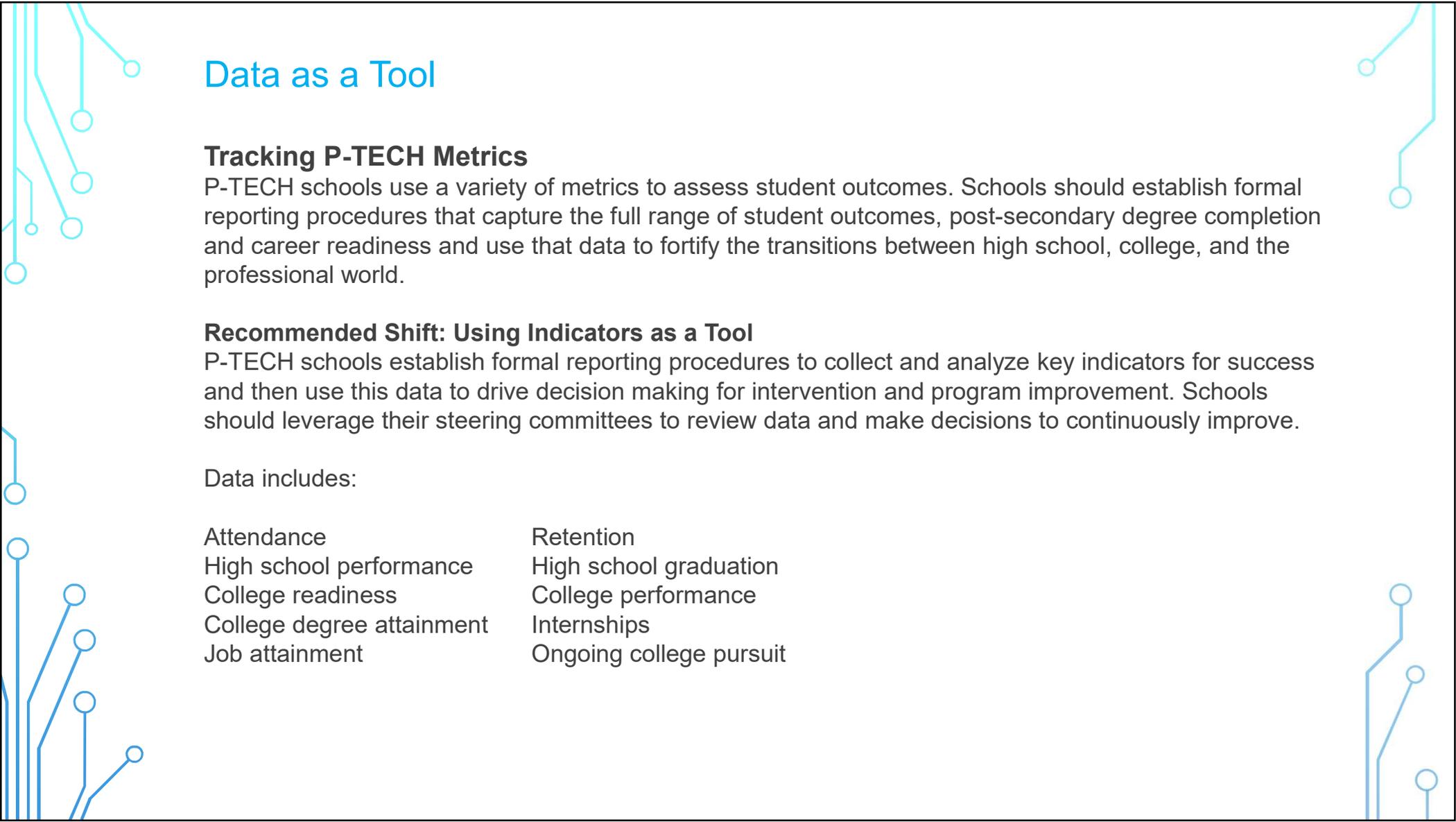
Mentorship can involve participation in workplace learning classes, school projects, hackathons or discussions at the school or workplace.

Internship Preparation

P-TECH students begin preparing for internships as early as day-one of their P-TECH experience. To earn an internship, students must demonstrate technical ability and workplace readiness. All students should create robust resumes and portfolios throughout their P-TECH journey that show success with key projects, accomplishments and coursework. Students should expect to apply and interview with industry leaders to earn their internship. Similarly, industry internship supervisors should be vetted to ensure equity and quality of experience. Internship supervisors should provide several formal and informal opportunities to offer feedback and build on strengths.

This data should be shared with the partners and used to quickly implement improvements to programming for future cohorts - both within the internship and also to map back to earlier workplace learning experiences.





Data as a Tool

Tracking P-TECH Metrics

P-TECH schools use a variety of metrics to assess student outcomes. Schools should establish formal reporting procedures that capture the full range of student outcomes, post-secondary degree completion and career readiness and use that data to fortify the transitions between high school, college, and the professional world.

Recommended Shift: Using Indicators as a Tool

P-TECH schools establish formal reporting procedures to collect and analyze key indicators for success and then use this data to drive decision making for intervention and program improvement. Schools should leverage their steering committees to review data and make decisions to continuously improve.

Data includes:

Attendance

High school performance

College readiness

College degree attainment

Job attainment

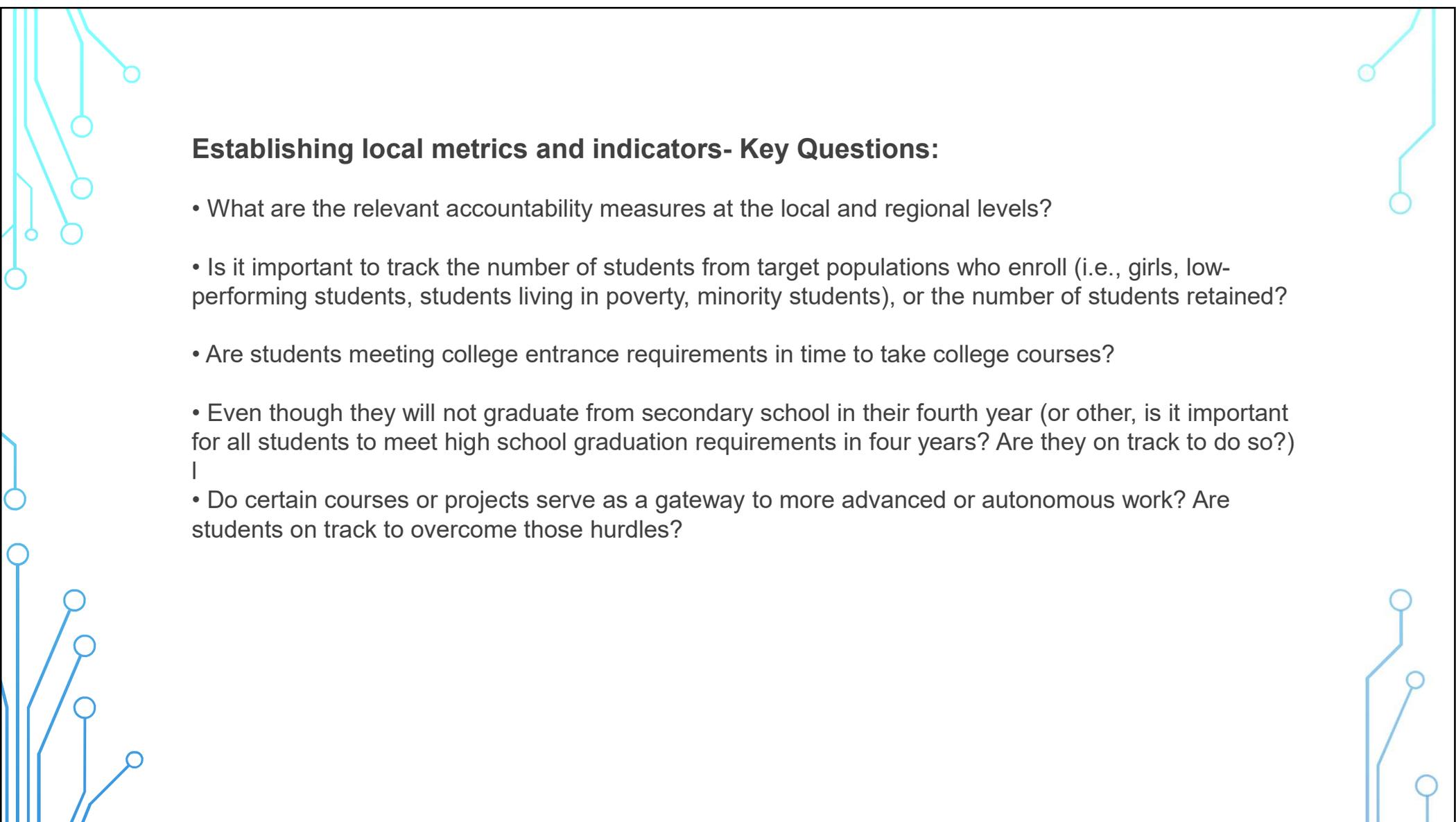
Retention

High school graduation

College performance

Internships

Ongoing college pursuit



Establishing local metrics and indicators- Key Questions:

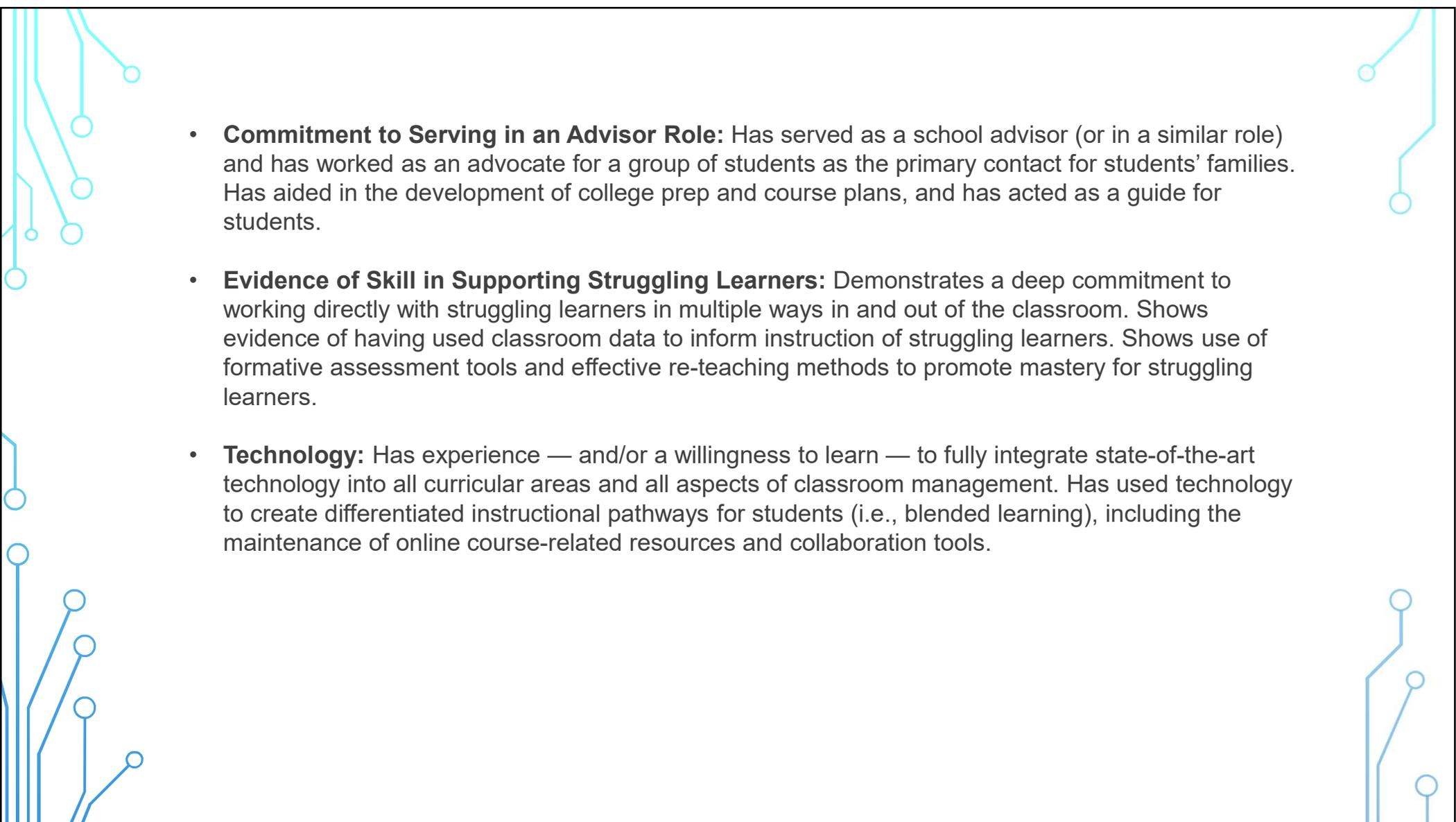
- What are the relevant accountability measures at the local and regional levels?
- Is it important to track the number of students from target populations who enroll (i.e., girls, low-performing students, students living in poverty, minority students), or the number of students retained?
- Are students meeting college entrance requirements in time to take college courses?
- Even though they will not graduate from secondary school in their fourth year (or other, is it important for all students to meet high school graduation requirements in four years? Are they on track to do so?)
- Do certain courses or projects serve as a gateway to more advanced or autonomous work? Are students on track to overcome those hurdles?

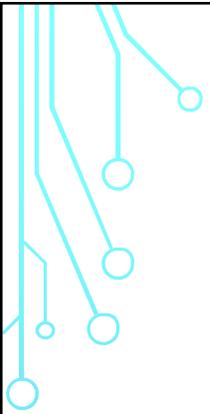
P-TECH Educators - Ongoing development

Key Skills for P-TECH Educators

Creating a culture of high expectations for students starts with carefully selecting the teaching faculty. For school principles that have the power to do so, he or she should select teachers who have a demonstrated commitment to P-TECH's goals. It may also be beneficial to hire teachers who have connections to the targeted technology industries and who have geographic, cultural, and/or linguistic commonalities with the students. Ideally at least some of these teachers should participate in the planning process for the school. The following are five key teacher characteristics:

- **Supporting College Readiness and/or Workforce Readiness:** Demonstrates exceptional skill at developing curricula and instructional practice aligned to college and career readiness. Has experience working with college and industry partners. Discusses artifacts with confidence, and shows a clear connection to post-secondary readiness.
- **Expertise in Area of Specialization:** Demonstrates a high level of commitment to his or her content area, and shows evidence of significant professional growth in his or her subject at the high school level.

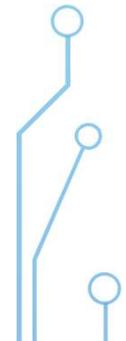
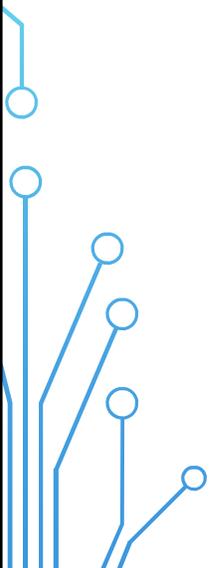
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- **Commitment to Serving in an Advisor Role:** Has served as a school advisor (or in a similar role) and has worked as an advocate for a group of students as the primary contact for students' families. Has aided in the development of college prep and course plans, and has acted as a guide for students.
 - **Evidence of Skill in Supporting Struggling Learners:** Demonstrates a deep commitment to working directly with struggling learners in multiple ways in and out of the classroom. Shows evidence of having used classroom data to inform instruction of struggling learners. Shows use of formative assessment tools and effective re-teaching methods to promote mastery for struggling learners.
 - **Technology:** Has experience — and/or a willingness to learn — to fully integrate state-of-the-art technology into all curricular areas and all aspects of classroom management. Has used technology to create differentiated instructional pathways for students (i.e., blended learning), including the maintenance of online course-related resources and collaboration tools.



Supporting Collaboration:

In a school with such high expectations and an intense academic schedule, teachers must work closely to coordinate expectations for students and ensure that the program is rigorous, but manageable. A high level of teacher collaboration is needed to design and refine the curriculum and ensure that each activity and/or class supports and reinforces the others. Shared collaboration time for teachers to work together, and importantly, for teachers to work with college professors is critical to creating a seamless learning experience for students.

Collaboration should include time for yearly planning and also embedded opportunities to work together on a regular basis within the school-year . Collaboration with industry is also essential - particularly for workplace learning, and to ensure that teachers and professors are able to speak the language of industry to students.



Industry based Professional Development:

High school and college instructors need industry-based professional learning opportunities to prepare them to teach workplace learning skills and integrate real-world problems into coursework. There are various ways these learning opportunities might be designed - through mentorship between industry and teachers, externship opportunities, site visits, co-creation exercises, and general access to trending workforce needs.

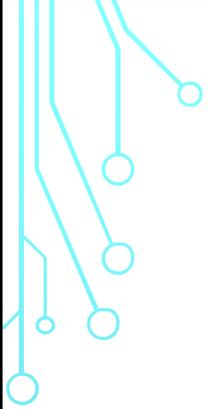
Student Supports for Post Secondary Success

Recommended Shift: Support Structures:

- **Summer Bridge:** designed to help students ease into P-TECH by participating in activities that help develop in- college and career-ready mindset. Also time that can be used to enable students to take high school and/or college coursework to ensure they will graduate with their postsecondary degree within the P-TECH timeframe.
- **Advisory Class:** a teacher-Advisor leads activities designed to help teach personal goal-setting, social skills, and the professional skills required for workplace mobility. Students' relationships with their Advisors can help identify and address personal and academic challenges that require individualized intervention.
- **College 101:** Course offered to student taking college courses to help build essential skills in time and stress management, studying and test-taking strategies, and offer opportunity for targeted interventions

Early College Liaison

The Early College Liaison serves as the intermediary between the community college and the P-TECH school. This individual is responsible for registering students for their college courses, tracking student performance, and managing budgets, as appropriate, for college coursework, books, and supplies. Following student performance is done with the active support of the school. The Early College Liaison is also responsible for convening high school and college faculty on a regular basis to examine student work and performance, shared pedagogical approaches, and interventions and supports for students.

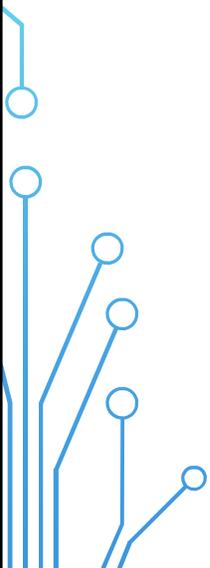


Engaging Families and Communities

Research shows that families are key influences on student academic success and on college admission and retention. P-TECH families may need guidance about successful ways to support their children along the challenging path they have chosen. It is important to identify the messages, information, and types of support that families will need at the start of the program, as well as in each year of coursework.

During the student recruitment process, for example, open houses not only educate families about the school, but also about the job skills the students will be expected to learn and the types of jobs they will be qualified to fill upon graduation. During these sessions, inviting industry professionals to speak to their job experiences and college faculty to describe the associate degree requirements have helped families better understand the school and the value proposition.

Schools may also build in additional opportunities to engage families in the dialogue and include them in the P-TECH experience through internship showcases, college kickoffs and additional enrichment opportunities.



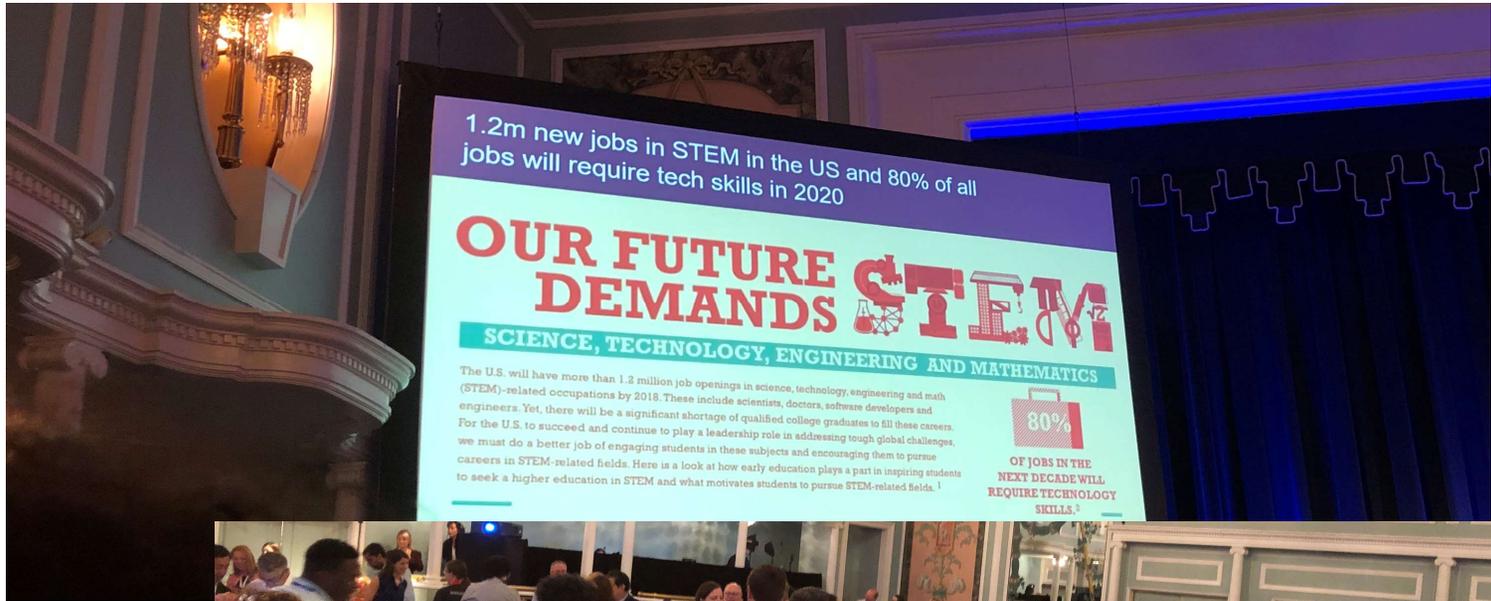
Unama'ki P-Tech School Steering Committee

- Mi'kmaw Kina'matnewey (MK) with the Five First Nations communities across Unama'ki
- Mi'kmaw Economic Benefit Office (MEBO)
- IBM
- Province of Nova Scotia
 - Department of Labour and Advanced Education(LAE)
 - Department of Education & Early Childhood Development (EECD)
- Nova Scotia Community College (NSCC)
- Ulnooweg (Digital Mi'kmaq)

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Three 9-14 Cohorts P-TECH Brooklyn

	Entered 2011	Entered 2012	Entered 2013	Average	Average
Total Cohort	98	113	87	98.6666667	98
Graduated in 4 Years	71	75	70	72	72
Graduated in 5 Years	14	14	70	11.33333333	13
Graduated After 6 Years	7	4	4	5.333333333	5
Earned 2-Year STEM College Degree Grade 12	2	2	0	1.333333333	1
Earned 2-Year STEM College Degree Grade 13	6	11	8	8.666666667	8
Earned 2-Year STEM College Degree Grade 14	19	18	9	15.33333333	15
Hired by IBM	5	4	3	11.66666667	13
	17	8	0	6.333333333	8

Three P-TECH 9-14 Cohorts
 72 graduated within four years
 Another 16 graduated high school in the next two years (i.e., within six years of starting 9th grade).
 37 Earned a 2-year STEM college degree within 7 years of entering high school
 8 Hired by IBM

3 Cohorts Entered 2011-2013	Total	Female	Male
Asian	15	6	9
Black	251	56	195
Hispanic	30	12	18
Total	296	74	222

P-TECH Grade 9 Program

Breakfast	8:00 - 8:30
Physical Education	8:35 - 9:18
English	9:21 - 10:04
English	10:07 - 10:53
Workplace Learning	10:56 - 11:39
Lunch	11:42 - 12:25
Workplace Learning	12:28 - 1:11
Mathematics	1:14 - 1:57
Mathematics	2:01 - 2:41
Technology	2:43 - 3:23
Technology	3:26 - 4:06
Enrichment Activities	4:30 - 7:30

What can you do to get ACTIVE on social?

Create an account

Update your profile

Engage with @PTECHNETWORK:

Retweet, comment, like posts

Be relevant

Post your own stories

Capture pictures, videos, Boomerangs, etc.

Use #PlanetPTECH2019

Build relationships and be authentic

Engage with other people who are sharing content about education, hobbies, interests, etc.

Curate content and follow other thought leaders in the industry



Project Lead

Wanda Compton
P-TECH Project Manager

o: 902-562-4700, ext 3314

c: 902-919-2345

e: wandacompton@mebons.ca

w: <http://mebons.ca/unamaki-pathways-in-technology-early-college-high-school/>

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