

INNOVATION AND EQUITY: IMPROVING INSTRUCTION THROUGH PROFESSIONAL LEARNING

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Acknowledgments

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*The **Alliance for Excellent Education** (All4Ed) is a Washington, DC-based national policy, practice, and advocacy organization dedicated to ensuring that all students, particularly those underperforming and those historically underserved, graduate from high school ready for success in college, work, and citizenship. During 2015, All4Ed created a separate project under its umbrella called **Future Ready Schools®** to help school districts develop comprehensive plans to achieve successful student learning outcomes by transforming instructional pedagogy and practice while simultaneously leveraging technology to personalize learning in the classroom. all4ed.org futureready.org*

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Leveraging Technology to Prepare Students for the Future

Sioux City Community School District (SCCSD), a small city district located in Woodbury County, Iowa, has a progressive history of supporting student success through innovative curricula and technology-enhanced learning environments. The district, which serves 14,600 students, maintains a strong community of motivated students, supportive staff, and strong leadership under the direction of Superintendent Paul Gausman, recognized as Iowa's 2014 superintendent of the year.

In 2014, the U.S. Department of Education recognized SCCSD as one of the original Future Ready Schools® (FRS) districts for its preliminary work leveraging technology to enhance student learning. During the past three years alone, the district increased its four-year high school graduation rate from 87.19 percent to 87.5 percent; implemented a state-recognized one-to-one student-to-device initiative at the high school level; expanded multiple science, technology, engineering, math (STEM), and career-focused program offerings; and developed seventeen school construction projects currently being implemented. As the district continues to expand its transformation efforts, SCCSD remains committed to providing relevant, rigorous, and innovative academic experiences to every student in the district.

By 2016, trends in student performance as well as challenges with attendance forced the district to think differently about the way it approaches student learning. That year, the district's overall proficiency rates on state assessments in grades 3–11 increased by 0.21 percentage points in reading comprehension and decreased by 0.4 percentage points in math. When analyzed by subgroups of students, the data shows significant gaps in student achievement at the elementary and middle school levels. Underrepresented students including Native American, African American, and Latino students; students from low-income families; and English language learners scored between 7 and 21 percentage points lower in reading and math proficiency than the district average.

Additionally, SCCSD's experiences with chronic absenteeism at the elementary level further justified the need for more strategic approaches to reengage students and empower them to take charge of their learning. For the past four years, the district reported approximately 1,800 K–12 students

identified as chronically absent or missing at least 10 percent of school days each year. In response to both academic challenges and absenteeism, SCCSD developed *Focus 2022*, a six-year strategic plan to expand the use of personalized learning as an approach to instruction and improve student achievement in reading and math. Leveraging technology to better prepare students for the future and improve districtwide proficiency in reading and math became the district's primary focus.

Sioux City Community School District

siouxcityschools.org

24 schools

1,000 teachers

14,600 students

49 percent white

33 percent Latino

6 percent African American

5 percent two or more races

3 percent Asian

3 percent American Indian or Native Alaskan

<1 percent Native Hawaiian or Pacific Islander

63 percent receive free or reduced-price meals

18 percent English language learners

Source: Sioux City Community School District, *Sioux City Community Schools Annual Progress Report 2016–2017*, <https://www.siouxcityschools.org/wp-content/uploads/2015/03/Annual-Progress-Report-2016-17.pdf> (accessed November 14, 2018).

As a means of addressing the district's inequities in academic achievement, SCCSD piloted a professional learning program in 2017 to help teachers leverage technology for high-quality, rigorous instruction in the classroom. This case study discusses SCCSD's progress implementing this professional learning program and challenges the district faced to ensure that all students, particularly those underperforming, receive the resources they need to succeed academically.

Equitable Technology Integration in SCCSD

Focus 2022 includes four objectives that highlight the role of technology to personalize learning and increase student achievement. These objectives align directly with the [FRS framework](#) and identify the following specific FRS key areas (called gears) the district seeks to address in the next three years: community engagement, personalized professional learning, use of space and time, and data and privacy. The *Focus 2022* objectives are explained below:

1. Expand the district's digital footprint to increase communication internally among teachers and administrators and externally with parents and the community (e.g., brand the district's personalized learning efforts, make information accessible through multiple digital platforms, increase the use of social media).
2. Encourage principals, teachers, and other leaders at each school building to embrace the effective use of technology for instruction and technology literacy, including digital citizenship, through job-embedded professional development.
3. Design progressive learning environments that encourage anytime, anywhere learning and integrate digital resources into traditional spaces, such as classrooms and libraries.
4. Increase communication skills for students and teachers using digital platforms (e.g., online or virtual learning communities, social media, interactive learning platforms).

When asked to describe the current state of the personalized learning transition in SCCSD as it relates to the objectives set forth in *Focus 2022*, district administrators describe the elementary schools as “proficient” and the middle and high schools as “a work in progress.”

Variations in technology access across the district and differences in teacher preparedness informed implementation efforts at the school level. Currently, high school students in the district have laptops that they can take home. In 2018, the district's middle schoolers received their own devices (a 1:1 device-to-student ratio) but are not permitted to take devices home. Each elementary school has one device for every two or three students, but the distribution of school devices is not uniform across school buildings. Thus far, the district ensures that every grade level

has access to devices at the classroom level, but district leaders recognize a need to expand the use of technology for learning in School Year (SY) 2018–19 by better preparing teachers to leverage technology for rigorous instruction.

Professional Learning to Address Equity in Achievement

To better achieve the objectives set forth in the district's strategic plan and find new ways to address inequities among students, SCCSD elected to participate in the [FRS Digital Equity Program](#). This national pilot program supports districts in the FRS network in planning a personalized learning initiative that enhances achievement among high-needs students.

Like other districts in the pilot, SCCSD had an existing investment in digital transformation, a high population of students in need, and the desire to provide greater equity of access to digital learning among its students. During the five-month program, SCCSD leveraged FRS resources on using data for strategic decisionmaking and identified key points to implement personalized learning strategically to enhance the district's internal leadership capacity and improve initiatives the district had in place.

SCCSD's largest professional learning effort that focuses on addressing equity is the Future Ready Cohort (FRC). Beginning in 2017, this program provides teachers from elementary, middle, and high schools throughout the district with training on instructional approaches that highlight the use of technology to personalize student learning. The program piloted a train-the-trainer approach to professional learning that would provide all SCCSD's teachers access to the skills and resources they need to apply a personalized learning approach in the classroom.

District leaders reviewed the teacher applicants for the initial cohort using a standard rubric to evaluate their existing skill sets, goals for professional growth, and vision for enhancing the quality of instruction using technology as a tool. Teachers accepted into the FRC were approved by their principals and formed grade-level teams. The approved teachers then participated in a five-day intensive training in summer 2017 where they worked in teams to outline tangible ways of incorporating digital tools with instructional materials they created and vetted locally. At the end of the training, the FRC teachers had new lesson plans and instructional materials aligned with the Iowa

Academic Standards, the district’s vision for academic performance, and their individual target achievement goals for the upcoming academic year.

Upon joining the FRS Digital Equity Program, SCCSD adjusted the second year of its professional learning initiative to expand support to teachers in SCCSD’s lowest-performing schools. District leaders improved their strategies for recruiting teachers into the FRC, updated the rubric used to review applications, and refined content for the summer training to integrate various models for technology integration. In the first year, cohort 1 of the FRC program included thirty-three teachers, more than 90 percent of whom represented the elementary school level. In 2018, cohort 2 consisted of thirty-four teachers and included a higher percentage of middle and high school teachers to reflect the district’s goals for expansion. Cohort 2 also included ten teachers from three of the district’s lowest-achieving schools that receive Title I funds. To date, the FRC program has trained teachers from nearly half of the district’s schools, which equates to sixty-seven classrooms across the elementary, middle, and high school levels.

In addition to the FRC summer planning session, the district offers ongoing professional learning opportunities during the academic year focused on personalized learning in the classroom. For example, every quarter, the district offers protected collaboration time for FRC teachers to meet and share resources, ideas, and lessons learned with their cohort teams and other teachers in their schools who did not participate in the summer training. Teachers also use this time to participate in online or face-to-face professional learning sessions based on their interests, such as project-based learning, blended learning, and other methods of implementing personalized learning in the classroom.

In 2018, the district offered a full day of differentiated professional learning where teachers designed the day around their learning needs. Guest presenters included Eric Sheninger, senior fellow at the International Center for Leadership in Education; George Couros, author of *The Innovator’s Mindset*; and Tom Murray, director of innovation for FRS at the Alliance for Excellent Education. This group of renowned ed-tech thought leaders spoke about empowered learning, innovative leadership in the classroom, transforming learning spaces, and other important topics on leadership and instruction.

Where Rigor, Technology, and Project-Based Learning Meet

SCCSD’s FRC program provides teachers with a variety of new instructional strategies to incorporate technology into students’ learning experiences. For instance, at the elementary school level, several FRC teachers now create lessons on sequencing, estimation, and problem solving that incorporate robots. Using a grid with numbers, pictures, or text, the teacher creates the basis for problem-solving challenges. Students then use coding to program a robot known as a Bee-Bot to hover over the cell in the grid they think correctly solves a given problem. Through this integrated approach, students learn Cartesian coordinates and mapping as they develop critical-thinking, communication, collaboration, and creativity skills. “[Students] are so excited when they get it right,” one elementary school teacher explains, “and even when they get it wrong, they are still anxious to try coding again to figure it out. The technology really changes the way they engage.”



Photo provided by Sioux City Community School District

For many classes in core subjects, former FRC teachers also created newer, more engaging activities for SCCSD students that transcend boundaries of the school building and break traditional learning paradigms. Recently, two high school teachers who participated in the FRC program launched a geo-physics course where they worked together

to merge math and physics content into one course for advanced students. To expand students' learning beyond the classroom and engage the community, the teachers offered authentic project-based learning opportunities to the students based on their interests. Local companies and community leaders were invited into the classroom for real-time demonstrations of physics principles being taught in the classroom. Students researched local companies to further understand the connection between the physics principles they were learning and the way that information was applied in the real world. From that point, students took learning into their own hands and worked together on an energy audit project to provide needed assessments of energy use in different businesses in the surrounding area. Then the students used data from their research to develop proposals for business owners on ways to save energy and reduce costs for their businesses. Students applied various software applications to research, collaborate, and design proposals that improved business for the companies and reduced energy consumption.

The special geo-physics course culminated with a thank-you event organized completely by the high school students. Not only did students organize the event, they ensured that they thanked the community members, showcased their work, and shared their knowledge with interested middle and elementary school students who, hopefully, will participate in subsequent years. "[T]he kids ... did everything," explains a high school teacher. "[T]hey made invites, and they sent them out to all of the community members that we were involved with. They made an agenda of how the day would go. They made a meal plan of what they would all order. They figured out ... if we had X amount of people, we needed to be in this location, ... if we had X amount of people, we could be in our sunshine room, in our physics room. They figured out how they wanted to do their gallery walk, ... where everybody should be placed, and who should be talking about which part ... and this was not graded."

Projects like problem solving with Bee-Bots at the elementary school level and the geo-physics course at the high school level challenge teachers to use technology in ways that not only benefit achievement but increase student engagement. Early exposure to coding and problem solving benefits elementary school students significantly as they progress to difficult subjects in later grades, particularly those that require an inquiry-based approach to learning. Among high schoolers, integrating the local

community into a new classroom strategy and allowing students to choose the challenge they want to address through the lesson engaged them in meaningful learning that leads to [deeper learning](#) outcomes. Further community engagement through the geo-physics course and other means demonstrates SCCSD's commitment to brand the district's personalized learning efforts and engender buy-in among parents, local business owners, and the county. These approaches provide students with an opportunity to take charge of their own learning and are positive steps toward personalized learning throughout the district.

Digital Equity Challenges

Although SCCSD has experienced great successes in its digital learning transition thus far, there have been several competing challenges affecting teachers' abilities to implement personalized learning with fidelity across different student groups. For example, responses from surveys assessing the digital learning needs among teachers and students indicate that many students in the district lack high-quality broadband access and the tools needed to complete school work. This means that while students have access to cell phones and other devices, they still lack the appropriate connections or digital resources necessary to complete homework assignments. Part of this need informed the district's rollout of devices; however, elementary and middle schools still do not provide sufficient access to devices to alleviate this gap in connections and digital resources. As a result, students need to make significant efforts to rectify the differences in technology requirements for classroom lessons versus homework.

Additionally, a large percentage of elementary school students in SCCSD chronically are absent as a result of their family's inability to secure consistent housing during the school year. These students often have to start and stop curriculum and relearn content, which significantly inhibits their chances of success. Furthermore, being chronically absent at the elementary school level can have a compounding effect that leads to poor academic growth in later grades. Teachers in SCCSD struggle to address this challenge and identify the most effective approaches to personalize learning for this subgroup of students.

Another context-specific challenge is the language barrier between teachers and immigrant students. Due to the county's expansive food industry (both pork and beef factories), international students from African, South

American, and Asian countries enroll in SCCSD schools at a high rate. In this case, teachers are challenged to differentiate instruction while also enduring a shared learning curve on the best ways to use technology to enhance learning outcomes.

Many SCCSD teachers also cite a “technology learning curve” as being a significant challenge to implementing personalized learning. Learning how to let go of traditional learning styles and experiment with digital tools or other instructional approaches remains difficult for both teachers and students despite the district’s new FRC training model.

Lessons Learned from Sioux City Community School District

Administrators and teachers in Sioux City Community School District (SCCSD) offer the following recommendations to other district leaders starting their Future Ready Schools® (FRS) journey or those working to enhance their own digital equity efforts:

1. Start small. It is not realistic to expect giant changes overnight. It takes time to curate resources and foster quality digital teaching or integrate technology with strong instructional practices. There is a learning curve for both students and teachers and it simply takes time for the district to adjust.
2. Put the student first. When it gets difficult, pretend that those students are your own children. Empower students to find their strengths.
3. Involve principals, librarians, teachers, students, and parents in the decisionmaking process. Have a strong dialogue between district staff members responsible for technology and curricula.
4. Place quality instruction and pedagogy before technology. Do not focus on devices without a strong foundation for how the district will use them. As one SCCSD teacher states, “Teaching on top of technology is just a mess.”
5. Empower all teachers and administrators and support them to ensure that their ideas are heard and valued. Many people in a district have great ideas, they just need opportunities to speak up and become leaders.
6. Do not be afraid to join the digital learning/FRS movement. The world is changing too fast for education to stay behind.

“[W]e really had to change the way [students] viewed technology in the classroom and meet them where they were,” explain two ninth-grade teachers. “It was our job to remind them that we wanted them to problem solve and that making mistakes is a part of learning.” By the end of SY 2017–18, the students, like many teachers who also were using technology for the first time in the classroom, came a long way in learning how to explore their own creativity. “In the beginning, there was a lot of ‘Well, you were supposed to tell us what you wanted, and you didn’t give us enough information,’” explains one high school teacher, “... and, at the end of the year, [the students] were talking about ‘Do you remember how we used to want you [the teacher] to spoon-feed us?’ ... [T]hat spoon is out the window.”

Additionally, the district struggled with providing teachers and administrators with equitable opportunities to engage in technology training. Originally, tools and information were given to teachers without having school leaders fully support and train them in the technology’s usage, leaving teachers without clear direction or necessary skills to carry out the district’s digital learning goals. A few teachers also expressed concern in maintaining equitable professional development across all schools, suggesting that certain school leaders have different mindsets than others. “Some principals or building leadership teams are more forward-thinking and are providing more avenues for preparing the teachers with the skills that they need to deliver that twenty-first-century learning that we want ... versus others that just aren’t quite there yet and maintain barriers for their teachers,” explains a middle school teacher. To address that concern, district leaders are exploring expanding the FRC and adding a mentorship focus to reengage past participants and create more opportunities to train new teachers during the academic year.

SCCSD also found that student engagement was a concern for some high school teachers. Although the district’s digital learning programs were improving in ninth grade, some high schools struggled to retain that engagement into subsequent grades. “[A]s a [school] building, we see a need,” explains one principal, “... we do really good jobs with our ninth graders and then something happens that tenth-grade year and we end up losing them.” This principal indicates that she looks forward to working more closely with the FRC teachers to identify better ways to engage upper-grade students in substantive digital learning experiences.

Next Steps and Recommendations

Based on SCCSD's digital transition thus far and the information that the district gained from the FRS Digital Equity Program, SCCSD leadership plans to refine its vision for student-centered learning and continue working toward personalized learning for each student. Moving forward, the district will focus on putting the technology and human capacity systems in place to identify specific needs of each SCCSD student and staff member as the district's technology use evolves.

To support the district's use of technology to improve instruction, administrators are pursuing ways to increase the spread of blended and project-based learning by expanding the FRC program and generating curated resources for classroom teachers. SCCSD administrators are considering a formalized mentorship component for current and former FRC teachers to ensure that personalized professional learning efforts are available year-round and provide the district's more than 1,000 teachers with greater opportunities to gain the skills they need to support students effectively. Thus far, nearly seventy teachers from eleven schools participated in the FRC program. In SY 2018–19, the district wants to accept thirty more teachers from schools that were not represented in the cohort previously, particularly those with a high proportion of underperforming students.

In addition, the district is exploring ways to include librarians in its training efforts. Librarians play a critical role in assisting teachers with leveraging state-provided digital resources in their instruction. Since participating in the FRC, one librarian from cohort 1 leveraged her connections across teachers in different subject areas to create a support model for expanding blended learning at the school level. District leaders are working closely with librarians to identify the best ways to integrate their role in the program and identify their specific areas of need concerning innovative instructional strategies.

Additionally, teachers from the FRC are required to expand their digital toolkits consistently as they implement new lessons in the classroom. To date, members of cohort 1 expanded their resource bank to include lesson plans, instructional materials, and recommended tools and apps for English language arts, math, and science. According to district leadership, these toolkits will form a digital repository of resources for all teachers in the district.

SCCSD is making significant strides identifying and addressing inequities among its students in terms of academic performance and access to teachers who are prepared to implement a personalized learning approach. Through the district's participation in the FRS Digital Equity Program, district and school leaders better understand how to identify specific leverage points for impact using the resources and programs the district already has in place. The district's strategic use of new digital tools, instructional styles such as project- and community-based learning, and personalized learning in the classroom shows a commitment to advancing personalized learning for both educators and students. Amid the challenges of incorporating unfamiliar digital learning into classrooms and providing strong professional learning opportunities across all schools, SCCSD is advancing a promising agenda for coming years.



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