What Is MyTech?

- A large-scale pilot implementation of 1:1 take-home Chromebooks for DPS students funded by 2016 bond money.
- Originally scoped to serve 12-20 secondary (serving grades 6-12) schools and 7,700 secondary students through the 2019-2020 academic year.
- Following school selection and budgeting refinement, we are now working with 14 schools and nearly 9,000 students.
Through an initial application process and subsequent planning process, 14 schools were selected.

<table>
<thead>
<tr>
<th>School Name</th>
<th>Enrollment</th>
<th>FRL %</th>
<th>SPF Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>South High School</td>
<td>1,605</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skinner Middle School</td>
<td>609</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North High School</td>
<td>1,131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merrill Middle School</td>
<td>564</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual High School</td>
<td>312</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake International School</td>
<td>340</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hillCAS</td>
<td>711</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Tech Early College</td>
<td>909</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hamilton Middle School</td>
<td>890</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florence Crittendon HS</td>
<td>121</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DASD</td>
<td>231</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DCIS Montbello</td>
<td>942</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruce Randolph</td>
<td>732</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bill Roberts</td>
<td>187</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Schools were selected.
at-home internet access (grant from Sprint)

717 Hot spots assigned to students to address

789 Chromebooks in “spares pools” at schools

492 Chromebooks assigned to teachers

8,524 Chromebooks distributed to students

38 Separate Distribution Events

August 2017 - February 2018
We believe that just putting Chromebooks in students’ hands is insufficient, therefore, MyTech includes 10 Digital Coaches that provide pedagogy and coaching for technology integration in the classroom.

- Digital Coaches are funded by 2016 Mill Levy funds.
- Digital Coaches are collaborative members of the instructional leadership team at each MyTech school.
- EdTech is partnering with the Digital Coaches to provide best practices for professional development and coaching.
- MyTech teachers focus on specific LEAP (teacher effectiveness framework) indicators based on their schools’ Unified Improvement Plan.
- Each MyTech school is implementing digital coaching cycles that have accounted for 1500 coaching cycles and professional learning with teachers.
- MyTech includes 10 Digital Coaches that provide pedagogy and coaching for technology.
- We believe that just putting Chromebooks in students’ hands is insufficient, therefore, MyTech includes 10 Digital Coaches that provide pedagogy and coaching for technology.
Hearing from Skinner Middle School

Michelle Koyama - Principal
Teacher Focus Groups  
Digital Coach Focus Groups  
Student Perception Survey  

Some early evaluation metrics worth looking at:

- Student Perception Survey
- Digital Coach Focus Groups
- Teacher Focus Groups

Working with Dr. Brooks Rosenquist, we are looking at both inputs and outcomes to determine what we are doing that is having an effect and what that effect is.

Independent Program Evaluator, Brooks Rosenquist, Denver Public Schools’ Strategic Analytics Team has assigned us an
IN-CLASS TECH USE:

RESULTS FROM STUDENT SURVEY QUESTION ATTACHED TO FALL 2017 WHOLE CHILD PILOT ITEMS
Survey Item: “How often do you use computers or tablets (including Chromebooks) in your English class?”

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than once a week</td>
<td>7,343</td>
<td>28%</td>
</tr>
<tr>
<td>Once a week</td>
<td>2,311</td>
<td>9%</td>
</tr>
<tr>
<td>A few times a week</td>
<td>5,191</td>
<td>20%</td>
</tr>
<tr>
<td>Almost every day</td>
<td>5,041</td>
<td>19%</td>
</tr>
<tr>
<td>Every day</td>
<td>5,489</td>
<td>21%</td>
</tr>
<tr>
<td>Total</td>
<td>25,375</td>
<td>100%</td>
</tr>
</tbody>
</table>

Number of Schools: 79

Table:

<table>
<thead>
<tr>
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<th>Percent</th>
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<td>5,041</td>
<td>19%</td>
</tr>
<tr>
<td>Every day</td>
<td>5,489</td>
<td>21%</td>
</tr>
<tr>
<td>Missing</td>
<td>573</td>
<td>2%</td>
</tr>
</tbody>
</table>

Total: 25,375

79% of students reported using computers or tablets at least once a week.
Across schools, students in MyTech schools reported using computers or Chromebooks more frequently in their English classes than students in Non-MyTech schools. The graph shows that 39% of students in MyTech schools use computers daily compared to 31% in Non-MyTech schools. Additionally, 44% of MyTech students use computers almost every day compared to 39% in Non-MyTech schools. The usage decreases as the frequency decreases, with a higher percentage of MyTech students using computers less frequently.
While some Non MyTech schools have large percentages of students using these technologies every day or almost every day, MyTech schools have higher percentages of students with this survey response, on average. MyTech school average: 72%. Non MyTech school average: 40%. 
QUESTIONNAIRE RESULTS
INTERVIEW AND
NOVEMBER 2017
MYTECH DIGITAL COACH
Digital Coaches express high expectations for teacher professional learning and program implementation after only four months into the school year. This calendar year.

Coaches view MyTech implementation as very likely to positively influence student learning, and schools are taking the devices home, and

The vast majority of students in MyTech.

However, Digital Coaches report that:

- Of the 14 schools.
- Characterized these plans as insufficient in 6.
- Plans as excellent, coaches also did coaches characterize progress on school.
- In none of the 14 MyTech schools.
- Implementation after only four months into the
- Teacher Professional Learning and Program.

Digital Coaches express high expectations for

**KEY FINDINGS: (1 OF 2)**
KEY FINDINGS: (2 OF 2)

• Coaches generally report that teachers at MyTech schools perceive their role and support in productive ways.

• A few site-level factors were cited as strengths in some schools and challenges in others, suggesting some schools and challenges in others, suggesting that these elements are important to attend to, given that they seem likely either to contribute to or interfere with the success of 1:1 Chromebook implementation. Key factors falling into this category include:

  • Technology infrastructure at the site;
  • Communication/lack of communication from school administration; and,
  • Teacher buy-in.

A few site-level factors were cited as strengths in productive ways schools perceive their role and support in. Coaches generally report that teachers at MyTech
March 21, 2018

Teacher Focus Groups
Preliminary Analysis

Discover a World of Opportunity
Public Schools
Denver

TEACHER FOCUS GROUPS
PRELIMINARY ANALYSIS
In December, 2017 and January, 2018, program evaluators with DPS’s Strategic Analytics Team facilitated teacher focus groups in five of the MyTech schools. In total, 23 teachers participated.

Their responses are reported here. During these focus groups, teachers also filled out questionnaires with survey questions about their experiences. Their responses are reported here.

In December, 2017 and January, 2018, program evaluators with DPS’s Strategic Analytics Team facilitated teacher focus groups in five of the MyTech schools. In total, 23 teachers participated.

**Survey**

**The DPS Data Culture**
BENEFITS: Teachers frequently report benefits related to teacher and students' access to technology and instructional resources.

Open Response: “Briefly, what are the biggest successes or accomplishments you personally have experienced in integrating 1:1 Chromebook technology into your assignments and classroom instruction?:”

“There are so many great websites/technology tools I am now able to use with my students that really help enhance their learning. Kids are becoming more comfortable using the technology than they were before they had it.”

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved organization of materials</td>
<td>36%</td>
</tr>
<tr>
<td>Enhanced student collaboration/cooperation</td>
<td>18%</td>
</tr>
<tr>
<td>Diminishes negative impact of student absences</td>
<td>14%</td>
</tr>
<tr>
<td>Increased student accountability</td>
<td>14%</td>
</tr>
<tr>
<td>Improved student data tracking</td>
<td>14%</td>
</tr>
<tr>
<td>Improved differentiation/personalization</td>
<td>14%</td>
</tr>
<tr>
<td>Increased student engagement</td>
<td>14%</td>
</tr>
<tr>
<td>More equitable student access to technology</td>
<td>14%</td>
</tr>
<tr>
<td>Access to more or better resources for teaching and learning</td>
<td>14%</td>
</tr>
</tbody>
</table>
Almost all teachers report receiving help from the Digital Coach at their school. Multiple Choice: “Which of these sources have helped you to learn how to integrate Chromebooks into instruction this school year? Check all that apply:”

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Leaders</td>
<td>26%</td>
</tr>
<tr>
<td>Other Teachers</td>
<td>48%</td>
</tr>
<tr>
<td>Teacher in my Grade Level</td>
<td>52%</td>
</tr>
<tr>
<td>Teachers in my Content Area</td>
<td>65%</td>
</tr>
<tr>
<td>Self-Study</td>
<td>70%</td>
</tr>
<tr>
<td>My Students</td>
<td>74%</td>
</tr>
<tr>
<td>Digital Coach</td>
<td>96%</td>
</tr>
</tbody>
</table>
Teachers reported receiving a wide-variety of supports from the Digital Coach. Regularly included assistance with digital text books, digital note-taking, Google surveys, coaching cycles, and co-teaching.

(Other forms of support reported less frequently include: assistance with digital text books, digital note-taking, Google surveys, coaching cycles, and co-teaching.)

- %6: Providing small-group professional learning sessions.
- %6: Technology.
- %6: Adapting pre-existing resources to the technology.
- %6: Accessing data systems.
- 17%: Blogging/creating websites/online portfolios.
- 22%: Lesson planning.
- 35%: Introducing tech tools and resources.
- 39%: School psychology.

Supplementary note: ...
CHALLENGES: Challenges reported by teachers include internet connectivity, students' forgetfulness, students' off-task behavior, and students' lack of word processing skills.

- 6% Home Internet connectivity issues
- 6% Costs of some online resources
- 13% Implementation time required for teacher learning and student distractions/off-task behavior
- 24% Charge Chromebooks
- 26% Student forgetting/forgotten issues
- 26% School Internet connectivity issues
Most teachers interviewed feel that the MyTech initiative is likely to have improved outcomes at their school.

<table>
<thead>
<tr>
<th>Agreement Level</th>
<th>Agree or Strongly Agree</th>
<th>Disagree or Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>77%</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>81%</td>
<td>19%</td>
</tr>
</tbody>
</table>

- **Student Learning**
  - Agree or Strongly Agree: 80%
  - Disagree or Strongly Disagree: 20%

- **Student Engagement**
  - Agree or Strongly Agree: 77%
  - Disagree or Strongly Disagree: 23%

- **Classroom instruction**
  - Agree or Strongly Agree: 81%
  - Disagree or Strongly Disagree: 19%

In my school, I think the MyTech initiative is likely to have improved...
0% of teachers who were participating in focus groups report that the MyTech implementation at their school fell short of their expectations.
Next Steps -- 2018-2019 School Year

Continue to Build Capacity in Digital Coaches
- Coaching skills
- Technical and instructional expertise
- Refine partnership with each school
- Replicate great practices across sites

Shift Classroom Instruction
- Leverage professional development structures
- Increase teachers’ understanding of how 1:1 Chromebooks can facilitate 21st century skills (the 4Cs)
- Support teachers in innovative practices to improve student achievement

Capture Longitudinal Measures
- Teacher Engagement
- Teacher Efficacy
- Student Achievement
- Student Engagement
- Teacher Efficacy
- Teacher Engagement
- Student Achievement
- Student Engagement
Appendix
Coaches indicated that technology infrastructure, the adoption of a PLP, and school leader advocacy were factors contributing to the success of MyTech implementation at least half of the schools. Coaches indicated that technology infrastructure, personal learning platform (PLP) adoption, school leader advocacy, complementary tech initiatives, student tech skills, teacher buy-in, teacher tech skills, and tech infrastructure each contributed to the success of MyTech in at least half of the schools.
Competing initiatives was a challenge to successful implementation in most MyTech schools.

Coaches indicated that competing priorities and

Lack of school leader advocacy

Lack of tech experience

Lack of teacher buy-in

Insufficient tech infrastructure

Competing demands on teacher time

Coaches indicated that competing priorities and

Lack of school leader advocacy

Lack of tech experience

Lack of teacher buy-in

Insufficient tech infrastructure

Competing demands on teacher time
Coaches cited a number of factors – such as the prior experience of teachers and students – as strengths in some schools and challenges in others.

Challenges in implementing a 1:1 Chromebook initiative are likely to contribute to or interfere with the success of 1:1 technology.

Challenges:
- Communication/lack of communication from school administration
- Teachers' prior skill/experience with technology
- Student's prior skill/experience with technology
- Teacher buy-in
- Technology infrastructure at the site

Strengths:
- Technology
- Students' prior skill/experience with technology
- Teacher buy-in
- Teachers' prior skill/experience with technology
- Communication/lack of communication from school administration

It may be that these contextual factors are, in general, especially likely to contribute to or interfere with the success of 1:1 Chromebook implementation. However, some of these factors – such as the prior experience of teachers and students – are beyond the control of the MyTech team.
Coaches report that teachers do not generally perceive their role as evaluative.

Teachers are open to observation, members of the school staff, with whom expertise, members of the school staff, with whom expertise, members of the school staff, with whom expertise.
Coaches frequently report that a supportive administration, ITL participation, and staff openness contribute to success of their coaching.
When asked about additional supports to enhance their impact, Digital Coaches most frequently cited a desire for additional support from the school administration and greater integration with other school initiatives. Also frequently cited was a desire for additional support from the school administration.

- **More time in school-wide decisions:** 14%
- **Improved communication and messaging from school administration:** 14%
- **More support from school administration with other school initiatives:** 29%
- **Reduced competition from/greater integration with other school initiatives:** 36%
- **More time to form relationships/provide full-time coaching:** 71%
Most coaches reported that school leadership did not revisit and revise their school PD plan. Coaches were divided as to whether schools’ PD plans met the teachers’ needs.
Coaches rate progress on the School PD Plan as sufficient or good in slightly over half of MyTech schools. However, coaches also categorize these progress plans as insufficient in a large percentage of the schools, in none of the 14 MyTech schools did coaches characterize the School PD Plan as excellent. In none of the 14 MyTech schools did coaches characterize the School PD Plan as excellent.
Coaches report that, compared to expectations of teachers, expectations of students were more likely to be consistent and effective. In almost half of schools, coaches report that expectations of teachers are generally inconsistent across the school.

Inconsistent and Consistent Expectations of Teachers: Uniform

40% Effective

50% Effective

31% Effective

67% Effective

23% Effective

17% Effective

17%

Ickley to be consistent and effective. Teachers, expectations of students were more consistent and effective. Coaches report that, compared to expectations of teachers.
Coach survey results suggest that improvements in student learning were more likely to have been realized than changes in classroom instruction or improvements to student engagement.
Coaches report that in more than half of the schools (57%), the number of students not taking Chromebooks home is 5 percent or less.
Coaches most frequently suggested that students may not be taking Chromebooks home because of fear of loss/theft or parental objections. Not yet completed, lack of motivation, individual students, legal restrictions on parental objections, afraid of loss/theft.