Lessons to LEARN from the Field

When engaging in this work it's extremely helpful to see what others are doing. In this section we have profiled four high-quality schools that are at different places in driving toward transformation with technology.

Entry
I am just starting.

Emerging
I have started, but am still developing.

Adapting
I am making good progress, but would like to push further.

Transforming
I am implementing with fidelity at scale.

Anson New Technology High School
North Carolina

RSU2
Maine

DSST Public Schools
Colorado

Summit Public Schools
California

Anson New Technology High School, NC

Model Overview

Anson New Technology High School, serving the students of Wadesboro, North Carolina, a small, rural town in the southwest corner of the state, might be small in size, but it's mighty in ensuring its students are 21st century citizens, ready for college and career. In 2006, Anson partnered with New Tech Network, a national organization that helps districts redesign schools with project-based learning, culture, and technology as core model elements. The program has completely transformed Anson; now the 160 students (grades 9-12) carry an air of excitement and readiness for academic success. On the curriculum side, the school uses the North Carolina Essential Standards and the Common Core State Standards. Teachers use these standards to create projects in *Echo* (learning management system) and upload resources to support their curriculum.

Blended learning is a critical part of Anson's mission, considering itself an online system living in a brick and mortar environment interwoven with face-to-face teacher time to support, curate, and guide the learning experience. Students have a broad range of ability from EC (Educationally Challenged) to AIG (Academically and Intellectually Gifted) and all are supported in the school. At Anson, "grades are different," according to Chris Stinson, school principal. All assignments receive letter grades and written feedback so students can gauge where they are strong

and where they need more work. Students' grades are 30% content and 20%critical thinking—illustrative of Anson's philosophy that content and critical thinking are two of the most important parts of learning. Making up the other 50% of students' grades are the six learning outcomes that all student work, regardless of subject area, is evaluated on: Tech Literacy, Global Awareness, Written Communication, Oral Communication, Collaboration, and Work Ethic. The faculty at Anson New Technology High School developed these outcomes and they individually tailor rubrics for each assignment.

Technology Integration

To realize its model, Anson leverages technology to better support student learning.

Hardware. The school provides a *Mac* laptop to every student to use during the school day. However, students who have an overall grade average of 77% or higher are allowed to keep the laptops 24/7. "We want them to see it as a tool rather than a toy," Stinson shares. In terms of the longer breaks, students don't take the laptops home over the summer since that's when they are "retooled and refreshed," nor do they keep them after graduation.

Software. All staff, students, and family members use Anson's learning management system, *Echo* (Figure 1), to support and manage student learning. Students submit their classwork to the platform for review; access their grades; collaborate with their classmates and teachers; and use *Google Apps*, which integrates with *Echo*. On the educator front, teachers share resources across subject areas and grades; assess student work and projects; organize and manage curriculum; and give feedback on behavior and other performance standards. All student data is tracked in *Echo*. *Echo* also has a host of other resources, such as the Teacher Library where "teachers across the nation can upload resources that have been pre-screened and are rigorous and relevant," says Stinson.

Since *Echo* utilizes a single portal log-in for students, teachers, and parents, there are no privacy issues or conflicts with the Family Educational Rights and Privacy Act (FERPA). In addition to *Echo*, Anson also uses *PowerSchool* to track attendance and grades (since it's a state requirement to use the tool). *PowerSchool* does not integrate with *Echo*, so teachers enter attendance and grades into *PowerSchool* in addition to *Echo*.

Anson has been paper-free for seven years, and with laptops and other portable devices in tow, students are constantly experimenting with various tech tools to support their learning. "It's amazing to watch students collaborate and use technology to solve problems," says Stinson. One favorite tool is *Google SketchUp*, which is a cloud-based 3D modeling software that integrates with *Google Maps* and *Earth*. (Students can even post their models to *Google Earth*.) Students also use *iMovie*, *GarageBand,* and other resources to supplement the teacher-uploaded resources they access from *Echo*, and can access the school's iMac desktop lab for the Adobe Creative suite.

Conditions for Success

Moving to a blended environment carries certain challenges, shares Stinson, and creating a culture of proper technology use, especially among freshmen, is critical. Students are placed into groups to build online behavior

contracts and then monitor each other's use—and students are responsible for reporting back if something is amiss. (Students can even remove another student's privileges in extreme cases of misuse.)

Looking beyond the students, Anson's staff worked hard to gather support at the local level to create community buy-in around technology. Lessons learned? Get the right players involved who can think outside the box from the start, says Stinson, and then once you do launch a plan, stay consistent, but be flexible. The school also opened its doors longer—staying open late for students, families, and community members to use the technology since broadband access is still a challenge for most of the town. Lastly, Stinson is engaged in a constant stream of communications—whether by email or in-person workshops—to share the exciting work happening at Anson. "The more we educate, the less pushback we get."

Policy Challenges

So far, Anson's greatest policy challenge has come from the district's interpretation of the project based learning and the acceptable educational resources required to support student learning. Despite his work lobbying for a broader acceptable use policy, the policy "blocks access [to many tech tools] and is a hindrance to many learning opportunities for students," says Stinson. For instance, to support a project, students might want to watch a *YouTube* video on building rollercoasters, but because of the existing policy, they only use *YouTube* for select videos. The Anson school community is working hard to educate policymakers about the benefits of having access to as many appropriate learning tools as possible, but for now Anson has to work within the current policy limitations.

Figure 1: Echo

RSU2, ME

Kennebec Intra-District Schools (KIDS) regional school unit, called RSU2, includes 10 schools stretching across five towns in central Maine with an emphasis on student-centered learning. The K-12 district is designed around proficiency-based learning communities with a continuum to guide what students should know and be able to do.

Technology's Role

Technology plays a critical role in learning at RSU2, starting with every student and teacher at the middle and high schools having laptops. "Maine is a 1-1 state for middle school," says Superintendent Virgel Hammonds, but the district made the commitment to extend 1:1 through 12th grade, as well, because they see it as an essential tool to support student learning and co-ownership of their learning process.

Educate serves as the learning management system at RSU2, and is used to house the learning standards and proficiencies, explains Hammonds. The platform is accessible to students, teachers, and families, and is used for educators to collaborate on evidence of learning and student need. Although, *Educate* gives administrators and educators a sense of areas of student need through its data reports, the school still looks to the teachers for details. "At this stage we rely on our teams to let us know the specific [needs of the] students," he says.

The learning management system is home to the district's curriculum, as well, coupled with *Discovery Education* for digital media and as a research tool for students. For collaboration, *Google Docs* is used extensively, says Hammonds, and for communication the schools use *First Class*.

In the community, there is support for the direction of the district. "Our parents are thankfully highly involved," says Hammonds. "The real focus on our strategic design is complete transparency. *Educate* allows parents to access what students are learning and how they are learning it." Hammonds shares that the transparency of standards, and the fact the parents have access to all the technology systems the school uses, makes the process of innovation possible. Open educational resources and district transparency allow community members to be fully aware of change and to help drive it by supporting both the system and their children. This openness has enabled growth to happen organically.

Artifacts: How can I learn more?
RSU2's standard-based, learner-centered framework

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DSST Public Schools, CO

DSST Public Schools, formerly known as Denver School of Science and Technology, is a network of STEM schools located in the heart of Denver, Colorado. Serving more than 2,800 students across seven schools, it's a fast growing network focused on transforming learning and closing the achievement gap with an emphasis on 21st century skills. The network has risen to be one of the most successful and highest performing in the city and technology has been critical to support the standards-based learning environment.

Hardware Details. Technology at DSST is utilized to support the comprehensive standards that guide instruction and student learning, shares Chief of Staff Christine Nelson. The school is a 1:1 environment with all students using laptops and high-speed wireless. After agreeing to the technology use policy, students check a computer out at the beginning of the year (most are Dells). By assigning a student one laptop for the whole year, DSST believes it instills a sense of ownership. Results have backed it up—with less damage to devices. In terms of hardware, DSST uses the *Microsoft* suite, with a *Microsoft Exchange* account to power email addresses for all students and staff.

Technology Supports Data Use. DSST is data driven, according to Jake Firman, senior manager of education technology at DSST schools—everyone from district administration to students is encouraged to actively consult data. Teachers look at data in real time to inform core instruction, and students take ownership of their data, using it to understand their learning needs. "They can tell you which standards they are excelling at and which they need to work on," says Nelson.

To support some of this data collection, DSST uses *Infinite Campus* as their student information system. "We use it not by choice, but because of logical necessity," says Firman. Over the last year and a half, DSST partnered with Double Line Partners to build a connective solution for the network's data sources, which resulted in an operational data store and warehouse, called *Polaris*, which is organized on the Ed-Fi data scheme (a national data model built for education), explains Nelson. Data in the warehouse is then "revealed through a visual and dynamic visualization tool called *Tableau*, in which DSST creates its own custom reports to meet the needs of our teachers, school leaders, and network leaders," continues Nelson. "A tool like this coupled with other data we have is very instrumental in how we evaluate teachers and take the work to the next level," says Firman.
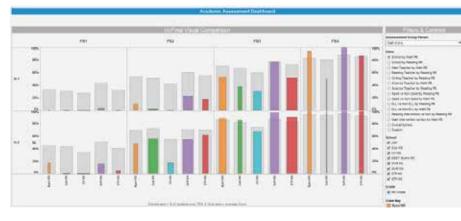
Following are a few screenshots of *Polaris* reports:

Figure 2: Polaris *Report screenshots*

On the assessment side, DSST uses *ActivProgress*—a program the school co-designed with Promethean. "It's a powerful platform," shares Firman. *ActivProgress* facilitates the creation of assessments, and aligns the assessment to standards. Most teachers use it to digitally upload or build an assessment and then share it with students either in real-time or asynchronously. Educators are trained and equipped to act on data created through the assessment results. For instance, if a student is struggling with a particular competency, the teacher will shift context to meet his or her needs. This circular relationship between learner, data, and teacher is a constant area of exploration for the staff at DSST.

According to Nelson and Firman, what truly makes *ActivProgress* effective is its ability to deploy the carefully designed standards built by DSST teachers, which guide teaching and learning, to the assessments in a given classroom. The platform also enables DSST to do network-wide benchwork assessments, which helps identify trends and areas of need and growth across all schools.

Source DSST Public Schools

Instructional Tools. Most of the instructional tools DSST uses are cloud-based. The "aim is to ensure all students and teachers can manage learning from the cloud," says Firman. He highlights the need for a process to evaluate instructional tools, identify trusted providers, and standardize the process for choosing tools teachers can rely on. As of now, DSST uses classroom-level pilots to test cloud-based tools, letting educator and student evaluations and perceptions of a tool drive use. "We haven't gotten to a place where we have standardized this process," says Firman. "Our teachers do an amazing job using a wide variety of instructional tools despite not having standards."

Powering Assessment. *Compass*, a program that collects cultural data, was built in-house and is maintained in-house. "We're a very values-driven school, so this tool allows teachers to give core value points, like a 'curiosity point,' when a student raises their hand to answer a challenging question," says Firman. *Compass* allows teachers to diagnose students and assign after-school intervention when needed.

Continue to Grow Parent and Family Connections. DSST connects to parents and families through the technology platforms it uses—parents can log in to check attendance, grades, and missing homework. Parents also receive *Compass* character reports. But beyond that "parents are an area for growth in terms of leveraging technology," says Nelson. (Check out a video tutorial for one of DSST's technology trainings for parents.)

DSST's budgetary flexibility has allowed the school to make changes in leaps and bounds, especially when it comes to hiring. "The people we hire is the biggest thing that makes technology not just little black boxes on the desk," says Firman. "Excellent hiring strategy is critical here."

Nelson and Firman also cite Colorado as a unique state for innovation. "There are not inherent barriers to getting things done—not a cohort of leaders trying to thwart efforts of innovation," says Nelson. "The extraordinary flexibility and the super collaborative relationship with the district" paves the way for schools' achievements, says Nelson. "It's not just us doing great work, we are part of a community of schools doing great work."

Summit Public Schools, CA

Summit Public Schools, located in northern California, is composed of six charter schools serving nearly 1,600 students. The heart of Summit's mission is to ensure all students graduate from high school eligible and ready to attend college. In order to do that, the model has focused on providing all students with a rigorous, engaging high school experience. The results so far are impressive—with 96 percent of students accepted to a four-year college or university. Learn more about the model by visiting www.summitps.org.

Technology's Role
At Summit, to ensure all students are college ready, the pedagogy focuses on assessing skills and content in an integrated fashion through both project-based and online learning. We made a point of "building the product and the school at the same time," says Jon Deane, chief information officer. Technology is essential because personalizing a student's trajectory was core to the school's learning model, shares Deane.

Since technology is so integral in supporting students and their growth, Summit took an active role in the development of the tools they needed. Through the use of learning maps of content and skills, Summit tracks and manages a student's learning acquisition. "Sixty percent of students' time and 70 percent of students' grades are based on learning projects that are on their computers and aligned with the Common Core," says Deane. Summit uses one common rubric to grade all projects. "The idea is that with a single rubric we can really track longitudinal data." The network assesses skills and content separately to maximize the personalized learning process. "We wanted to take project-based learning a step further," Deane shares. Content is further broken down into *Power Focus* and *Additional Focus* areas. Power Focus areas are the bare minimum a student needs to pass in order to meet the competency assessment and progress to the next level of his or her learning progression (see Figure 3).

Within a course, for example 10th grade history, the resources a student needs are seamlessly integrated into a "playlist" of content resources he or she can access. To test herself, a student can take a diagnostic on the *Illuminate* diagnostic assessment site. This "opens up the notion of students being assessed on demand when they are ready," says Deane.

The central platform for students is a single sign-on personalized learning plan (PLP), developed by integrating three main tools, all of which sit on a Google Authentication site. These three tools include:
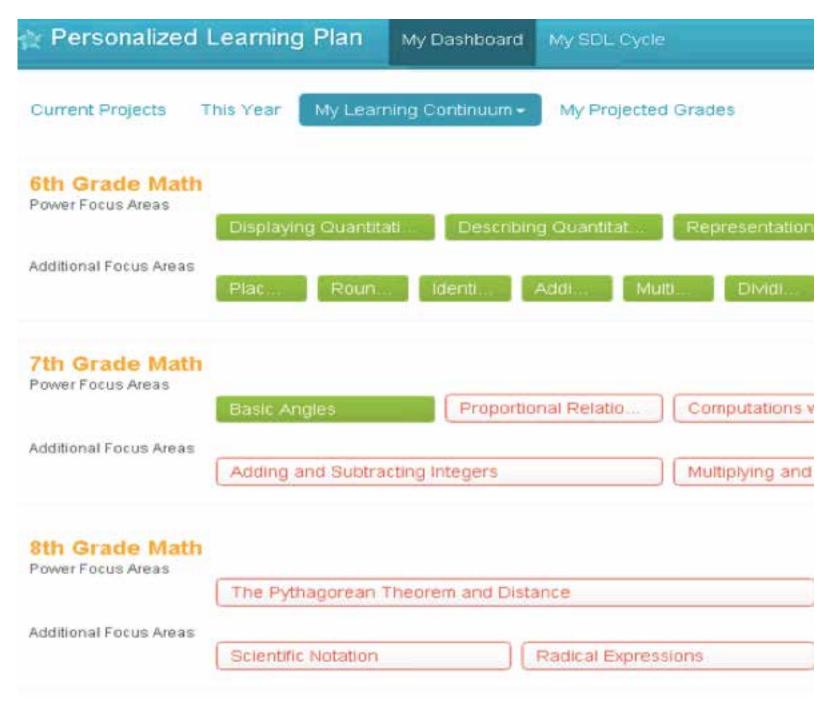
Figure 3: Personalized Learning Path

- **Show Evidence** for project-based learning. Rubrics allow students to track and manage competencies on projects across skills and content.
- **Illuminate & Activate (as a third party application)** serve as the data management solution, integrated through APIs. As a diagnostic assessment solution integrating with all other content and curriculum providers the school uses, it provides the ability to track and manage student performance to allow a customized view of each student based on their unique learning trajectory—what they are learning at what pace.

Students use their PLP to set goals, access resources and assessments, track their progress and grades, and plan ahead for the next step in their learning. There is also a predictive algorithm under development that tracks a student's trajectory based on GPA, test scores, and NWEA MAP assessments. As this gets implemented, there will be the ability for a student to understand the impact of various assessments on their trajectory toward completion. Summit uses a range of online content such as *Khan Academy* for math instruction, *Gobstopper* for reading (not yet integrated), and *Middlebury Interactive* for language acquisition.

One of the key decisions that Summit has made was not to try to integrate all assessments. "We are not trying to pull all data—just key formative assessments. All other products are resources for our students," says Deane.

Summit's staff has learned many lessons throughout their work integrating a solution that personalizes learning through projects and blended delivery—here are the top lessons:

1. **Expect a learning curve.** When the school transitioned all students onto the home-built PLP software, students adjusted at different rates. According to Deane, "It's a different arc for students who were working in *Khan Academy*. It has been a significantly harder arc for students who were not working in *Khan* before." Nonetheless, Summit has "1,600 kids all of whom log in everyday" and the learning is evident from the data the schools pull each night.
2. **Don't be afraid to take leaps in integration.** "When we get a new tool we integrate it right into the model, we don't prototype it bit by bit. For better or for worse," says Deane. Although sometimes challenging, it often works out for the better. For instance, as mentioned earlier, students are now using *Middlebury Interactive* for language acquisition and *Gobstopper* for reading, and although these tools don't integrate with *Illuminate* (the central system the school uses to track data) yet, they were adopted quickly and have been hugely successful.
3. **Provide seamless access to tools and wireless.** Summit is open an extra two hours in the morning before school and two hours after school to ensure students have the access to technology they need to succeed. Students do not bring school laptops home with them at night.

4. **If at first you don't succeed, keep improving.** Currently, Summit finds itself at another moment of transition where the existing platform combinations are good but insufficient. Now, there is a desire to see and track the formative elements of a student's work product, not just summative submissions. Summit has grown to recognize the limitations, and they are looking toward the next round of improvements.

Artifacts: How can I learn more?
Summit founder Diane Tavenner shares an overview of the philosophy and mission of Summit Public Schools. Hear some teacher and student voices here.

View this EdSurge article (June 2014) about Summit Public Schools:
A Peek Inside Summit's Personalized Learning Software: Making competency-based learning a reality