



## EVALUATION EXECUTIVE SUMMARY: SY 2019-20

The Mt. Hood Cable Regulatory Commission (MHCRC) launched the TechSmart Initiative for Student Success in Fall 2014, with plans to strategically invest up to \$19 million through 2021 in local public schools to positively impact academic outcomes for all students in Multnomah County. The TechSmart Initiative provides grants and evaluation resources for Multnomah County school districts to identify effective classroom instruction that uses technology to foster improvement in academic outcomes for all students and to share the successful strategies across the school districts. The TechSmart Initiative is aligned with the collective effort of the broader community engaged in the All Hands Raised Partnership.

### TechSmart Goals

The MHCRC worked closely with each school district as a planning and funding partner to develop a grant project plan tailored to each individual district's priorities. The MHCRC invests in district efforts to close the achievement gap and make progress on the following academic outcomes key to student success:

- ◆ Kindergarten Readiness
- ◆ 3rd Grade Reading
- ◆ 8th Grade Math
- ◆ 9th Grade Credit Attainment
- ◆ High School Graduation
- ◆ English Language Learners' Annual Progress

The MHCRC has **two overarching goals** for the TechSmart Initiative:

**1**

School districts funded by MHCRC grant investments will understand and implement effective instructional strategies and practices that use technology to foster improvement in academic outcomes for all students.

**2**

The MHCRC and school districts will validate and disseminate effective instructional strategies and practices that use technology to foster improvement in academic outcomes for all students.

### TechSmart Framework

The MHCRC developed a Framework for Successful Technology Implementation, which drew upon research and evidence-based practices for successful implementation of technology integration in education. Pacific Research and Evaluation (PRE), the lead evaluator of the TechSmart Initiative, worked with MHCRC and its staff to design an evaluation around the Framework and to create a logic model with outcomes for each of the seven factors described below. A copy of this logic model is included in the evaluation planning tool in Appendix A of the full report.

The MHCRC Framework encompasses seven factors identified as essential for schools to effectively transform into technology-rich teaching and learning environments. The factors are not isolated from each other; many are linked and substantially overlap.



### Teaching Effectiveness

Districts support regular, inclusive and shared professional development among teachers.



### Digital Age Learning Culture

Districts embrace a cultural shift and view technology as positive.



### Visible Leadership

District leadership is actively involved and working with key communities to accomplish change.



### Data-Driven Improvement

Current, relevant, and high-quality data from multiple sources are used to improve schools, instruction, professional development, and other systems.



### Funding & Budget

District's budget repurposes resources and seeks outside funding to focus on promising practices and technology supports.



### Strategic Planning

District strategic plan reflects shared commitment to improving outcomes for students.



### Engaged Communities & Partners

Parents, stakeholders, community groups and others are actively and systemically involved in helping students develop, learn and achieve.

The TechSmart logic model includes short-term, intermediate, and long-term outcomes within each of these elements. This evaluation report assesses the short-term outcomes associated with each element of the Framework. To assess these outcomes within each district, PRE and the MHCRC program manager worked with each district to develop an evaluation planning tool.

Table 1 shows when each district received its TechSmart grant funding and the project's area of focus.

*Table 1. Grantee Funding Date and Focus Area*

| District                      | Year Funded | Grade       | Focus Area   |
|-------------------------------|-------------|-------------|--|
| David Douglas SD (DDSD)       | 2014; 2018  | K-3         | Kindergarten Readiness (first grant); 3 <sup>rd</sup> Grade Reading (first grant); 8 <sup>th</sup> Grade Math (second grant); ELL (both grants)    |
| Parkrose SD (PSD)             | 2014        | 9-12        | 9 <sup>th</sup> Grade Credit Attainment; High School Graduation; ELL   |
| Reynolds SD (RSD)             | 2015; 2020  | 7-9<br>9-12 | 8 <sup>th</sup> Grade Math; ELL (first grant)<br>9 <sup>th</sup> grade credit attainment; Attendance<br>High School Graduation; ELL (second grant) |
| Portland Public Schools (PPS) | 2015        | K-3         | 3 <sup>rd</sup> Grade Reading; ELL   |
| Gresham-Barlow SD (GBSD)      | 2016; 2020  | K-3         | 3 <sup>rd</sup> Grade Reading; ELL (first grant)<br>8 <sup>th</sup> Grade Math; ELL (second grant)   |
| Centennial SD (CSD)           | 2018        | 7-9         | 7 <sup>th</sup> -9 <sup>th</sup> Grade Math and Science; ELL   |

Table 2 is a timeline for the TechSmart grant investments for each district. David Douglas and Parkrose were the first grantees in school year 2014-15 (SY 14-15). David Douglas wrapped up its initial grant in SY 16-17 and received a second grant and began implementing again in SY 18-19. Parkrose finished grant implementation in SY 17-18 and is not included in this report. Reynolds School District received their first grant in SY 15-16 and began implementation immediately. Reynolds received their second grant and began implementation in early 2020. Portland Public Schools received a five-year grant in 2015 and used SY 15-16 as a planning year, with implementation starting in SY 16-17. In SY 19-20, Portland Public Schools received a grant extension through SY 21-22. Gresham-Barlow School District began implementation of their first grant in SY 16-17 and their second in SY 19-20. Centennial School District began implementation in SY 18-19.

*Table 2. Grant Timelines*

| District       | SY 14-15 | SY 15-16 | SY 16-17 | SY 17-18 | SY 18-19 | SY 19-20 | SY 20-21 | SY 21- 22 |
|----------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| David Douglas  |          |          |          |          |          |          |          |           |
| Parkrose       |          |          |          |          |          |          |          |           |
| Reynolds       |          |          |          |          |          |          |          |           |
| Portland       |          | Planning |          |          |          |          |          |           |
| Gresham-Barlow |          |          |          |          |          | Overlap  |          |           |
| Centennial     |          |          |          |          |          |          |          |           |

## Promising Instructional Practices

Evaluation results from five years of data collection are revealing promising instructional practices and outcomes that have emerged during TechSmart grant implementation. Each of these are summarized below with specific examples included from the TechSmart projects.

### ➔ **Differentiation through technology is embedded in all TechSmart districts' instruction.**

The use of technology to differentiate instruction for student subgroups has continued to show promise as a valuable instructional practice. Evidence of teachers' use of technology to promote differentiated instruction appeared across all districts in data collection with both teachers and leaders. Teachers were asked to provide examples of instructional strategies that they believe have been effective in their classroom instruction and to rate the strategies on a scale of one to five, with five being the most effective. In all five districts, the most commonly reported strategies included differentiating instruction, and the use of technology to help differentiate instruction received moderately high to high effectiveness ratings from teachers. During the year five TechSmart evaluation, specific types of differentiation were highlighted by educators who described how instruction is being provided through mediums that fit students' unique needs as detailed below.

### ➔ **Instruction is being provided through different mediums that fit students' unique needs.**

Teachers across all TechSmart districts described how instruction is being provided through different mediums that fit students' unique needs. Traditionally, classroom instruction has been delivered through a "sit and get" format where teachers are orally delivering content. Incorporating technology into classroom instruction has allowed teachers to deliver content specifically to meet students' unique needs. Several examples are provided below including the use of translation resource for EL students, the use of technology to re-watch or re-listen to instruction, providing students with an IEP with the opportunity to show their learning in a different way, the option for students to control their learning in personalized ways, and the benefit of giving students voice through the technology.

- ◆ **Different opportunities to show learning:** In Centennial SD, one teacher described how the project-based learning allows students to show learning in unique ways: "With the IEP students I have seen, quite a bit of them are closing the gap because there is more time in small groups. In traditional learning, you learn and then you take a test to show what you learned. With Project Based Learning (PBL) you learn and have five days to show what you learned. It gives students more processing time and group support that some really benefit from. PBL also provides the opportunity to show knowledge in really different ways such as through pictures, google slides, etc."
- ◆ **Students can express themselves in different ways:** One David Douglas SD teacher noted, "I think technology allows kids to control their learning in different ways. Maybe one student is going to do it in a speaking way, while the other one can type it out. Maybe it is more important that I get a kid to go back to edit. Using that assistive technology allows kids to get what is inside them out."

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- ◆ **Giving students voice:** In Gresham-Barlow SD teachers described how the technology is giving students voice. The technology supports students of color by “amplifying their voice” through video features that allow them to express how they feel and “give a glimpse into their world.” This avenue of personal expression benefits other types of students as well, such as those who are shy and those with an IEP. One teacher provided an example of this activity in action, “In one classroom, there was a student who was autistic, and he used a blogging platform. He really took to it; it could have been in a kid’s magazine. It was absolutely amazing that he could write what he wanted and put it on the class blog, and his peers could read and comment.”
  - ◆ **Translation resources:** In David Douglas SD, several interviewees emphasized how powerful access to translation through Imagine Learning and Google Translate has been for English Learner students and especially newcomer students. One leadership staff member explained, “The Imagine Learning program is accessible in multiple languages. Students can access their work in their native language, and the program scaffolds it towards learning English – we have access to 25-30 languages. What staff has that ability? Even at home, their family can actually help because they can read the language.”
  - ◆ **Resources are reflective of students lived experience:** Through technology students are provided with the opportunity to access a myriad of resources that otherwise would not have been available to them. One PPS teacher described how this access not only provides resources in different languages but also allows students to see themselves in the material. “Through technology, students of color are able to access more reading materials that reflect their shared lived experience and teachers reported using online resources to engage students with DEIJ topics that they may not have access to in a standardized curriculum.”

### ➔ **Student self-directed learning and independent work is emerging.**

TechSmart districts report that students have become more independent and self-directed through the technology integration efforts. In Gresham-Barlow SD, one teacher noted, “The way our teachers teach, it used to be a lot more teachers standing and delivering instruction to students. The 1:1 of technology allows teachers to set up classrooms, so students have voice and choice in their learning. Students are told the learning opportunities for the day, and students can self-direct their learning by doing tasks in the order that they want.” Teachers interviewed in Spring of 2020 described how the self-directed nature of working with the technology has been an asset as students transitioned to distance learning during the pandemic.

### ➔ **Technology has enhanced small group instruction.**

Teachers across the five districts highlighted how technology has enhanced small group instruction in the classroom. For example, teachers in David Douglas SD explained how students engage in activities through the smart board that guide them through small group activities. In Portland Public Schools, teachers shared how Lexia and Myon are being used for small group instruction. Over the years, the evaluation has documented how technology supported instruction allows teachers to be freed up from whole group instruction and provide small group instruction that not only differentiates for students varying ability levels but also provides variety for students.



→ **Organization and planning have been streamlined by technology integration.**

Teachers have reported using technology to support organization and planning in their classroom instruction over the past several years of the evaluation. Teachers complete a self-assessment rubric on the teacher survey annually rating the extent to which technology is being used to support various aspects of instruction and the area of planning and preparation has been rated highest over the past several years. The SY 19-20 evaluation provided examples of this as teachers from David Douglas SD described using Google Classroom for planning purposes and Portland Public Schools teachers commented on how during distance learning they were able to connect virtually to plan with the technology.

→ **Technology enhances equity when used on site but perpetuates inequities when required at home.**

Over the last four years of evaluation, teachers expressed how the TechSmart grants have reduced inequities by allowing all students to access technology, particularly those who do not have access at home. One Gresham-Barlow SD teacher highlighted how the technology has “evened the playing field” for at-risk students, “I have always seen tech as a part of equity because, in our society you need to know how to use a computer and you need to know how to access your email. I'm so grateful that my students starting at the age of five are starting to build upon those skills, especially those who might not have a computer at home or who don't have parents who are able to teach them those skills at home. Having one-to-one devices at all schools is working to break down this big equity barrier so that all kids can have access to the toolbox.”

Although the access to technology contributes to equity at school, teachers and leaders recognized that when the pandemic forced districts to move to distance learning in the Spring of 2020, access to devices and reliable internet become a barrier to at-risk students, as described by one administrator at Centennial SD, “The challenges that come with distance learning, however, can't be overstated. In-classroom use of TechSmart tools increased equity and engagement. As students have shifted to work at home, access to devices, internet, and peer and staff support is highly varied and inequitable. Many teacher plans, especially around PBL work, have been thwarted or underwent significant revision. This new educational landscape has some benefits, such as students and teachers quickly learning new technology tools, but many impacts have been negative. We recognize these challenges and seek ways to grow equity and best practices as we continue into the next school year.”

→ **Leadership matters.**

A common theme throughout the years of TechSmart evaluation is that strong leadership is integral to successful implementation. For example, in the first couple of grant years, Portland Public Schools teachers did not express strong support from administrators but when the Director of Learning Technologies was hired at the end of SY 17-18, the support for TechSmart increased and evidence of successful grant implementation increased simultaneously.



One Portland Public Schools teacher highlighted this, “Anytime I email, they always get back to me. I really appreciate our district technology leadership this year. In the past, I would not have sung the praises of our IT department. This is the first time, and I’ve been working in Portland Public Schools for a long time, that I can say that our IT department is really focused on doing the right thing for our buildings and for our students.” Some TechSmart districts have experienced delays in implementation due to changes in leadership including Centennial SD and Gresham-Barlow SD. Reynolds SD is an example of a district that has maintained strong and consistent leadership and implementation throughout the life of the first grant and into the second grant and has also seen successful technology integration efforts. The leadership of TechSmart in David Douglas SD has remained consistent throughout the two grant cycles and has largely been placed in the hands of the district technology integration coach. This has been a successful option when funding is available for the position, but the administration has not yet advocated for this position to be absorbed into general fund expenses.

→ **A culture of technology is challenging when schools are partially funded.**

With regard to the culture of technology within districts, the evaluation showed that creating a strong technology culture has been difficult when schools are only partially supported with technology. For example, in Portland Public Schools the grant funds grades K-3 and in David Douglas SD the grant funds technology for grades 3-5. Teachers and leaders reported difficulty in creating a school wide technology culture when half of the school’s teachers do not have the same access and may feel inequities around device management.

→ **Teachers are supporting teachers.**

A theme that has emerged over the years in several districts is that teachers are supporting teachers. For example, teachers from Reynolds SD’s first grant have been able to support one another through continued implementation and the high school math teachers involved in the first grant have been supportive of the second grant’s implementation. In Portland Public Schools, coaches described how early TechSmart cohorts are providing support for the incoming Cohorts and in Centennial SD, the technology integration coach highlighted how Cohort 1 teachers were a huge support to all teachers as they transitioned to distance learning in Spring of 2020. This is a promising finding in terms of sustainability of the grant efforts when the funding of technology integration coaches decreases.

# Student Achievement

## → Portland Public Schools

Student achievement data suggest that Cohorts 1 and 2 are outperforming their non-TechSmart comparison groups on the DIBELS assessment. Further, Cohort 2 trends are particularly promising as they suggest the achievement gap between SPED and non-SPED TechSmart students is closing. Fall 2019 DIBELS data indicate that around 85% of both SPED and non-SPED TechSmart students are performing at benchmark. There is a similarly positive trend for closing the achievement gap between students of color and white students in Cohort 2. In SY 19-20, the achievement gap on the DIBELS assessment narrowed to only a 3% difference between TechSmart Cohort 2 students of color and white students. While student achievement data do not reveal the same narrowing of the achievement gap for LEP and non-LEP TechSmart students, teachers emphasized the positive impact of the new instructional strategies on LEP student outcomes. Cohort 3 student achievement data do not reveal a notable difference between treatment and comparison groups. Cohort 3, however, has had the least intervention time of the three cohorts between baseline and Spring 2020, and future analysis with additional years of data will provide a more meaningful picture of the impact of TechSmart on Cohort 3 student outcomes.

## → Gresham-Barlow School District

DIBELS benchmark data were examined for two cohorts of Treatment Group students and a Comparison Group. Treatment Group Cohort 2 students noticeably outperformed the Comparison Group on this assessment. Student achievement data further demonstrated that the TechSmart grant supported at-risk subgroups with these groups achieving DIBELS benchmark status at rates similar to—and sometimes higher than-- students who were not in these at-risk subgroups.

## → Reynolds School District

Generally, math credit attainment data provided the most evidence of promise for improving students' academic outcomes, both in general and for at-risk student subgroups. When comparing the Treatment Group and historical Comparison Group, the Treatment Group had significantly higher math credit attainment than the historical Comparison Group in 7th grade and 9th grade, but not in 8th grade.

## → Centennial School District

Math credit attainment was examined for Cohort 1 students and a concurrent Comparison Group during the year prior to TechSmart implementation and in Years 1 and 2 of the grant. During the first year of implementation, TechSmart students had significantly higher math credit attainment than the Comparison Group. This trend did not sustain into the second year of implementation.

## → David Douglas School District

Student achievement data were not available as planned due to the pandemic, but Math Inventory data from Fall and Winter indicated certain grades at both treatment schools had higher gains than the Comparison schools. Recommendations for future analysis would be to have Math Inventory data disaggregated by subgroups or at the student level for more sensitive analysis.