

MHCRC TechSmart Initiative for Student Success Reynolds School District Grant Project Plan September 2019

The Expansion of TechSmart Classrooms Across Reynolds High Schools

I. Project Purpose

Serving nearly 11,000 students from five municipalities across East Multnomah County in 21 schools, the Reynolds School District strives to meet the challenges presented by rapidly changing student and community demographics. More than 40 languages are currently spoken at Reynolds High School, the second largest comprehensive high school in the state of Oregon. Recently, the Reynolds School District (RSD) accepted the United States Department of Agriculture Community Eligibility Provision (CEP). The CEP permits school districts that meet low-income criteria to serve free lunch to every student district wide. Overall, 72% of RSD students qualify as Economically Disadvantaged. As one of an increasing number of districts made up of a majority of students of color, RSD proudly embraces the evolution as we adapt to improve our cultural competence.

The RSD Equity Policy (http://policy.osba.org/reynolds/G/GCCB_GDCB_IKAAA%20D1.PDF), guides every major programmatic, instructional, hiring, professional development and budgeting priority in service to the assets of the student population. The District's Vision and Mission statements address the future of Reynolds students and the educational philosophy:

Vision: Each and every child prepared for a world yet to be imagined.

Mission: Each graduate embraces lifelong learning and applies skills in technology, global literacy, creativity, and critical-thinking to enhance family, career, and community.

The Reynolds School District is dedicated to closing the opportunity gap and creating learning communities that provide targeted support and academic enrichment for all students.

There is much work to equitably serve for the students who bring their diverse strengths and abilities. Across all grade levels, student attendance and academic achievement are below state averages. A more detailed description of specific academic indicators for target populations at Reynolds High School (RHS) and Reynolds Learning Academy (RLA) is delivered in the Public Benefit section.

The Reynolds School District is advancing several necessary initiatives to transform instructional practices to improve student outcomes through equitable curriculum adoption processes, a focus on closing the opportunity gap for culturally and linguistically diverse students, family centered interventions to reduce chronic absenteeism and increase high impact family involvement, nurturing teacher leadership in professional development, and expanding technology based instruction.

The purpose of the Expansion of Constructivist Classrooms Across Reynolds High Schools (High School Expansion) project is to assimilate the use of instructional technology throughout the student and

teacher instructional experience at the high school level. Thanks to the MHCRC TechSmart Initiative investment to the district, technology and teacher professional development is currently committed in grades 6-9 in Math. Through Professional Learning Communities, lab cycle professional development model, purposeful cross level collaborations and one-on-one tutelage from a technology instructional coach, there have been noticeable gains in middle school math credit attainment. Student attendance, engagement and satisfaction are up. Lessons learned permeate from math teachers to their instructional peers in every department. Problem solving strategies, academic discourse and differentiated assessments are supplemented by student technology based skill development.

The notable success of the initial TechSmart grant project implementation is in 9th grade math attainment. Since project inception, the failure rate in 9th grade math reduced from 56% in 2015 to 28% in 2019. Although current year data reflects the first semester only, it continues a marked trend of increased student achievement in math. Previously, the failure rate in Math was nearly twice the rate of other core classes at RHS. Reducing 'F's to their current level is in line with other core classes by RHS freshmen.

Additionally, participating teachers are surveyed annually by the TechSmart Initiative grant evaluators. Respondents report their satisfaction with the purpose, model and professional development design. They see the purpose of their work to equitably improve access toward student centered pedagogy and appreciate their ownership and leadership of the professional development model.

The model design, successful implementation and empirical student outcomes from the initial grant formed the basis of a grant award from the Verizon Innovation Learning program in December 2018. Fully funded by Verizon for 3 years, commencing in Fall 2019, every student and teacher in all Reynolds middle schools will be issued 1:1 take home tech devices and free monthly data plans.

In February 2019, the Sprint Foundation selected Reynolds secondary schools to be incorporated into its 1Million Project. The 1Million Project will fund up to 400 wireless hotspots distributed to students at RHS and RLA who do not have internet access at home.

The logical next step is to extend and scale comparable instructional reform and technology allocation into RHS and RLA, the district's alternative high school.

The purpose of *the Reynolds High School Expansion* project is to replicate and integrate the accomplishments of the initial TechSmart grant for all content areas at RHS and RLA.

INSTRUCTIONAL STRATEGIES: A Constructivist Approach

The RSD Superintendent and academic directors are focused on immediate to long-term academic plans and budgets to strengthen instruction, increase student engagement and incorporate technology that supports credit attainment for graduation. Specific to technology, recent activities include a technology needs study, expansion of a learning management system (LMS), adoption of digital curriculum, as well as other tech infused secondary instruction and formative assessment methods. Each of these initiatives direct the design of the High School Expansion project.

Reynolds instructional leaders developed a theory of action to guide teaching and learning in the classroom: When teachers work collaboratively in professional learning communities to formulate curriculum and strategies that integrate content standards with technology; and as students engage in curriculum through technology with cultural relevance and in a global and digital society; then students will have a deeper and more applicable mastery of their learning.

This project approach supports students to build their own understanding and knowledge through experiential learning, critical thinking, relevant content and collaborative problem-solving. Teachers guide students to inquire into real-world problems, explore ideas and assess solutions. Reynolds subscribes to the research that a constructivist approach drives best practice for reaching all students, especially English Learners, and other students who have been historically underserved.

Instruction is focused for English learners and students with disabilities to incorporate lessons that intentionally build student language skills and content mastery simultaneously. Sheltered instruction models equip teachers to increase student engagement for historically underserved students. Expanding technology rich classroom environments in Reynolds enables access to shared digital and online resources that also align to common core state standards.

Improving student outcomes through differentiated and individualized practice, the High School Expansion project combines the functionality of the teacher and student devices with a learning management system (LMS) that enables teachers to measure the abilities of each student via common assessments. Data shared through the LMS empowers teachers, parents and advocates to monitor academic progress in real time. Teachers can re-direct students to resources that include: online content, other classmates, and teacher dialogue, to best match student individual needs.

Transformed in Reynolds since the inception of the initial TechSmart grant is the curriculum adoption process. RSD is completing a year-long process of adopting new social studies curriculum grounded in equitable practices. Throughout the 2018-19 school year, under the direction of an Equity Specialist from the Oregon Department of Education, the curriculum adoption committee dedicated time engaged in equity professional learning to sharpen their understanding of implicit bias and structural oppression and its pervasiveness within traditional social studies curriculum materials. Teachers researched products to ensure upcoming student learning opportunities contain multiple perspectives, reflect the experience of marginalization of historically underrepresented ethnic and social groups, and culminate in student voice and action.

The committee concluded the curriculum materials selected must be dynamic and flexible to be relevant to students' culture, language and backgrounds. As they mapped new units and crafted enduring understandings, it became clear that traditional books are obsolete. They prioritized student access to digital resources as critically necessary.

The same equity-grounded thinking also resulted in a reversal of a recent science adoption. In 2016, the district adopted new high school science textbooks but did not have the funds to purchase them. As the understanding of equitable practices grows, the science department requested a change to their adopted materials, selecting a digital-only program to maximize equitable relevance to student learning opportunities, as well as the dynamic nature of a digital resource.

By the Fall 2019, RSD will have new, fully digital curricula in both science and social studies across all secondary levels grades 6 through 12. Going forward, RSD will prioritize and refine equity driven curriculum adoptions and implement digital based core curriculum schoolwide.

During the project development phase for this grant project, focus groups with RHS and RLA teachers yielded numerous technology access points for curricula and format. The most common response was embedding content storage and organizing solutions into digital notebooks for every class. Language development and special education teachers anticipate devising a range of ‘text to speech’ literacy strategies.

Rolling out and regular usage of 3400 personal computing devices is a game changer for the Reynolds community. Yet, due to the immediate impact to the system, administrators and staff agree foundational training for students on basic technology use must be intentionally designed. After the preparation and delivery of student devices, through the first semester of SY19-20, the preeminent emphasis will be on schoolwide expectations of device management, basic operations, security, and digital citizenship.

The Reynolds IT department honed their systems for receiving, preparing and deploying hundreds of student and teacher devices through implementation of the initial MHCRC grant. RSD IT hired additional staff plus expanded the STAR student internship program in order to increase capacity to order, receive, image, secure, distribute and maintain the new devices in this project. Furthermore, the RSD IT Instructional Coach collaborated with Reynolds secondary TechSmart teachers to adopt digital citizenship curriculum for students to protect and maintain their devices and presence online.

Combined with resources and best practices adopted by other 1-to-1 school districts within the Verizon Innovation Learning network and from partnering districts to MHCRC TechSmart with whom we regularly convene, school administrators and teachers will change the culture of expectations to maximize and preserve the technological resources available through the new hardware, curriculum, LMS and teacher PD demonstrated by other schools for the benefit of RHS and RLA.

Because they communicate their intentions to us, many students will gravitate to challenging and expanding their current technical proficiencies. Teachers have design and project building software solutions to train students on the applications that prepare them for the post-secondary, trades and professional worlds. Advanced simulations in science, health and Career Technical Education programs expose kids to cutting edge research and development. The applications in every subject will evolve and expand ongoing. There is a technical service learning course offered at RHS called the STAR internship program. Future information technology engineers and programmers will help meet the increased capacity necessary to manage, troubleshoot and repair devices across both participating schools.

TECHNOLOGY SUPPORTS

The three primary technology supports for the *High School Expansion project* are: 1:1 Chromebook technology for teachers and students, Hitachi short throw projectors for classrooms, and Schoology, a learning management system. The combined functionality of the teacher and student devices and Schoology will foster teachers’ abilities to implement constructivist classroom methods to differentiate learning.

Device distribution, assignment and collection will utilize the Alexandria textbook and material tracking system. This is a barcoded program that connects a scanned barcode with the student record to whom the device is assigned. The unique identification system eliminates any confusion to whom the Chromebooks is assigned. When scanned back in, an electronic record displays which student borrowed the device. Similarly, harm toward or loss of devices can be attributed to families to recover lost damages. Additionally, this project accounts for an adequate number of extra devices and classroom-based chargers available for temporary use for students who temporarily forget their device or deplete the battery life during the school day. The library at RHS is already in the process of modernizing to digitize reference, literary and periodical materials. It is a natural fit to locate the library for device storage and management. Additionally, there is space in the library for the STAR intern program to house their low-level device maintenance and repair work.

For RSD students, there is a demonstrated digital divide that impedes student access to technology and the internet at home. Recently, the RSD secured grant resources from the Sprint foundation to provide 400 wireless hot spot devices with free cellular service to distribute to students at RHS and RLA without home internet connection. Paired with a 1:1 take home Chromebooks, teachers intend to assign more complex, engaging and web-based homework and project-based assignments for students to enhance their academic and 21st century learning skills simultaneously.

As a secure, closed and cloud-based learning management system, Schoology digitizes curriculum that was once confined to direct instruction through lectures, textbooks and assignments completed with paper and pencil. Through their devices, teachers are videotaping their lessons into Schoology for students to reference. This increases accessibility for students. The web rapidly reveals more inquiry-based simulations and design-based problems for all content areas. 2019-20 will represent the fifth year of the district's utilization of the Schoology learning management system. Every teacher and student are assigned accounts annually by the RSD IT department.

Teachers and students are practiced in uploading and accessing digital content through Schoology. It serves as a repository for shared content plus exchange of information, content, assessments and reflections from staff to staff as well as student to student and staff to student. Parents are also able to link their accounts to their sons and daughters in order to accurately monitor student activity and progress on assignments. Schoology is also the LMS platform used district wide at the elementary and middle school levels. It is embedded as a core component for information and content exchange. All students are practiced at its use. Some teachers may need to access additional professional development from the IT instructional coach or their peers in order to catch up to the spectrum of uses for Schoology. Additional training will be incorporated formally into the professional development schedule or may be accessed informally between teachers and their instructional coaches.

Supported by full-time technology and professional coaches and professional development administrators from the initial TechSmart grant, RSD teachers are uploading lessons, practice tasks and assessments through the LMS. Students engage with content and upload their assignments using school issued or their own functional technology. The district's 3 middle schools and high schools conduct all professional development and adult-to-adult instruction within Schoology. Numerous other district-wide training initiatives are also disseminated through the system.

Teachers will utilize the capacity to differentiate and individualize their instruction to meet specific student needs through Schoology and the Chromebooks. Students can work at their pace, receive and submit their assignments to the teacher for assessment, feedback and grading. Group projects, student collaboration, content specific discussions, teacher input and grading are available outside of class time to generate greater student and teacher interactions.

In 2017-18, to enhance college and post-secondary readiness for all students, Reynolds High School administration and staff adopted an elevated set of academic expectations around which they construct professional development and weekly messaging to students. Known as the POWER standards, the acronym represents a set of schoolwide academic expectations designed to support every student at Reynolds throughout all four years of high school:

- Raiders are asked to be **PUNCTUAL** and **PREPARED** for each class period with all necessary materials. Students work bell to bell and are actively engaged through the entire school day.
- Students are **ORGANIZED**, keep three-ring binders with classwork and supplies for all seven periods of the day. Students use planners daily to track assignments and to organize their busy academic lives.
- **WRITING** is a critical aspect to every course at Reynolds High School. Students use a variety of mediums including digital formats such as OneNote and Schoology to improve their writing and critical thinking skills.
- Every Raider is **ENGAGED** in their future with a plan to graduate and pursue post-secondary options beginning their freshman year. Students keep track of progress in each of their classes by checking grades weekly through StudentVue or posted grades.
- Finally, all RHS students show **RESPECT** by honoring the specific expectations within each of their classes. Students pick up after themselves and others to ensure Reynolds is a clean, safe and health learning environment for all.

RHS administration and staff are motivated to integrate the instruction and communication around the POWER standards directly to students and families through the student devices. A lesson is constructed weekly during students 'Access' class around an element of the POWER standards. Access class is like a home room at RHS. The POWER standards ground the student focus for the week and will be more efficiently conveyed between staff and students through the Schoology LMS and devices.

The International Society for Technology in Education (ISTE) is the recognized leader for establishing technology standards for students, aligned to the traditional Common Core State Standards for content learning. This project is designed to embed the core ISTE elements for students that include producing empowered learners, digital citizens, innovative designers, computational thinkers, creative communicators, and global collaborators.

Important for the expanding English Learner population specifically, the interactivity between classmates and with the teacher builds languages skills, interest and confidence. Utilizing their devices, English Learners can demonstrate their intellect beyond the traditional assessments that may not reflect their true abilities and skills. Additional functionality of the devices/digital curricula include real-time

translation and speech to text capabilities in multiple languages utilizing the extensive capabilities of Google Classroom including Google Translate.

From a data perspective, Schoology enables teachers within courses or grade levels to upload and share common assessments. The common assessments combined with the flexible reporting functionality of Schoology allows teachers to run an array of reports that isolate factors and compare results related to both student outcomes and instructional practices. Measured alongside their instructional practices, these data become the basis for the Lab Cycle professional development model described below. Student level skill acquisition and growth over time permits teachers to accurately identify and modify instruction according to individual student needs. This attribute is particularly useful as teachers strategically support students to achieve mastery of the Common Core State Standards in all subjects.

The Reynolds public bond construction was completed at Reynolds High School in August of 2018. The construction of new classroom wings, science and CTE laboratory improvements included the installation of a short throw projector for teacher and student use. More than 30 new classroom projectors were installed at Reynolds High School, primarily for the science department teachers among others. The installation of short throw projectors and wireless adapters that enable teachers to be mobile throughout classroom instruction is also designed to increase student engagement. The selection of the short throw devices for the new bond constructed classrooms came as a result of the 11 TechSmart teachers at RHS who benefited from short throws installed in their classrooms. This project seeks to install a short throw at the 80 remaining rooms at RHS and RLA that don't currently have one.

The utilization of student 1:1 Chromebooks, a learning management system and wireless projectors will offer greater transparency and accountability within the classroom. Principals, district staff and peer teachers can access to the same real-time data. When supervising and evaluating teachers, principals can isolate the strengths and weaknesses of individual students and collaborate with teachers to formulate specific interventions to address areas of student need. Team meetings with fellow teachers advance further and more efficiently when all professionals are working from the same data sets. This plan for student and staff Chromebooks builds a learning community that is deeply connected through digital dialogue. Teacher and student interaction with leading edge education and assessment software delivers more informative data collection and analysis.

PROFESSIONAL DEVELOPMENT (PD)

RHS teachers were surveyed in January 2018 to assess current attitudes about availability, use, goals and vision for instructional use of technology. 88% of the teaching staff responded.

96% of teachers would like to see better access to technology as an academic tool for their students. 73% of teachers believe students should be using their mobile devices or other issued technology to support learning in their classrooms. All but one respondent (99%) believe student technology access needs to be improved at home, school or both. When asked which they would prefer, 68% asserted they would prefer a computer issued to every student with access to a learning management system, over 26% who would rather receive a classroom set of textbooks.

Pertaining to professional development (PD), 78% of staff responded they desired to learn more about the use of instructional technology. Their primary interest is to enhance their understanding of use of Office365 tools including: Classroom notebooks, forms, OneNote, OneDrive and Excel for their students.

The same study surveyed teachers' preferences to styles and modalities for their own professional development. Overwhelming responses rated strong teacher desire for interactive activities, watching or practicing demonstrations, sharing stories and examples. Participation in ongoing professional learning communities (PLCs) to collaborate with colleagues stood out as ranking consistently high.

Based on teachers' expressed preferences, the High School Expansion project establishes a PD plan with the objective for teachers at the two participating high schools to coalesce into PLCs within their schools and across departments to learn and collaborate on instructional practices, assessments, evaluation and student achievement outcomes.

In order to fully implement classrooms that differentiate and individualize learning for students, teachers will be given ample opportunities at the start of the school year and on an on-going basis to collaborate, share data and strategies through PD supports. Teachers will work collectively and individually to develop lessons with heavy emphasis on student engagement and collaboration, relevant content, and real-time student data assessment and reports.

For several years, the focus for PD has been on sheltered strategies to support language development for students whose first language is not English. For this project, the PD model overlays instructional Lab Cycles. Lab Cycles incorporate collaborative co-teaching, classroom observations and data analysis to development instructional practice focused on student outcomes and needs. During the Lab Cycles, teachers implement a specific instructional practice and collect student data. Then teachers bring their findings to their PLC to determine additional student skill intervention, as needed. The District will contribute classroom substitute teachers over the three school years in order for the secondary teachers to participate in the Lab Cycles.

RSD teachers are provided a weekly late-start department level PD schedule throughout the school year totaling approximately 30 sessions annually. For at least one late start PD period a month, administrators and teacher leaders will direct teacher cohorts to progress through introductory to innovative instructional practices while continuously measuring progress through student assessment data.

Reynolds building administrators, the current instructional technology coach and district staff constructed a basic three-year scope and sequence of PD plan, Attachment A – "Reynolds TechSmart Professional Development Plan."

Much of the group trainings and one-on-one teacher tutelages will be conducted by the instructional technology coach who is dedicated to the project from district match. S/he will also plan and deliver with teacher leaders nurtured primarily from the math department, among others, as consequence of their experience from initial TechSmart grant PD. The capacity to layer multiple access points for training from administrators, instructional coaches, and peers cultivates broad-based support, fresh ideas, diverse innovation, and refinement of practice. Furthermore, as the model is honed and deepened,

it will be calibrated as the new normal with the instructor community, thereby strengthening its long-term sustainability.

PROJECT OUTCOMES

Like every initiative, the measure of success is primarily the impact on student learning outcomes. A more detailed description of the analysis of student achievement is incorporated in the Evaluation section. The driver for the High School Expansion project's outcomes is scaling the practices, PLCs and PD, from the initial TechSmart grant to school-wide instructional practice through 1:1 teacher and student devices.

Outcomes related to teacher instruction include:

- To identify and scale instructional strategies and practices, guided by the Common Core State Standards, the Oregon Education Technology Standards, and other professional certificate or post-secondary preparation that have the greatest positive impact on student learning.
- Devise strategies that isolate instructional practices as measured against student achievement connected to a content specific assessment or performance standard.
- Devise observational tools that inform teachers and decision makers as to which classrooms are implementing the project with fidelity and discover the correlational trends on student learning that are attributable to those classrooms.
- Build capacity and collegiality among teachers across departments and grade levels through prescribed adherence to the Lab Cycle PD model.

II. Public Benefit

The *High School Expansion* project targets the following All Hands Raised (AHR) Partnership community wide indicators: Ninth grade on track in credits and attendance, English Language Learners' annual progress, and high school graduation.

The District closely subscribes to targeted state and local academic indicators for students as they progress through Reynolds High School (RHS) or Reynolds Learning Academy (RLA). The AHR public-private collaborative prioritizes secondary school academic indicators. They spotlight 9th grade on track and 4 year graduation rates. The RSD Superintendent serves on the AHR Leadership Council. RHS and RLA staff are members on multiple AHR and county wide steering and work groups that collaboratively guide practice and data analysis across peer Multnomah County school districts.

Recent academic growth shows correlation to the completed implementation of the initial TechSmart grant in Reynolds. Students are acquiring more credits and increasing performance on state assessments from the digitization of math curriculum and instruction in grades 6-9. There remains much room and pressing urgency to continue improving. Measured recently in the middle and high school levels respectively, baseline student achievement demonstrates persistent achievement gaps in Reynolds secondary schools – particularly pervasive for students of color, students who are culturally and linguistically diverse, students with disabilities and other traditionally marginalized groups.

The most notable shortcomings are interrelated: they are ninth grade on track and 4-year cohort graduation rates. As defined by earning 6 or more credits by their 9th grade year, students who are 9th

grade on track are far more likely to graduate in four years. At the end of their ninth grade year, 63% of RHS students earned six or more credits in 2018. Reynolds’ English Learners, Black and Hispanic populations in this area are less than 60%.

The 4-year graduation rate at RHS climbed past 70% in 2018 after a three-year growth of more than 10%, and six consecutive years of growth. Despite budget cuts that displaced or eliminated many teaching positions and academic intervention programs, there is an upward shift in the culture of achievement in RSD. The beneficiaries of this project will be on track 9th graders who we closely follow and continue to serve through successful sophomore and junior years that lead them to graduate on time with their four year graduation cohorts.

Previously, Algebra I was by far the most frequently class failed by 9th graders. As a consequence of the focus on middle school and 9th grade math throughout the initial TechSmart grant, 9th grade math pass rates grew from 44% in 2015 to 72% passing through semester one of 2018-19. The prior project demonstrated that transforming math instruction in the middle levels and increasing rigor and relevance for students led to them earning more 9th grade math credit. As the students make the critical transition across all subject areas at the high school, instructional leaders plan for comparable academic gains.

These tables show the relevant demographics and key academic indicators most recently reported to the State of Oregon for RHS and RLA.

Reynolds High School Demographic and Achievement Data: 2017-18

# Students Enrolled	2504	4 year Graduation Rate	73%
Attend 90% or greater	69%	5-year Completer Rate	80%
Total English Learner (EL)	52%	Freshman on Track (6 or more credits end of 9th grade)	63%
# of Languages Spoken	43	Hispanic on Track	54%
Economically Disadvantaged (ED)	68%	Black on Track	56%
Special Education (Sped)	14%	EL on Track	54%
Overall RHS Math State Assessment	24%	Overall RHS English Language Arts State Assessment	61%

Reynolds Learning Academy Demographics and Achievement Data: 2017-18

# Students Enrolled	208	4 year Graduation Rate	35%
Attend 90% or greater	23%	5-year Completion Rate	53%
Total English Learner (EL)	37%	Freshman on Track (6 or more credits end of 9th grade)	77%
# of Languages Spoken	7	Hispanic on Track	*
Economically Disadvantaged (ED)	>95%	Black on Track	*
Special Education (Sped)	29%	EL on Track	*
Overall RHS Math State Assessment	5%	Overall RHS English Language Arts State Assessment	28%

*Data is suppressed for confidentiality of minimum number of students in the category

III. Project Partners and Beneficiaries

RHS and RLA teachers and their students are the primary beneficiaries for this project. Teachers and administrators from RHS and RLA contributed the primary concept design and input for project design. Staff contributors included veterans of the initial TechSmart grant as well as teacher leaders representing nearly every content area. Also shaping the project design are the district Director of Secondary Education, Curriculum Coordinator, Instructional Technology (IT) Coach, and administrators from each of the secondary schools. The Committee was involved in all phases of project design, including the technology and PD needs study, the PD plan, and the overhaul of secondary instruction through framework construction. Teacher leaders will continue to be the lead drivers and implementers of the work.

Students: The primary focus of this project is student engagement and achievement. Project planners conducted input sessions from students to calibrate project design. Their input on project concept, device selection and Schoology use demonstrates their endorsement and is a valuable indicator of relevance for them. A cross section of student responses include:

“I’m excited to have a place to store all my stuff digitally. No more lost papers!”

“I anticipate this will help us to be able to communicate better with teachers.”

“I think more tech will be an awesome resource for our visually impaired and students with special needs.”

“When kids ‘own’ stuff, they take better care of it.”

“I like to write things down. I think a stylus is very important.”

“Having access to digital curriculum will help students to work better at their own pace. We can explore new ideas and concepts that aren’t restricted by a textbook.”

“Finally! We’ve had devices in our math classes. We need them for all of our classes.”

The survey of student users is not a scientific study. Instead, it demonstrates the capacity of digital access and interactivity through a learning management system to motivate students to persevere in their study through increased engagement, on their terms, in a media that is common to their lifestyle.

Families: As with RSD students, the fabric of the District is strengthened by the diversity and increased engagement of parents and guardians. Given the global representation of the RSD families, there are inherent opportunities to access the expertise from their prior experiences before moving into the local community. For example, school is very different in the teeming cities in Central American to the pulsating refugee camps of eastern Africa to the culturally conservative rural communities of Eastern Europe, and everywhere in between. As professional educators based in US educational culture, RSD staff learn from parents their expectations about their role in educating their children and how theirs and RSD’s educational cultures can adapt to each other to empower the students to succeed.

To support this approach, RSD regularly hosts culturally-specific parent and family engagement events to exchange information, field questions, and learn from each other to co-construct culturally-aligned ideas to better support their students’ needs. This includes surveying families’ access and understanding for current use of technology at home and access to the RHS digital curriculum. Specifically included is how students are using technology at school and how that access is available at home through Schoology and the parent information system called ParentVue.

Superintendent Diaz also recently activated parent academies, which support parents to move into school site council and other school leadership positions. This strategy will deepen dialogue that is better culturally informed and more reflective of the evolving RSD community.

IV. Implementation Plan

The project Implementation Plan is included as Attachment B: “Reynolds TechSmart Implementation Plan.”

V. Evaluation Plan

The RSD employs a curriculum coordinator who conducts in-depth examinations of formative and summative assessments that measure student growth toward learning targets and content standards. The District embraces the need to measure and evaluate the entire scope of district reforms and initiatives. The district data coordinator, the curriculum coordinator and project director will work with the TechSmart Initiative evaluation consultant to determine more detailed data needs and methods to align with the TechSmart logic model.

The data coordinator worked collaboratively with instructional technology coach and members of the Secondary Math Committee to develop the evaluation plan for the initial TechSmart grant and is familiar with the scope and goals of this project. Using a mixed-methods approach, this project’s evaluation plan draws on the collection and management of student performance and attendance data, as well as qualitative data gathered on implementation of instructional strategies and practices that integrate student and teacher technology use as early indicators of leading to improvements in student performance as was witnessed in math during implementation of the initial TechSmart grant.

Student engagement and learning will be evaluated continuously over the four years of this project using multiple measures including class attendance, standardized test scores, credits earned and passing marks as data for assessing outcomes. Student surveys of school climate and engagement, first deployed in March of 2019 and planned to become annual, will provide additional qualitative measure. The amount of time each student has participated in their respective class section will be tracked within the Reynolds student information system (SIS). Schoology is another factor within the Constructivist classroom model that will be evaluated. Student usage of Schoology will be exported out of the system and merged with the other characteristics and outcomes to evaluate the effectiveness of this piece of the blended instruction model.

As is common in educational settings, there are a number of contextual factors in addition to student demographics that need to be accounted for when examining effectiveness of instructional practices. These contextual factors can also provide excellent information to teachers and administrators for continual improvement. School-level factors such as the proportion of students who are economically disadvantaged, student mobility and the number of languages spoken within the school can have a large impact on the outcomes assessed. In addition, classroom factors such as period of the day, teacher characteristics, Schoology use and class size will also be incorporated to gain a better understanding of the effectiveness of instructional practices. Student factors will be disaggregated by gender, race/ethnicity, language proficiency and special education participation among other factors.

Since students are nested within classrooms and classrooms are nested within schools, we will use 3-level multilevel modeling to evaluate the efficacy of the High School Expansion project for each of the contextual factors involved. For example, RSD will be able to examine not only the difference in standardized test scores between students receiving Constructivist instruction compared to those who are not, also this relationship across schools and between classrooms. This type of evaluation allows for the opportunity to examine and identify strengths and where to leverage these strengths for training and improvement in other schools and classrooms. Of particular interest is the identification of teachers who are demonstrating the greatest improvements in student attendance, test scores and grades during the first year of the project. These teachers will be chosen to identify and share their instructional strategies, practices and usages of Schoology for peer-to-peer training.

A basic 3-level multilevel model using proc mixed within SAS statistical software will be used for continuous outcomes (standardized test scores and class attendance) while Proc Glimmix will be used for dichotomous or polytomous outcomes such as passing grades and credits earned. Proc Glimmix will also be used in the case of a Non-Gaussian distribution. Long-term analyses will include multiple years of data when available and will utilize a 3-level multilevel growth model. This type of statistical methodology is ideal due to the high potential for incomplete follow-up in the case of students leaving RSD. It is also flexible enough to account for missing data, multiple measurements per participant, and different term schedules across schools. Previous attendance and academic performance using individual course data and overall GPA as well as 2018-19 standardized test scores will be used to adjust for the students' baseline. The main goal of this type of analysis is to assess change over time and identify strengths and weakness within the project for continuous monitoring and improvement.

Teachers' instructional strategies and practices will also be continuously evaluated. RSD has developed a "Digital Classroom Walk Through Tool" as an online observation tool for use by peer teachers, administrators or other evaluators. The tool incorporates observable classroom set-up and environment as well as teacher and student activities present during an instructional period.

Classroom observers utilize this observation tool on their hand-held device. Their information is aggregated into an excel database that compiles the data real time. As teachers prepare to conduct their Lab Cycles, or at other designated points throughout the year, the data coordinator in collaboration with the teachers can look for intersections between observable classroom traits and formative or summative student achievement as well as student attendance, behavior or other engagement measures. We acknowledge that the data does not provide conclusive information without isolating other factors. The objective is formative--to inform teachers and decision makers as to which classrooms are implementing the instruction with fidelity and what the correlational trends are on student learning and behavior that can be attributable to those classrooms.

The Digital Classroom Walk Through Tool also serves to isolate which instructional strategies will have the greatest impact on student learning. Through the assessment and report mechanisms within Schoology, the Instructional Practices and Professional Development Committee will be able to devise isolate instructional practices as measured against student achievement. Those rubrics will be constructed through the Lab Cycle process as we gather formative student data for each course at every grade level 9 through 12.

Although the long-term goal is to increase student achievement, the desired outcomes over the three-year grant period focus on the transformation of instructional practice through the use of technology.

Building on the success and lessons learned from the initial TechSmart grant math project, outcomes related to teacher instruction include:

- To identify and scale instructional strategies and practices in integrating digital learning that have the greatest positive impact on student learning.
- Scale effective practices in digitally-driven constructivist instruction across all classrooms
- Revise observational tools that inform teachers and decision makers as to which classrooms are implementing the project with fidelity and discover the correlational trends on student learning that are attributable to those classrooms.
- Build capacity and collegiality among teachers across grade levels through prescribed adherence to the Lab Cycle PD model.

The following table summarized the evaluation plan’s primary evaluation questions, strategies and data collection:

Outcomes: To identify and scale instructional strategies and practices in integrating digital learning that have the greatest positive impact on student learning.	
Evaluation Questions #1: Is the practice positively impacting the achievement gap of the student cohort, specifically second language learners in middle school and ninth grade? #2: Is the practice improving student achievement in the targeted academic outcomes? #3: How are digital citizenship skills and responsibilities integrated into the learning and curriculum?	
Data to Be Collected:	1a. Students quarterly and semester passing grades. 1b. End of year state summative assessments (SBAC). 1c. Rate of 9th grade credit attainment.
How Data is Collected:	1a. Pass/Fail and school counselor reports 1b. Oregon Department of Education (ODE) assessment reports. 1c. Student transcript and school report cards.
<ul style="list-style-type: none"> • Outcomes: Scale effective practices in digitally-driven constructivist instruction across all classrooms 	
Evaluation Questions #1: Do teachers report positive classroom results through implementation of the strategy? #2: How does the practice use student assessment data to provide feedback to students and teachers about a student’s progress? #3: Does the practice use technology for individual student assessment? #4: What other positive achievement results are measurable and evident (student engagement, attendance, or similar)?	

Data to Be Collected:	2a. Formative student achievement through common assessments. 2b. Use of instructional strategies in digitally-based classrooms. 2c. Frequency and depth of student and teacher technology usage.
How Data is Collected:	2a. Schoology student assessment reports. 2b. Lab cycle teacher professional development and curriculum design process. 2c. “Digital Classroom Walk Through Observation Tool” peer-teacher/administrator data compilation.
<p>Outcomes: *Devise observational tools that inform teachers and decision makers as to which classrooms are implementing the project with fidelity. *Build capacity and collegiality among teachers across grade levels through prescribed adherence to the Lab Cycle PD model.</p>	
<p>Evaluation Questions #1: In what ways is technology used to support instruction and student learning? #2: Has professional development helped teachers use technology to implement effective differentiated instruction and to use and analyze student data? #3: What is the frequency of collaborative teacher meeting? Dates? Minutes? #4: What do teachers report as to their degree of instructional understanding and collaborative approaches as measured through teacher surveys?</p>	
Data to Be Collected:	3a. Data gathered from Digital Classroom Walk Through Tool. 3b. Formative and Standardized test scores and credit attainment. 3c. Teacher feedback to project impacting their instructional practice.
How Data is Collected:	3a. Analysis of student growth/achievement through common formative assessments delivered through Schoology. 3b. ODE annual reports and quarterly student grade reports. 3c. Mid and end of year teacher surveys.

VI. Technical Design

The project’s technology purchases emphasize the needs of students as highly capable 21st century learners and teachers as highly capable instructors and facilitators of learning. In grant Year 1, all RHS and RLA students will receive a CTL Chromebook J41 for Education. This device was selected as part of a process that included the RHS Tech Committee, RHS Student Leadership Class and RHS Administration. Student groups were surveyed around their current technology use at school and the degree to which they felt a touchscreen would be a necessary innovation in their learning. The Tech Committee was presented with options for implementation that included a “Silver Option” that included non-touchscreen student devices and “Green Option” that did. The Principal and Associate Principal worked with district leadership to synthesize the information gathered from the teacher and student groups. The team also evaluated the current level of technology innovation currently in RHS classrooms,

as well as projections for tech use by the end of the grant cycle. Cost considerations for the multiple options were carefully considered.

During the planning for this project, the CTL Chromebook J41 was selected for its versatility that maintains the power and capacity of a traditional laptop, has been successfully deployed by neighboring school districts for several years. Finally, this Chromebook is known to be durable enough for regular use from students and will be enhanced with a protective cover and two-year warranty per device. Additional security infrastructure will incorporate the devices into a mobile device management system and internet filtering.

To support the effort to manage student on-line safety, the District researched and chose Securly as the ideal device-based filtering system. Securly is a cloud-based web filter and monitoring tool. Securly not only helps keep students from accessing inappropriate material; it can also track student activity to notify administrators of potential acts of cyberbullying or self-harm. The Parent Portal provides parents an in-depth view of their child's online activity at home on school-owned devices.

Combining the feedback from student, staff and administrative input, it was determined that the projected district maintenance, repair and replacement costs for the touchscreen student devices would outweigh their nominally enhanced advantages. All groups agreed that the CTL J41 will provide students with advanced interactivity and multiple modalities for learning that are the ultimate student needs to fulfill the grant goals.

These Chromebooks also have the capacity to enable students to demonstrate content mastery through online testing. The tablet laptop will allow students to take the summative tests in all content areas in the environment and on the device on which they learned the content. The Chromebook CTL J41 series laptop is a student device certified for the new state tests. This is strongly preferred over students transporting to a computer lab dedicated to State testing of all grade levels and content areas.

There are approximately 80 students enrolled in RHS Life Skills and Functional Life classes. These students' intellectual gifts are best accessed through tactile learning that includes use of touchscreen devices, like an Apple iPad, that enable their access to literacy and other academic programs designed for touchscreen learning. For equitable access for all learners, this project carves out purchase of 80 iPads to be distributed for these students through the RSD special education department.

The District will adopt new online Science and Social Studies curriculum for grades 9-12 in Fall, 2019. The district curriculum director and teachers successfully downloaded and ran these curricula on the pilot devices. Math teachers maintain their preference for touchscreen and stylus devices. Classroom sets of the most recent purchases of Dell venues devices will remain with Math teachers for in-class use.

Teacher devices were also discussed in the same forums. A significant distinction surfaced through these discussions –student technology needs for learning are not the same as teacher technology needs for instruction. To that end, one key instructional practice to emerge from the initial TechSmart grant was a teacher's ability to utilize a high-functioning touchscreen and active stylus as part of their teaching process. Touchscreens allow for teachers to interact with students throughout the modeling components of their lesson. Traditionally teachers are forced to remain static during this instructional phase, but the

combined use of the touchscreen, active stylus, short-throw projectors and wireless short-throw connectivity allow for a more dynamic teaching approach.

As observed and noted through previous lab cycles, this same combination of technology provides greater interactivity in the subsequent instructional phases of the gradual release of responsibility framework, the district's evidence-based instructional framework. The potential to also capture and project student computer screens in real time will also increase opportunities for immediate feedback, responsive instruction and student engagement. Between both RHS and RLA, there are 115 certified classroom teachers. In grant Year 1, all teachers will receive a Microsoft Surface Pro 6. Teachers' classrooms will also be outfitted with a Hitachi Ultimate Short Throw projection unit and wall mount in the 80 classrooms where they don't currently exist from either the initial TechSmart grant or recent district public bond renovation.

District leads also met with central administrators from the North Clackamas, Parkrose and Oregon Trail districts who have 1:1 student technology. A few vital elements to success emerged. One was a need for additional Chromebooks, in each classroom, to ensure uncharged or forgotten devices do not disrupt student learning. To that objective, each classroom will be outfitted with a charging cart with chargers and 2 additional Chromebooks to be borrowed by students in class as needed. Additionally, the charging carts will remain available for any student to plug in and store their device when either they don't need their Chromebook at home or they feel the school environment is a safer location for its short-term storage.

The remaining Chromebooks will be centrally housed and checked out to students whose Chromebooks need repair. Trained student tech teams – under the supervision of the district's IT Department - will further their interest in information technology by repairing and redistributing devices.

This grant project maintains reliance on student and teacher use of Schoology as the district learning management system. Schoology has functioned efficiently for teacher and student collaboration and as repository academic units. Utilizing their issued devices, students submit hundreds of thousands of assignments and assignments through Schoology annually. To contribute toward project sustainability, the RSD will pay the subscription cost for Schoology as a portion of the match obligation

To support the increased number of devices that draw capacity from the district network, through the initial TechSmart grant, the District installed wireless access point devices in all RHS and RLA classroom which are estimated to support traffic of at least 100 wireless devices per room, abundantly more than the projected utilization within the space.

The project budget also allows for a small number of equipment and devices to serve as backup for student and classroom technology. This will allow equipment to be quickly switched out when in need of repair without extensive disruption to device or technology availability to students or teachers.

Included is a table of the projected technology purchases. This project invests the entirety of the teacher/student devices and short throw projectors into year one. Only the technology security infrastructure investments extend beyond grant Year 1.

Tech Item	Year 1	Year 2	Year 3
Student CTL J41 Chromebooks	3260 x \$261 = \$850,860		
Student iPad 32GB	80 x \$395 = \$31,600		
Teacher Surface Pro 6	100 x \$1110 = \$111,000		
Hitachi Ultimate Short Throw Projectors and wall mounts	80 classrooms x \$1200 = \$96,000		
Securely	\$3/device x 3340 devices = \$10,020	\$3/device x 3340 devices = \$10,020	\$3/device x 3340 devices = \$10,020
Computer Carts	115 x \$5155 = \$59,225		
Chargers	1001 x \$25 = \$25,025		
Wireless Short-Throw Connectivity	115 x \$100 = \$11,500		

VII. Organizational Capacity

Since her appointment as Superintendent in summer 2018, Dr. Danna Diaz has convened, analyzed and recommended or implement improvements in the RSD purpose, practice and policy. Not satisfied with the status quo that she inherited, Dr. Diaz set about restoring a culture of modern professionalism that is exemplified by a laser focus on equitable practice and preparing students to succeed as they progress through their K-12 experience in Reynolds. Yet the broader ambition is to ready them for post-secondary college, career and citizenship. Dr. Diaz is a hands-on collaborative leader who seeks input from professionals whose opinion may be different than her own. Yet she shows the willingness to consider alternate points of view if the proposed resolution is driven by data and aims to raise achievement from student populations striving to reduce the inequitable disparities persistent in the educational opportunities gap.

The High School Expansion project, with the goal to raise achievement in math through Constructivist learning environments and enhanced student use of technology is the practice that exemplifies the improved RSD vision recently adopted as guided by Dr. Diaz and was referenced in the Project Purpose.

Vision: Each and every child prepared for a world that is yet imagined.

We can study history and recent trends to formulate educated guesses as to what today's middle and high school students will face as they progress toward adulthood and their productive years as local leaders, employees, parents and citizens. Yet our ability to precisely pinpoint what the exact conditions will become is unrealistic. Embracing that reality, the District looks to foster a set of values that are resilient to shifts in culture or priorities. Therefore, RSD overlays the significance of, among others, community involvement, active participation, higher-order thinking, and determined resilience to

prepare students for whatever unforeseen circumstances they may face in education, work or life after high school.

Those values and the long-term public benefit of this project are distilled within the RSD Mission Statement: *Each graduate embraces lifelong learning and applies skills in technology, global literacy, creativity and critical thinking to enhance family, career and community.*

To this mission, the RSD School Board and administrators are dedicating significant resources to an aggressive Technology Plan referenced in the Project Purpose section. Starting at the earliest grades, the District is investing in student and teacher technology devices and research-based education applications that challenge the learners and raise rigor for all students while teaching them 21st Century skills in usage, management and custody of modern technology.

The project is boosted by District leadership, teachers and outside partners who are motivated to engage in the transformation of learning to commensurately accommodate the precipitous shift in student population within the Reynolds community. The lessons learned that informed the accomplishments and highlighted areas of improvement from the initial TechSmart grant demonstrates organizational capacity and long-term commitment to digital based teaching and learning in Reynolds.

VIII. Replicability

The RSD actively extended outreach to share learnings throughout the initial TechSmart grant. RSD hosted groups of teachers and administrators from neighboring districts annually. The Reynolds Instructional Technology Coach convened with local peers to initiate a new professional affiliation of east county technology coaches to convene and share best practices. In addition to meeting and conducting site visits, they attend local technology conferences together and seek to align new technology adoptions and practices across districts.

Moreover, the alignment of this project to the student success indicators adopted by All Hands Raised Partnership compliments work already under way across Multnomah County school districts.

The RSD will conduct Language Arts and World Language curriculum adoptions in 2021 and 2022 respectively. With devices and technology-based instruction in place, RSD will structure the adoption cycles with the equity focus as conducted SY18-19 for Social Studies. To maintain and upgrade hardware, the district replaces teacher and student devices on a five-year cycle. As this grant sunsets at the end of the 2021-22 school year, there will be a maximum of two more school years of use before the district needs to replace devices to stay current with advancing technology and educational applications.

As noted in the preceding sections, this project accelerates the blending of district transformation of academic and technology initiatives while increasing the capacity and flexibility of the district to invest in technology-rich learning environments for English Learners and other traditionally underserved students. It is culmination of research and shared decision-making processes that are the new norm through the shared accountability structure of the All Hands Raised Partnership. The RSD is applying smarter more effective modes to student achievement.

IX. Budget

Project Line Item Budget

Cost Category	Grant Funds	Matching Funds	TOTAL
Personnel		1,436,709	1,436,709
Education and Training			
Travel			
Contractual	10,000		10,000
Equipment/Software	1,215,270	45,000	1,260,270
Infrastructure/Facilities			
Miscellaneous			
Overhead			
TOTAL	\$1,225,270	\$1,481,709	\$2,706,979

Line Item Budget Narrative

PERSONNEL

Teachers. The participating teachers will implement the curriculum planning, instruction and assessment for the project. They will coordinate their lessons individually, in groups by level and across grade levels. Most grant duties will be included within the teachers' regular contract salaries.

Late Start - Estimated wages for an average of 4 hours monthly. Hourly wages plus employer paid benefits for teachers approximates \$64.54 per hour.

Year 1 - 115 teachers x 1 hour x 9 months x \$64.54/hr = \$66,799

Year 2 - 115 teachers x 1 hour x 9 months x \$64.54/hr = \$66,799

Year 3 - 115 teachers x 1 hour x 9 months x \$64.54/hr = \$66,799

Total Late Start Total = \$200,397

Lab Cycle Professional Development.

Year 1 - \$252 (daily cost of sub) x 1 day x 115 teachers = \$28,980

Year 2 - \$252 x 1 days x 115 teachers = \$28,980

Year 3 - \$252 x 1 days x 115 teachers = \$28,980

Total Lab Cycle Costs = \$86,940

Instructional Technology Coach. The District will shift the full attention and responsibilities to 1.0 FTE instructional coach to deliver teacher training at RHS and RLA.

Average salary and employer paid benefits for the IT coach will be $\$102,550 \times 3 \text{ years} = \$307,650$
Total IT Coach Costs = $\$307,650$

RHS/RLA Administrative Time: There are 8 principals and assistant principals who serve RHS and RLA combined. Including developing and delivering professional development, working with students and families to meet expectations, and observing/evaluating teachers using tech, we conservatively estimate 10% of admin time will be dedicated to this project. The average admin salary and benefits for 2018-19 is $\$161,387$. $8 \text{ administrators} \times 10\% \times \$161,387 \times 3 \text{ years} = \$387,329$

IT Support: There is a high functioning team of 12 classified FTE whose roles are defined, but regularly overlap. In addition to IT tech professional who will be dedicated to this project alone, deployment and management of more than 3,100 new devices will be shared across the IT department managers and specialists. The work to appraise, purchase, image, install and support equipment as well as integrate systems and provide ongoing teacher/student training and support will be shared collaboratively. Conservatively estimated: 10% of their combined work output, spread across multiple professionals, will be dedicated to this project in each Year 1-3; Combining salaries and district paid benefits is $\$944,005$ per year. $\$944,005 \times 10\% \times 3 \text{ years} = \$283,202$

The RSD will add an additional IT support tech dedicated to RHS and RLA only to support this project. Depending on experience, this role's salary and benefits is estimated to be $\$50,000$ annually.
 $\$50,000 \times 3 \text{ years} = \$150,000$
Total IT Support = $\$283,202 + \$150,000 = \$433,202$

Data Coordinator. The data coordinator obtains student data and walk through data through Schoology and Synergy information system. She integrates the information to isolate formative and summative student achievement as well as benchmark attainment attached to instructional practices. The data coordinator's annual salary including benefits is $\$121,222$. 10% of her time will be dedicated to ongoing data maintenance and evaluation. $\$121,222 \times 10\% \times 3 \text{ years} = \$36,367$

Grant: $\$0$

Match: $\$1,436,709$

CONTRACTUAL

In order to expedite reliable installation of the Hitachi Short-Throw projectors in the 80 classrooms, RSD will hire an outside professional installer estimate at $\$125$ per classroom.

Grant: $\$10,000$

Match: $\$0$

EQUIPMENT

Incorporated into the table in the Technical Design section is a line item detail for the pieces of technical equipment to be implemented over the life of the project.

Grant: \$1,215,270
Match: \$0

Learning Management System – Schoology. The annual district subscription to Schoology is \$60,000. Approximately 25% of the district students attend RHS and RLA combined. We anticipate purchase of Schoology for a minimum of 2 more years. $\$60,000 \times 25\% \times 3 \text{ years} = \$45,000$

Grant: \$0
Match: \$45,000