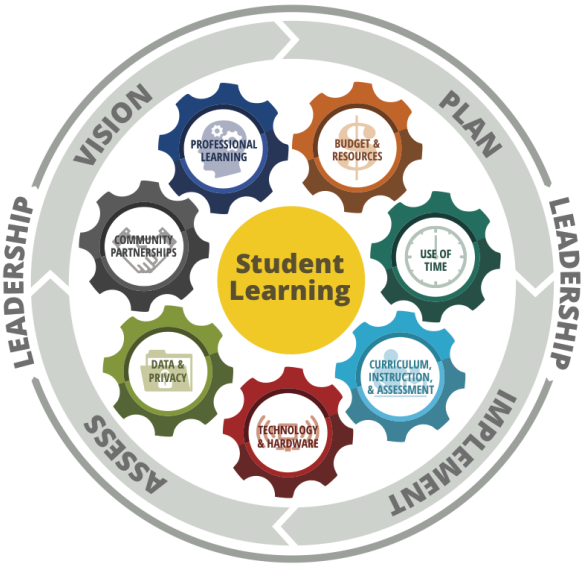
DIGITAL LEARNING READINESS REPORT

Date of Report: 6/11/15

Greenfield-Central CSC

Digital Learning Readiness Score: **6** *(of 10)*

Technology now enables personalized digital learning for every student in the nation. The Future Ready District Pledge, according to the U.S. Department of Education, is designed to set out a roadmap to achieve that success and to commit districts to move as quickly as possible towards a shared vision of preparing students for success in college, careers and citizenship. This roadmap can only be accomplished through a systemic approach to change, as outlined in the graphic below.

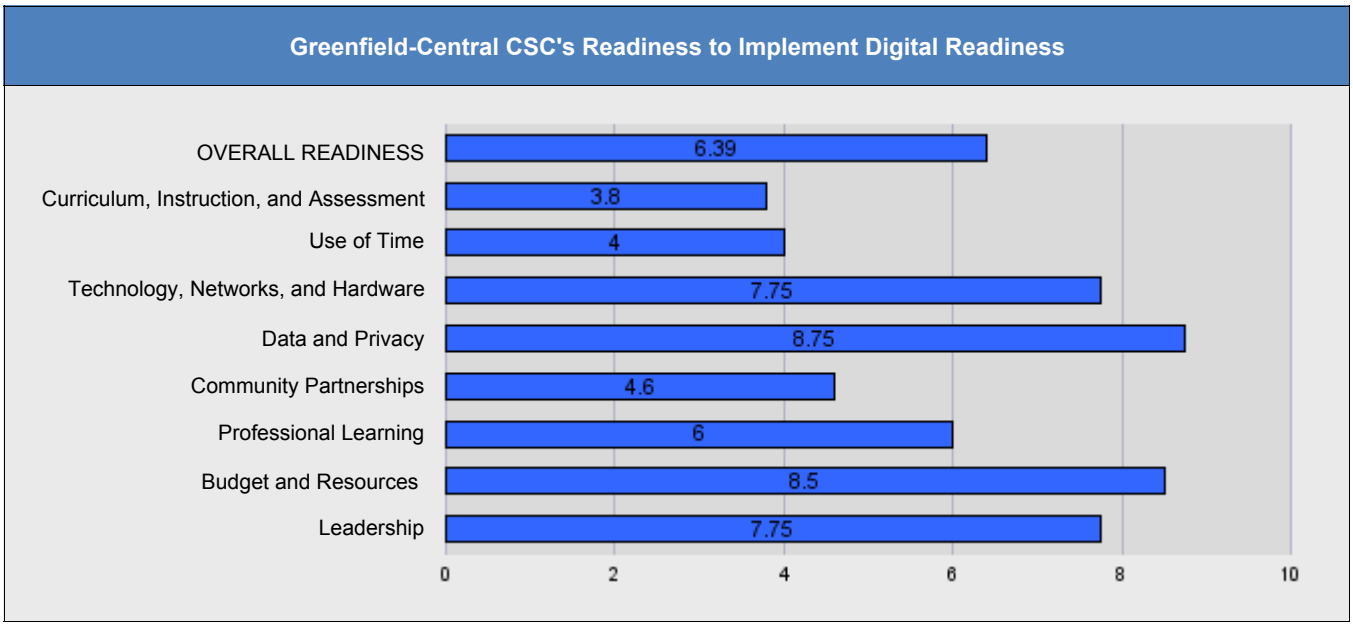


With student learning at the center, a district must align each of the seven (7) key categories, or gears, in order to advance toward successful digital learning.

1. Curriculum, Instruction, and Assessment
2. Use of Time
3. Technology, Networks, and Hardware
4. Data and Privacy
5. Community Partnerships
6. Professional Learning
7. Budget and Resources

The outside rings in the figure emphasize the importance of empowered leadership and the cycle of transformation where districts vision, plan, implement and assess continually. Once a district is strategically staged in each gear, district leaders can be confident that they are ready for a highly successful implementation phase that leads to innovation through digital learning.

This confidential report indicates your district's readiness to implement digital learning. The chart below provides a snapshot of your district's progress to date across the seven gears in the Future Ready framework.



Digital Learning

Digital learning is defined as the strengthening, broadening, and/or deepening of students' learning through the effective use of technology. It individualizes and personalizes learning to ensure all students reach their full potential to succeed in college and a career.

Digital learning is the strengthening, broadening, and/or deepening of students' learning through the effective use of technology.

Digital learning can be enabled through a range of instructional practices. Much more than "online learning," digital learning encompasses a wide spectrum of tools and practices. It emphasizes high-quality instruction and provides access to challenging content, feedback through formative assessment, and opportunities for learning anytime and anywhere.

Staging your district to implement digital learning successfully is a complex progress. It will include: 1) investigating and researching new designs for learning, 2) envisioning a range of possibilities and formally adopting a new vision, 3) collaboratively developing plans to enable that vision, and 4) staging the implementation for success by enacting policies and capacity building measures. The following provides important information about the foundation your district is establishing in support of digital learning.

Your District's Vision for Digital Learning

District Vision
Our vision for engaging students is to meet the diverse learning needs of our students. Our education system must provide a more personalized, rigorous, and collaborative learning environment, which transitions from teacher directed - one-size-fits-all instructional strategies toward a learner-centered model.

Vision for Students	Included in Your District's Vision:	
	Yes	No
• Personalization of learning	√	
• Student-centered learning	√	
• 21st Century skills/deeper learning	√	
• College and career readiness	√	
• Digital citizenship	√	
• Technology skills	√	
• Anywhere, anytime learning	√	

Your District's Current Uses of Technology

This table reports the status of your district's uses of educational technology:	Available in Your District	In Your District's Plans	Not Yet a Priority
• Online coursework	√		
• Blended learning		√	
• Digital tools for problem solving (i.e., visualization, simulation, modeling, charting, etc.)	√		
• eCommunication for student discussions	√		
• eCommunication for teacher discussions	√		
• Real-world connections for student products	√		
• Tools for students to develop products that demonstrate their learning	√		
• Digital student portfolios		√	
• Online research	√		
• Intelligent adaptive learning		√	
• Digital content in a variety of formats and modes (i.e., visual, auditory, text)		√	
• Assessment data (formative and summative)	√		
• Social Media	√		

Your District's Digital Learning Environment

The following table presents the status of various elements of your district's digital learning environment:

Elements in a Digital Learning Environment	Available in Your District	In Your District's Plans	Not Yet a Priority
• Presentation tools	√		
• Productivity tools	√		
• Document management		√	
• Learning management system		√	
• eCommunication tools (Asynchronous)	√		
• eCommunication tools (Synchronous)	√		
• Library of curated digital content		√	
• Collaborative workspaces	√		
• Visualization tools		√	
• Multimedia production tools		√	
• Social Media		√	

Please keep the district's vision, uses of technology, and digital learning environment in mind when considering the reports on the following pages. Each of these is a prerequisite to your district's readiness across the seven gears and the leadership component.

Strategic Use of This Report

The purpose of this assessment is to provide your distict's "readiness to implement" scores in the context of the seven gears in the Future Ready framework, as well as provide your district with a "way forward" in closing gaps. To do so, the Alliance for Excellent Education, in partnership with the Metiri Group, is providing rubrics for each element of the gears. To find your district's way forward, simply note your district's stage of readiness as reported on the following pages, and map that back to the associated rubric. Target next steps by looking at the table cell that represents the next level to the right. A score at the "staging" level indicates that your district is ready for implementation.

The rubrics have been developed based on the following levels of readiness:

Investigating	Envisioning	Planning	Staging
District leaders are becoming more deeply informed about emerging research, trends, best practices, and added value related to digital learning. They are supported in their investigation through conference attendance, webinars, and in-depth discussions at district leadership meetings to ensure deep understating that informs their vision of digital learning.	District leaders have identified viable new directions for the school district. They have reviewed the possibilities, built scenarios for how those possibilities would look in their district, and working in tandem with key stakeholders, established a common vision of the future.	District leaders have established indicators of success based on the vision, set a baseline, and conducted a gap analysis. They have forged a plan for closing the gaps and identified key strategies for making progress toward those targets. They have projected benchmarks and milestones and created timelines, associated work plans, management plans and budgets.	District leaders have enacted policies, established new structures, identified budgets and assigned roles and responsibilities that collectively stage the district well for achieving the outcomes described in the vision. Where appropriate, they have undertaken pilots to document the efficacy of the elements of the plan. Once the district reaches the staging level, it is ready to begin full implementation.

Once your district's readiness scores are mapped to the rubrics and targets are set for improvements, take advantage of the many U.S. Department of Education and the Alliance for Excellent Education events, activities, and resources

(see tech.ed.gov, dashboard.futurereadyschools.org/app/framework, mooc-ed.org)

The schedules include events and resources based on each gear, as well as the courses offered through the Friday Institute, an Alliance partner.

GEAR 1: Curriculum, Instruction, and Assessment

In a Future Ready district, curriculum, instruction, and assessment are tightly aligned, redesigned to engage students in 21st Century, personalized, technology-enabled, deeper learning. Curricula and instruction are standards-aligned, research-based, and enriched through authentic, real-world problem solving. Students and teachers have robust and adaptive tools to customize the learning, teaching, and assessment, ensuring that it is student-centered and emphasizing deep understanding of complex issues. Assessments are shifting to be online, embedded, and performance-based. Data and associated analyses serve as building blocks for learning that is personalized, individualized, and differentiated to ensure all learners succeed. A foundation for each of these elements is the increased use of digital content, providing learners a range of high quality media, accessible 24 hours-a-day, 7-days-a-week. This provides all students many more opportunities to personalize learning, reflect on their own work, think critically, and engage frequently in deeper understanding of complex topics. This necessitates equitable access to devices and high-speed networks and broadband both at school and beyond, into the community and homes. The essential elements that comprise this gear are listed below.

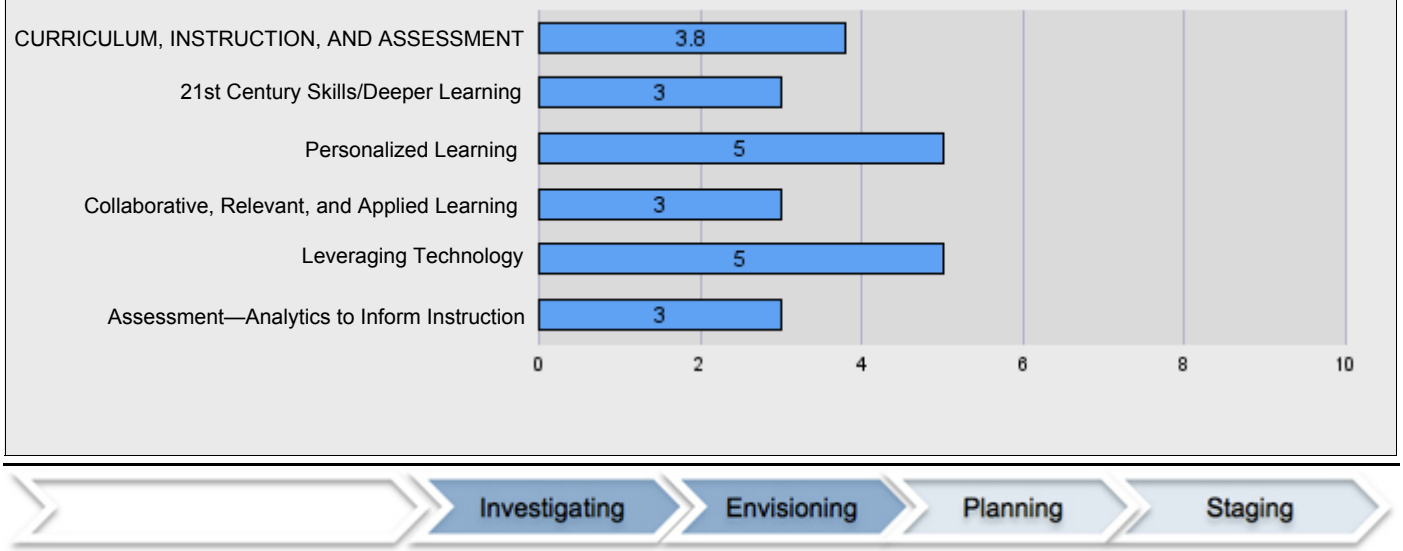
CURRICULUM, INSTRUCTION, AND ASSESSMENT:

- 21st Century Skills/Deeper Learning
- Personalized Learning
- Collaborative, Relevant, and Applied Learning
- Leveraging Technology
- Assessment—Analytics to Inform Instruction

Your district provided the following vision for Curriculum, Instruction, and Assessment:

Learner-centered instruction will effectively utilize modern tools to prepare students for college and careers. Instruction is rigorous and is based on college and career-ready expectations. Instruction will be driven by real-time assessments and will be personalized, collaborative, relevant, applicable and adaptive.

Your District's Stage of Readiness for Curriculum, Instruction, and Assessment



Depth of Your District's Knowledge Base: Curriculum, Instruction, and Assessment

Investigating, researching, and professional discussions are critical at all levels. The chart below reports the depth of your district's leadership team's knowledge base for Curriculum, Instruction, and Assessment:

Confidence of Your Leadership Team in Discussing Topics Related to Curriculum, Instruction, and Assessment for Digital Learning	Not Yet Prepared to Discuss	Could Discuss After Additional Research	Could Discuss with Confidence Now
Creating strategies for building college and career readiness through digital learning.		√	
Leveraging diverse resources accessible through technology to personalize learning for all students.		√	
Providing students with the opportunity and specific skills to collaborate within and outside of the school, in the context of rich, authentic learning.		√	
Instituting research-based practice for the use of technology in support of learning.		√	
Transitioning to a system of digital and online assessment (diagnostic, formative, adaptive, and summative) to support continuous feedback loops improvement informed by data.		√	

Strategic Interpretation of Your District's Data

Displayed below are the elements for this gear, your district's progress toward them, and associated rubrics. To use this data strategically, begin by locating your district's readiness level on the rubric based on your district's reported scores. A look to the immediate right will be your district's potential targets. If at the "staging" level, your district is ready for implementation.

Rubrics for Curriculum, Instruction, and Assessment (Gear 1)

21st Century Skills/Deeper Learning: Readiness Score of 3

Curriculum, instruction, and assessment are based on clear expectations that all students will leave the education system well staged for college acceptance or for alternative paths to workplace readiness. These expectations mandate solid grounding in standards-based content; elements of deeper learning, such as critical thinking, creativity and innovation, and self-direction; and opportunities for authentic learning in the context of today's digital society.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
21st Century Skills/Deeper Learning	District leaders familiarize themselves and staff with new state learning standards and with research-based principles and strategies for 21st Century skills/deeper learning. Attention is given to the assessment of these skills as well.	21st Century skills/ deeper learning outcomes are explicitly referenced and defined in the district's vision of the college and career ready student. Guidance documents and templates for curricula based on these standards are developed.	Instructional leaders formally integrate 21st Century skills/deeper learning into all curriculum documents. District leaders develop explicit plans for building the capacity of the system to develop 21st Century skills/deeper learning skills in students. In addition, they develop plans for assessing these skills/ outcomes on an equal footing with content skills.	District leaders communicate new expectations for college and career readiness that incorporate 21st Century skills/deeper learning. They begin awareness trainings to orient educators to new curricular scope and sequences, guides to 21st Century skills/deeper learning, and upcoming series of associated professional development. They pilot programs that incorporate the new vision for learning.

Personalized Learning: Readiness Score of 5

Educators leverage technology and diverse learning resources to personalize the learning experience for each student. Personalization involves tailoring content, pacing, and feedback to the needs of each student and empowering students to regulate and take ownership of some aspects of their learning.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Personalized Learning	District leaders research personalized learning and document the characteristics of personalized learning environments and the requirements for building these characteristics.	A common vision for personalized learning is written and communicated, and includes rich scenarios of practice in multiple grade levels and content areas.	District leaders develop plans for promoting and/or expanding opportunities for personalized learning. Policies and access to technology are supportive of these plans.	District leaders prepare a plan for implementing personalized learning at all levels. This plan includes organizational tools, professional development, and examples of practice aimed at multiple levels and content areas.

Collaborative, Relevant, and Applied Learning: Readiness Score of 3

In digital learning environments, students do work similar to that of professionals in the larger society. They collaborate with educators, fellow students, and others outside of the school environment on projects that often (1) involve the creation of knowledge products, (2) foster deep learning, and (3) have value beyond the classroom walls.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Collaborative, Relevant, and Applied Learning	District leaders review the research related to rich, authentic learning, including variants, such as project- and problem-based learning. Teams have also gathered research and best practices on promoting and leveraging collaboration.	The concept of student work as collaborative and authentic is noted as central to the district's vision. District leaders gather examples of teaching and learning, meeting these criteria through research and piloting. A framework for collaborative, relevant and applied learning is created and communicated to all stakeholders.	Instructional leaders review all curricula for opportunities for rich, authentic, and collaborative learning and document these opportunities. Initial plans for the adoption and implementation of these curricula are made that include necessary staff training and support.	Instructional leaders finalize a plan and assign responsibilities for implementing rich, collaborative authentic work that includes unit designs and templates, professional development, and support for teachers as they scale up new instructional practices.

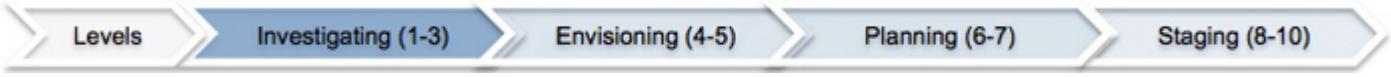
Leveraging Technology: Readiness Score of 5

Educators in digital learning environments integrate technology seamlessly into the teaching and learning process. These educators have the skills to adopt and adapt to new technologies and filters, which assure that the use of technology adds value to the learning process.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Leveraging Technology	District technology and curriculum staff members collaborate with other key stakeholders in an investigation of the latest research and best practices related to technology-enabled learning.	District leaders and key stakeholders establish a common vision for building and sustaining a digital learning environment that clearly defines the role technology plays in supporting these new learning environments.	Instructional leaders review all curricula for opportunities to apply current technologies to improve teaching and learning in ways that align with research and best practices. They then align and integrate these technologies into all curriculum documents.	Instructional leaders prepare a plan for proactively integrating technology into teaching and learning practices throughout the district. This includes professional learning plans and communities of practice. They pilot robust and effective integration of learning technologies within the curriculum.

Assessment—Analytics to Inform Instruction: Readiness Score of 3

The district and its schools use technology as vehicles for diagnostic, formative, and summative assessment. The school system has mechanisms (i.e., processes and digital environments) for using data to improve, enrich, and guide the learning process. Educators actively use data to guide choices related to curriculum, content, and instructional strategies.



Assessment—Analytics to Inform Instruction	District leaders are becoming more deeply informed about the type of assessments they will need to evaluate student progress in content and process standards as well as 21st Century competencies. They continue to investigate and confirm findings.	District leaders have identified the type of assessments that will be required to track progress over time, but have yet to establish a common vision around specific indicators, metrics, or instruments.	District leaders have established an initial plan using data to guide choices related to curriculum, content, and instructional strategies. They have identified indicators, metrics, and/or instruments for use in determining student progress over time. They have identified diagnostic assessments, formative, and summative assessments. Policies, budgets, and access to necessary technologies necessary to support these assessments have been identified.	With policies, budgets, and access to necessary technologies necessary to support these assessments in place district leaders have established a series of diagnostic, formative, and summative assessments. They have established analytics and mapped reports to expected learning outcomes. Education professionals are prepared to use the data generated by these assessments to track student progress over time, identify gaps, and make changes to improve results.

Summary

Resources related to Curriculum, Instruction, and Assessment can be accessed at the Future Ready dashboard: dashboard.futurereadyschools.org/app/framework

The rubrics in this section should give your district strong guidance in determining its next targets for closing gaps in Gear 1. Your district is encouraged to follow Future Ready events and activities at the U.S. Department of Education at: tech.ed.gov

Finally, information on how to participate in a free courses visit: fi.ncsu.edu/selected-resources/

GEAR 2: Use of Time

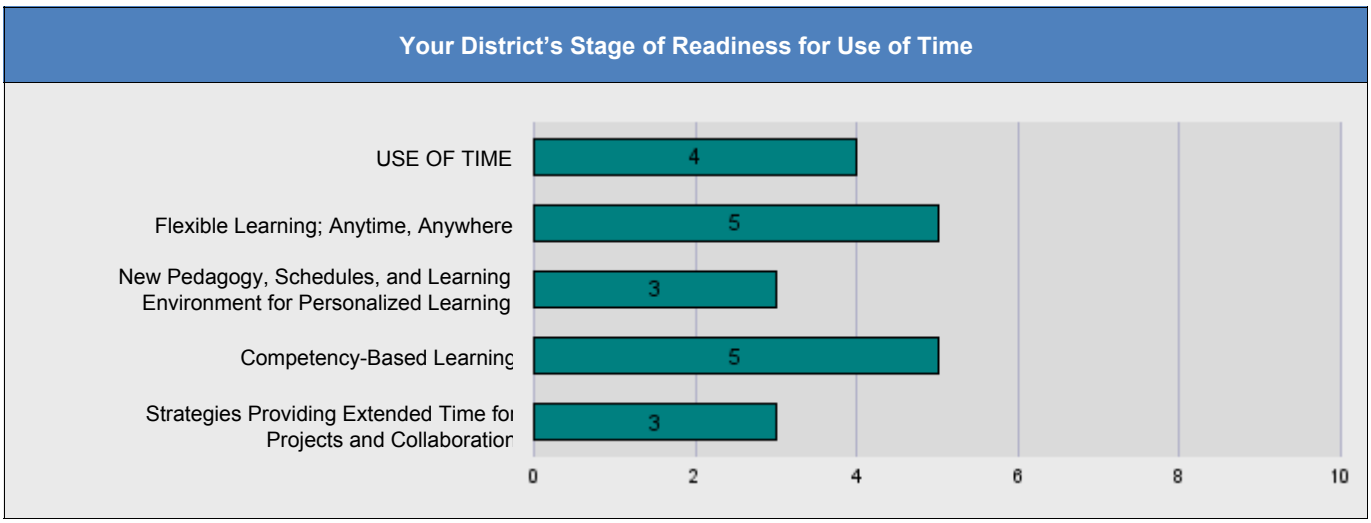
Student-centric learning requires changes in the way instructional time is used. Many schools are shifting away from Carnegie units to competency-based learning. This type of system adapts learning to meet the needs, pace, interests, and preferences of the learner. This transition is made possible through innovative uses of technology for diagnostic, formative and summative assessments, for managing learning, for engaging students in learning, and for providing anywhere, anytime learning. Such transitions required districts to rethink and more effectively leverage the use of instructional time. The essential elements for this gear are listed below.

USE OF TIME

- Flexible Learning; Anytime, Anywhere
- New Pedagogy, Schedules, and Learning Environment for Personalized Learning
- Competency-Based Learning
- Strategies for Providing Extended Time for Projects and Collaboration

Your District provided the following Use of Time vision:

Learning will take place anytime and at any place. Learning will move beyond classroom seat time and setting to meet the needs of all students.



Depth of Your District's Knowledge Base: Use of Time

Investigating, researching, and professional discussions are critical at all levels. The chart below reports the depth of your district's leadership team's knowledge base for Use of Time:

Confidence of Your Leadership Team in Discussing Topics Related to Use of Time for Digital Learning	Not Yet Prepared to Discuss	Could Discuss After Some Additional Research	Could Discuss with Confidence Now
Identifying options for providing students with online and digital learning options for anywhere, anytime learning.			√
Rethinking the use of instructional time and school schedules to provide students with extended time for projects and collaboration, and to provide the flexibility required for personalized, student-centric learning.		√	
Identifying merits of allowing students flexibility in the time it takes them to complete a course or attain a standard (competency-based learning).			√

Strategic Interpretation of Your District's Data

Displayed below are the elements for this gear, your district's progress toward them, and associated rubrics. To use this data strategically, begin by locating your district's readiness level on the rubric based on your district's reported scores. A look to the immediate right will be your district's potential targets. If at the "staging" level, your district is ready for implementation.

Rubrics for Use of Time (Gear 2)

Learning is Flexible; Anytime, Anywhere: Readiness Score of 5

By leveraging technology and media resources, online learning options are available for students at any time of day, from home, at school, and in the community.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Flexible Learning; Anytime, Anywhere	District leaders utilize existing research and trends to inform their thinking about flexible, anytime, anywhere learning. They do so by attending conferences, visiting other districts to observe models, leveraging internal and external expertise, and discussing options with colleagues, families, and other stakeholders. District leaders have sought out different perspectives and assembled concrete ideas for providing access to models of online and blended learning, while attending to the questions of equity around 24/7 access to device and high-speed Internet. They have investigated accessibility policies, including acceptable and responsible use.	District leaders use research, and existing practice to build out scenarios for supporting and accessing flexible, anytime, anywhere learning in their schools. They have explored various strategies for access, including one-to-one and bring your own device (BYOD) programs, community-wide Internet access, limitations and opportunities from various licensing agreements, and partnerships with community stakeholders. They have established a common vision that leverages technology to empower anytime, anywhere learning through 24/7 access to device, high-speed Internet access, and digital learning content.	District leaders have collaboratively developed a plan for flexible, anytime, anywhere learning in their district. That plan leverages technology and is attentive to issues related to 24/7 access of device, high-speed Internet, and digital content. They have identified key strategies, policies, timelines, necessary budgets, licensing agreements, and community engagement during staging and implementation. District leaders have also identified gaps in teacher and student readiness for anytime, anywhere learning and created initial plans for integrating models of online and blended learning into their school day, and possibly beyond.	District leaders have policies and budgets in place to enact their plan for anytime, anywhere learning. They have identified plans for addressing issues of access for device, high-speed Internet, and digital content for every student. District leaders have staged a digital learning or content management environment that allows classroom teachers to begin to work towards models or online and blended learning, and have continual review processes in place for licensing agreements. They have measures in place to evaluate their plans, and a continual feedback system to monitor roll out of any devices, access issues, or blended learning opportunities. They are staged to provide professional development to teachers, and additional training to students that will enable flexible, anytime, anywhere learning.

New Pedagogy, Schedules, & Learning Environment for Personalized Learning: Readiness Score of 3

To facilitate more personalized learning, educators work together to identify and validate new designs for personalized learning wherein the use of time is adaptable and flexible. Associated resources are made available to students both synchronously and asynchronously to promote flexibility.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
New pedagogy, schedules, and learning environment for personalized learning	District leaders investigate new designs for personalized learning wherein time is both adaptable and flexible. The district is identifying both synchronous and asynchronous learning opportunities by accessing existing research and reaching out to other districts that are using time differently to promote personalization. The district deepens their understanding of the infrastructure necessary to encourage personalized learning through new pedagogies, schedules, and learning environments.	District leaders have collaboratively developed a vision for personalized learning that leverages new pedagogies, schedules, and learning environments. They use both research and existing practice to review new possibilities for their district and have identified which of those would work locally.	A plan for utilizing new pedagogies, schedules, and learning environments to promote access and participation with personalized learning opportunities is constructed. This plan leverages resources that can be made available to students both synchronously and asynchronously, and accounts for policies, necessary budgets, and licensing agreements that will empower education professionals and students to use time differently to engage students. Necessary training for teachers is identified and any gaps that exist in student readiness are addressed. Those gaps include issues related to equitable access for all students.	District leaders have staged education professionals and students for personalized learning opportunities through the use of new pedagogies, schedules, and learning environments. Policies, funding, and metrics to measure effectiveness are in place, and the infrastructure is ready to provide synchronous and asynchronous learning opportunities to all students.

Competency-Based Learning: Readiness Score of 5

Along with flexible schedules, and as one facet of personalized learning, the pace of learning is flexible based on the needs of individual students and the challenges of complex, project-based work. Students move on to a new standard or course upon mastery.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Competency-Based Learning	District leaders are accessing current research, investigating current trends, and identifying best practices with competency-based learning. They are utilizing extant resources to develop a deep understanding of competency-based learning as it relates to digital learning.	District leaders have a vision for competency-based learning that is grounded in research and best practice. That vision leverages technology, and supports the districts vision for personalized learning. With a common vision in place, key stakeholders have been able to assist the district in building out scenarios that create the best opportunities for the district.	District leaders have developed a plan to transition to competency-based learning. This plan includes provisions for providing the district with necessary data to train teachers, inform stakeholders, redesign curriculum, and envision new ways of facilitating instruction and assessment. A gap or needs analysis has identified the infrastructure that will be necessary to support competency-based learning. As a part of the overall plan they have identified policies, budgets, and issues of equity in accessibility of devices and high-speed Internet to allow for the full opportunities of this transition to be realized.	District leaders have enacted their plan, with new policies that establish competency-based learning in place. With the necessary infrastructure, policies, and budgets in place issues related to equity and access have been addressed. Teachers and students are prepared for the transition to competency-based learning, and the district is staged with redesigned curriculum, instruction and assessment practices.

Strategies for Providing Extended Time for Projects and Collaboration: Readiness Score of 3

Rather than rigid schedules and short class periods, time allocations are flexible, allowing for extended work time for complex projects. Digital learning enables students to productively use time during and beyond the school day, often repurposing what was previously homework time.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Strategies for Providing Extended Time for Projects and Collaboration	District leaders utilize existing research and trends to inform their thinking about extending student use of time. By attending conferences and visiting other districts, district leaders have identified successful models at each level (elementary, middle, and high). They have investigated long-standing practices to identify schedule changes that may provide students with extended time for projects and collaboration.	District leaders use research, and existing practice to build out scenarios that would allow students extended time for complex projects. They have explored various strategies for utilizing time differently during and beyond the school day, and identified examples of how authentic learning opportunities could be enhanced by new learning structures and schedules. They have established a common vision with the input of education professionals and other stakeholders. Included in this vision is attention to the necessary infrastructure (including equitable access to devices, high-speed Internet, and learning materials outside of school) to make full use of extended time.	District leaders have collaboratively developed a plan that integrates strategies for extended student work time. They have identified gaps in teacher and student readiness and created initial plans for integrating different scheduling models during and beyond the school day at all levels. The plan is attentive to transition needs and timelines (including policies and budgets), to ensure that curriculum provides enhanced opportunities for students to engage in authentic work. District leaders have been attentive to issues related to access of devices, high-speed Internet, and learning materials throughout the plan.	District leaders have the curriculum, policies, and budgets in place to enact their plans for extending time during and beyond the school day. Teachers and students are prepared for this transition and are staged to leverage new authentic learning opportunities that necessitate more time for collaboration and projects. Education professionals and other stakeholders (including families) understand the scheduling changes that are occurring and the ways that those changes will be continuously evaluated. District leaders have identified plans for addressing issues of access for devices, high-speed Internet, and learning materials for every student.

Summary

Resources related to Use of Time can be accessed at the Future Ready dashboard: dashboard.futurereadyschools.org/app/framework

The rubrics in this section should give your district strong guidance in determining its next targets for closing gaps in Gear 2. Your district is encouraged to follow Future Ready events and activities at the U.S. Department of Education at: tech.ed.gov

Finally, information on how to participate in a free courses visit: fi.ncsu.edu/selected-resources/

GEAR 3: Technology, Networks, and Hardware

When employed as part of a comprehensive educational strategy, the effective use of technology provides tools, resources, data, and supportive systems that increase teaching opportunities and promote efficiency. Such environments enable anytime, anywhere learning based on competency and mastery with empowered caring adults who are guiding the way for each student to succeed. High quality, high speed technology and infrastructure systems within a school district are essential to the advancing of digital learning. The essential elements that comprise this gear are listed below.

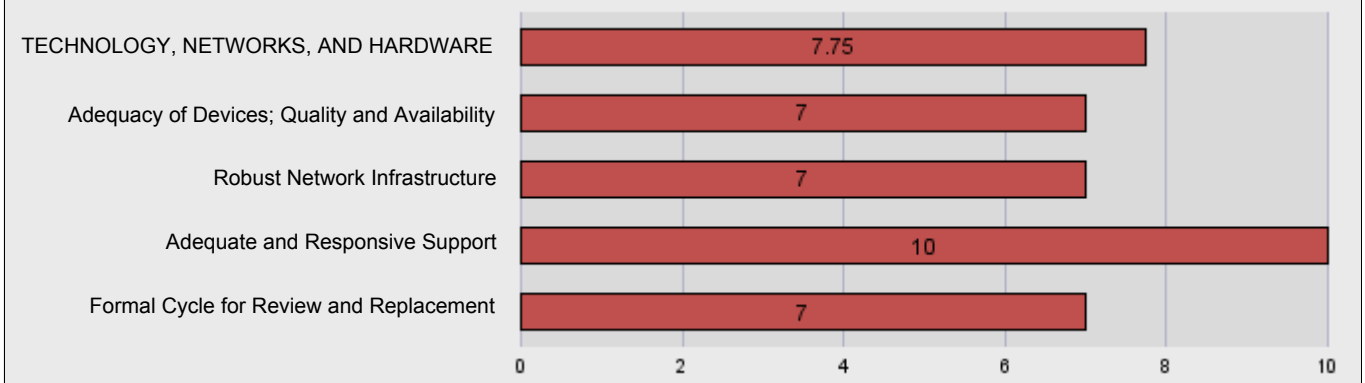
TECHNOLOGY, NETWORKS, AND HARDWARE

- Adequacy of Devices; Quality and Availability
- Robust Network Infrastructure
- Adequate and Responsive Support
- Formal Cycle for Review and Replacement

Your district provided the following Technology, Networks, and Hardware vision:

Technology infrastructure will support a seamless, user-oriented experience. The infrastructure will just work, and will be invisible to all users.

Your District's Stage of Readiness for Technology, Networks, and Hardware



Depth of Your District's Knowledge Base on Technology, Networks, and Hardware

Investigating, researching, and professional discussions are critical at all levels. The chart below reports the depth of your district's leadership team's knowledge base for technology, networks, and hardware:

Confidence of Leadership Team in Discussing Topics Related to Technology, Networks, and Hardware for Digital Learning	Not Yet Prepared to Discuss	Could Discuss After Additional Research	Could Discuss with Confidence Now
Identifying options available to districts to ensure that appropriate internet-ready technology devices are available to support teaching and learning.			√
Identifying elements and implementation of a robust, responsive, and safe network infrastructure.			√
Identifying elements of a positive, effective, service-oriented technology support system.			√
Creating a comprehensive, environmentally sound cycle for review and replacement of technology software, hardware, and infrastructure.			√

Strategic Interpretation of Your District's Data

Displayed below are the elements for this gear, your district's progress toward them, and associated rubrics. To use this data strategically, begin by locating your district's readiness level on the rubric based on your district's reported scores. A look to the immediate right will be your district's potential targets. If at the "staging" level, your district is ready for implementation.

Rubrics for Technology, Networks, and Hardware (Gear 3)

Adequacy of Devices; Quality and Availability: Readiness Score of 7

The school has considered diverse and creative options to ensure that appropriate internet-ready technology devices are available to students to support learning at any time.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Adequacy of Devices; Quality and Availability	District leaders conduct a needs assessment for learning technologies. They investigate multiple strategies for providing technology devices to meet identified needs or improve efficiency.	District leaders develop a vision that clearly defines a role for technology in service of learning.	District leaders develop a plan for procuring and placing devices to provide equitable access in support of learning.	The district is well staged to deploy identified technologies, including plans for budgeting and purchasing, placement/ distribution, and training and support.

Robust Network Infrastructure: Readiness Score of 7

Adequate bandwidth and a supportive infrastructure are in place to ensure ready and consistent access to online resources for teaching and learning. Teams monitor usage and identify possible bottlenecks prior to them affecting teaching and learning. The school community collaboratively designs responsible use policies, and confirm that the network design is supportive of these policies.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Robust Network Infrastructure	Technology leaders assess current network capabilities and future network needs, both at school and in the communities that they serve. They collaborate with parents, students, and staff members to research elements of a responsible use policy.	Technology leaders ensure their vision includes an element of robust and equitable network access at school and in the home. They integrate a plan for responsible use into that vision.	Technology leaders develop plans for a network infrastructure that is robust and extensible. Plans include district facilities and a comprehensive set of options for home access as well. The entire school community collaboratively develops a formal responsible use policy.	Technology leaders are staged to roll out a robust network infrastructure that anticipates learning needs and facilitates access anytime, anywhere. A responsible use policy is completed and accepted by the entire school community.

Adequate and Responsive Support: Readiness Score of 10

Sufficient support, characterized by a positive service orientation, is available in every school. This support is proactive, providing resources, coaching, and just-in-time instruction to prepare teachers and students to use new technologies, thereby reducing the need for interventions during the learning process.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Adequate and Responsive Support	District leaders examine desirable levels and methods for providing technology support, including needs assessment activities.	District leaders establish a vision and criteria for comprehensive, service-oriented support services that prioritize support for research-based teaching and learning practices.	District leaders develop a comprehensive plan for support that is driven by the teaching and learning goals of the district.	District leaders are staged for a program of comprehensive, learning-centered, and proactive support.

Formal Cycle for Review and Replacement: Readiness Score of 7

Teams continuously monitor technologies—software, hardware, and infrastructure—to ensure upgrades, additions, and, when called for, sunsetting/eliminations in a timely and proactive fashion.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Formal Cycle for Review and Replacement	Technology leaders investigate model review and replacement policies. They conduct a comprehensive internal inventory and review disposal policies.	Technology leaders commit to a review and replacement policy that is both economically efficient and environmentally responsible. This policy is formally documented and integrated with district teaching and learning priorities.	Technology leaders build a plan for reviewing and replacing all technology devices and infrastructure. They build this into annual maintenance and operations budgets.	Technology leaders prepare a comprehensive plan that documents and updates policies, current inventories; defines upgrade and replacement schedules; identifies annual budgets; and outlines an environmentally responsible disposal policy.

Summary

Resources related to Technology, Networks, and Hardware can be accessed at the Future Ready dashboard: dashboard.futurereadyschools.org/app/framework

The rubrics in this section should give your district strong guidance in determining its next targets for closing gaps in Gear 3. Your district is encouraged to follow Future Ready events and activities at the U.S. Department of Education at: tech.ed.gov

Finally, information on how to participate in a free courses visit: fi.ncsu.edu/selected-resources/

GEAR 4: Data and Privacy

Data privacy and security are foundational elements of digital learning. The district ensures that sound data governance policies are enacted and enforced to ensure the privacy, safety, and security of confidential data sets. Such policies and procedures ensure that access to authorized persons is secure. Education professionals have a range of resources, trainings, and services available to build their awareness and capacity to implement such policies and procedures with precision. A personalized, learner-centered environment uses technology to collect, analyze, and organize data to provide continuous cycles of feedback to students, teachers and other education professionals, with the intent of increasing the depth, breadth, complexity, and efficiency of learning. The essential elements that comprise this gear are listed below.

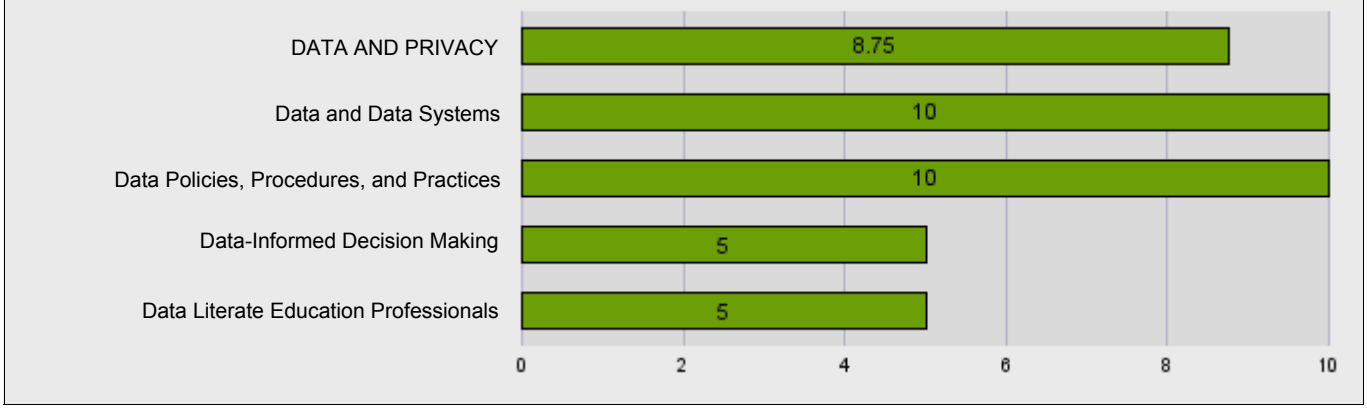
DATA AND PRIVACY

- Data and Data Systems
- Data Policies, Procedures, and Practices
- Data-Informed Decision Making
- Data Literate Education Professionals

Your district provided the following Data and Privacy vision:

Student data will be available on demand, in a usable format, for authorized users. Policies are established and procedures are implemented to insure that the G-C CSC meets or exceeds legal requirements and local, state and federal guidelines.

Your District's Stage of Readiness for Data and Privacy



Depth of Your District's Knowledge Base on Data and Privacy

Investigating, researching, and professional discussions are critical at all levels. The chart below reports the depth of your district's leadership team's knowledge base for Data and Privacy:

Confidence of Leadership Team in Discussing Topics Related to Data and Privacy for Digital Learning	Not Yet Prepared to Discuss	Could Discuss After Additional Research	Could Discuss with Confidence Now
Discuss data governance policies and procedures that ensure privacy, safety, and security in data collection, analysis, storage, retrieval, exchanges, and archiving, to meet standards legal requirements (i.e., FERPA and CIPA).		√	
Discuss the data systems, security procedures, and support systems required to ensure that a range of accurate, reliable data sets and associated reports are available, on demand, to authorized users.			√
Identify the challenges and opportunities in transitioning to a system of online assessment (formative and summative).			√

Strategic Interpretation of Your District's Data

Displayed below are the elements for this gear, your district's progress toward them, and associated rubrics. To use this data strategically, begin by locating your district's readiness level on the rubric based on your district's reported scores. A look to the immediate right will be your district's potential targets. If at the "staging" level, your district is ready for implementation.

Rubrics for Data and Privacy (Gear 4)

Data and Data Systems: Readiness Score of 10

To facilitate data-driven decision making, appropriate data (i.e., data dashboards and data analytics) are readily available, easily comprehensible, and useful for supporting the decision making processes. These data are available at any time, on any desktop, and from any location. The data are made available through real-time access to data dashboards, data analytics, and data warehouses.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Data and Data Systems	District leaders investigate new models for storing and accessing data, including systems for learning management, online assessment, student information, and longitudinal data.	District leaders envision how online assessments and data systems will operate in the context of other district reforms. They are working on how to ensure data are readily available, secure, easily comprehensible, and useful for supporting the decision making process.	District leaders write technical specifications for the data systems required to attain the vision for learning, teaching, and management (e.g., infrastructure, data systems, student information systems, longitudinal data systems, learning management systems, support, etc.). They develop a plan for acquiring, deploying, operating, securing, maintaining, supporting, and upgrading the system over time.	District leaders establish data systems and online assessments (e.g., release of RFP, hiring of contractors, etc.). They hire and/or train the information technology staff members required to deploy and maintain such a system. The system includes real-time access to data dashboards, data analytics, and data warehouses for authorized users.

Data Policies, Procedures, and Practices: Readiness Score of 10

Using the Family Educational Rights and Privacy Act (FERPA) as the basis, the district has up-to-date policies, procedures, and practices that address legal, ethical, and safety issues related to the privacy and security of data, and the usage of data, technology, and the Internet. Such policies, procedures and practices address the collection, storage, analysis, reporting, transmission, and archiving of data, as well as the usage of data, the Internet, and technology by students and education professionals in the course of teaching, learning, communications, and the management of school services.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Data Policies, Procedures, and Practices	District leaders investigate federal, state, and local laws on privacy and security of data in education systems. They also review policies and procedures on safety, security, and privacy in other districts.	District leaders conduct in-district discussions with policymakers related to the legal, ethical, and safety issues related to privacy and security of data in schools. They secure common understanding among district leaders on the topic.	District leaders draft data governance policies and procedures related to data usage, privacy, and security for review and commentary.	District leaders adopt formal governance structures (policies and procedures) related to data usage, privacy, and security. They then develop a communication, implementation, oversight, and evaluation plan to ensure comprehensive application.

Data-Informed Decision Making: Readiness Score of 10

The use of formative and summative assessment data is part of the school culture, with administrators, teachers, and, perhaps most importantly, students actively using this data to improve learning. Assessment is not viewed as punitive, but rather as part of the teaching and learning process. There is an expectation in the district that data will inform all teaching and learning practices and decisions. This is modeled at all levels of the school system, from administration to the students themselves.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Data-Informed Decision Making	District leaders investigate what it means for decisionmaking to be data-informed. In doing so, they document various models of evidence-based reasoning and data-driven decision making as well as learning management systems. District leaders listen to other district leaders report on their work in building and transitioning to data cultures. They also identify models where students are engaged in a culture of evidence-based reasoning.	District leaders conduct visioning sessions with stakeholders that elicit their perspectives on how the district will look as a strong data culture. Scenarios incorporate all aspects of the process, including typical days in the lives of students, staff members, and parents operating in such a culture.	District leaders embark on a community-based planning process that to transition the district into a culture of evidence-based reasoning and data-informed decision making. The plan includes a timeline, budget, and glide path toward the vision.	District leaders set formal expectations for data-driven decision making and evidence-based reasoning at the district and school levels. They integrate these concepts into school improvement plans, staff development offerings, decision making processes, and investment set-asides. At the student level, curricular materials are purchased; teaching training sessions are offered, and evidence-based reasoning is integrated into student learning standards.

Data Literate Education Professionals: Readiness Score of 5

Educators in the system are data-literate. They are aware of the legal and ethical responsibility to ensure security, accuracy, and privacy in the collection, analysis, exchange of, and reporting of data. They understand the potential uses and misuses of data in the teaching and learning process and act accordingly. All education professionals in the district use data to inform instructional and administrative decisionmaking.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Data Literate Education Professionals	District leaders investigate evidence-based reasoning and data-driven decision making, including the types of training and professional development staff members will need to use such systems effectively.	District leaders create data-driven decision making scenarios that include informed, well-trained, knowledgeable staff members and students.	District leaders' strategic planning includes explicit details to provide ongoing professional development and training support to staff members and students. Included in those plans are leadership decisions that establish data-informed decision making and evidence-based reasoning as goals.	District leaders set clear expectations for the use of evidence-based reasoning and data-informed decision making in learning, teaching, and administration by a targeted date. They provide training and professional development courses/in-services, including a course on evidence-based reasoning and self-assessment by students.

Summary

Resources related to Data and Privacy can be accessed at the Future Ready dashboard: dashboard.futurereadyschools.org/app/framework

The rubrics in this section should give your district strong guidance in determining its next targets for closing gaps in Gear 4. Your district is encouraged to follow Future Ready events and activities at the U.S. Department of Education at: tech.ed.gov

Finally, information on how to participate in a free courses visit: fi.ncsu.edu/selected-resources/

GEAR 5: Community Partnerships

Community partnerships include the formal and informal local and global community connections, collaborative projects, and relationships that advance the school's learning goals. Community partnerships include the formal and informal local and global community connections, collaborative projects, and relationships that advance the school's learning goals. Digital communications, online communities, social media, and digital learning environments often serve as connectors for these partnerships. The essential elements that comprise this gear are listed below.

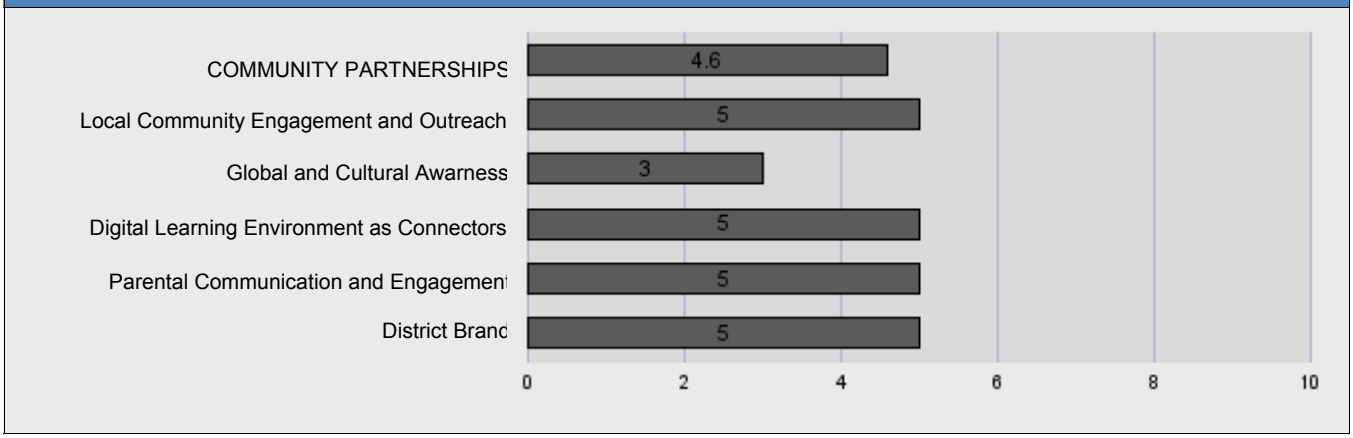
COMMUNITY PARTNERSHIPS

- Local Community Engagement and Outreach
- Global and Cultural Awareness
- Digital Learning Environments as Connectors to Local/Global Communities
- Parental Communication and Engagement
- District Brand

Your district provided the following vision for Community Partnerships:

Community partnerships are built and cultivated to insure that all students have access to the hardware, learning tools and infrastructure required to effectively prepare them for higher education or a 21st century career.

Your District's Stage of Readiness for Community Partnerships



Depth of Your Team's District's Knowledge Base on Community Partnerships

Investigating, researching, and professional discussions are critical at all levels. The chart below reports the depth of your district's leadership team's knowledge base for Community Partnerships:

Confidence of Leadership Team in Discussing Topics Related to Community Partnerships.	Not Yet Prepared to Discuss	Could Discuss After Additional Research	Could Discuss with Confidence Now
Teaching and learning enriched through local community partnerships (i.e., increased access, relevance, opportunities for public exhibitions of student work, etc.).			√
Community partnerships that build global and cultural awareness in students.		√	
Strategies for ensuring that digital/online learning environments serve as vehicles to enable local and global community partnerships.		√	
Home-school communication that are enhanced and enriched through technology.		√	
District creation of a "brand," that positions the district as a positive, 21st Century force in the lives of students and the community.		√	

Strategic Interpretation of Your District's Data

Displayed below are the elements for this gear, your district's progress toward them, and associated rubrics. To use this data strategically, begin by locating your district's readiness level on the rubric based on your district's reported scores. A look to the immediate right will be your district's potential targets. If at the "staging" level, your district is ready for implementation.

Rubrics for Community Partnerships (Gear 5)

Local Community Engagement and Outreach: Readiness Score of 5

The school serves as a hub of the community. As such, it actively involves the community in achieving its learning goals, reaching out to the community to (1) extend learning into community centers, libraries, museums, and other public spaces; (2) bring relevance to curricula through partnerships that take the shape of apprenticeships, community service, and the use of community-based experts and resources; (3) implement community-based exhibitions, reviews, critiques, and celebrations of student work; and (4) coordinate afterschool programs, including collaboration with the school and students' teachers. Community Engagement and Outreach.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Local Community Engagement and Outreach	District leaders annually survey the community for opportunities for partnerships and cooperative relationships. Their communication outreach and public forums provide community members a voice in school decisions and activities.	District leaders are continuously seeking community partnerships (e.g., extending learning into community centers, libraries, museums, community-based exhibitions, coordinated afterschool programs).	District leaders establish a formal plan or plans to engage the community in viable partnerships and coordinated activities (e.g., extending learning into community centers, libraries, museums, community-based exhibitions, coordinated after school programs).	District leaders establish school-community partnerships as a strategic goal, with clear parameters for such partnerships, including processes for considering, vetting, and engaging in such partnerships. Partnerships include: 1) the extension of learning into the community, connections related to exhibitions and reviews of student work, and 2) coordination of after school programs.

Global and Cultural Awareness: Readiness Score of 3

The community partnerships extend and deepen students' knowledge, understanding, and appreciation of cultures and communities other than their own. Digital networks enable students and education professionals to connect, interact, and collaborate with other students, experts, and organizations from remote sites. The school builds the capacity of students to recognize and value diversity, enabling them to participate successfully in community partnerships online and face-to-face.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Expectations for Learner-Centered Environments	District leaders conduct a review of effective models of school-community partnerships that build global and cultural awareness. Representatives attend conference sessions, talk with district leaders who are implementing such programs, and identify key characteristics of effective learner-centered practices.	District leaders conduct public and internal sessions on school-community partnerships locally and globally. Educators across the district envision such environments at all levels. District leaders include global and cultural awareness in their district and school visions.	District leaders establish a formal planning process to develop an implementation plan that supports/ establishes local and global community partnerships at all levels. That plan includes a glide path, budget, and pathway for schools to make this transition.	District leaders establish and communicate clear expectations that schools/ classrooms will include opportunities for local and global community partnerships. All capacity-building elements are in place or carefully readied for implementation (e.g., associated series of professional development and training, models, curricular materials, and instructional coaches).

Digital Learning Environments as Connectors to Local/Global Communities: Readiness Score of 5

The school district has established a digital learning environment that offers access, eCommunication, resource libraries, file exchanges, and Web 2.0 tools that facilitate interactions among peers and between teachers, parents, and students in school and beyond. District leaders build digital citizenship in students and structure online communities that to ensure online safety and security.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Digital Learning Environments as Connectors to Local and Global Communities	District leaders review information on the critical elements of an online learning environment (e.g., access, eCommunication, resource libraries, file exchanges, and Web tools) that facilitate interactions among peers and between teachers, parents, and students in school and beyond.	District leaders map the elements of a digital learning environment to its vision of personalization of learning, student-centered learning, deeper learning, and global and cultural awareness. In doing so, they envision student work, interactions, exchanges, and contributions at all levels, within the school and beyond, with local and global communities. Pilots of various aspects of the environment have been authorized and are underway.	With stakeholder input and collaboration, district leaders build a plan that outlines the steps and milestones to establishing a digital learning environment, with outreach into local and global communities. They align the elements of that environment to its vision. The school reviews the results from various authorized pilots that test the elements of the environment to inform final decisions.	District leaders finalize the technical specifications for a digital learning environment with outreach into local and global communities. They build and deploy the environment or authorize and fund a group to do so. They offer training and professional development to ensure effective use. Support structures are in place.

Parental Communication and Engagement: Readiness Score of 5

School leaders engage parents and students in home-to-school communications through a variety of venues. While this may include internet-based solutions, it also includes options that do not depend on connectivity in the home.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Parental Communication and Engagement	District leaders research options for parental communications and engagement. They survey connectivity needs among parents before designing communication systems.	District leaders include specific language and requirements for parental communications and engagement in all district plans, instructional and technological. They envision a communication system designed for parents that is flexible and adaptable to meet the families' needs.	District leaders develop a comprehensive plan for parental communication and engagement that includes both connected and traditional communications media.	District leaders design, produce, and deploy a robust communication system that is responsive to the needs of individual families. The system is flexible and adaptable at the school level. It includes specific strategies for drawing parents into frequent dialogue with staff members regarding the needs and accomplishments of their children.

District Brand: Readiness Score of 5

Branding is defined as the marketing practice of creating a name, symbol, or design that identifies and differentiates a product from other products. It's critical that our schools develop a brand as well and that the brand is transparent to all members within the organization—they must all be telling the same story, one that they believe in and stand behind.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
District Brand	District leaders research models for establishing a brand. They survey the community to gather information on current perceptions of the district.	District leaders conduct focus groups and interviews related to the story that various constituents want the brand to convey.	District leaders develop a comprehensive plan to define the brand and use the Internet and interactive multimedia to develop the brand.	District leaders develop the web structure for the branding and the initial content for the brand. Their model includes opportunities to refresh continuously the stories that represent the brand.

Summary

Resources related to Community Partnerships can be accessed at the Future Ready dashboard: dashboard.futurereadyschools.org/app/framework

The rubrics in this section should give your district strong guidance in determining its next targets for closing gaps in Gear 5. Your district is encouraged to follow Future Ready events and activities at the U.S. Department of Education at: tech.ed.gov

Finally, information on how to participate in a free courses visit: fi.ncsu.edu/selected-resources/

GEAR 6: Professional Learning

In Future Ready Schools, technology and digital learning expand access to high-quality, ongoing, job-embedded opportunities for professional learning for teachers, administrators, and other education professionals. Such opportunities ultimately lead to improvements in student success and create broader understanding of the skills that comprise success in a digital age. Digital Professional learning communities, peer-to-peer lesson sharing, and better use of data and formative assessment, combined with less emphasis on "sit and get" professional development sessions eliminate the confines of geography and time. These ever-increasing resources offer teachers and administrators vast new opportunities to collaborate, learn, share, and produce best practices with colleagues in school buildings across the country. Digital leaders establish this type of collaborative culture. They model and are transparent with their own learning. In addition, educators must be engaged in more collaborative, goal-oriented approaches to the evaluation of their own teaching to serve as a personal model for the experiences that they might bring to students. The essential elements that comprise this gear are listed below.

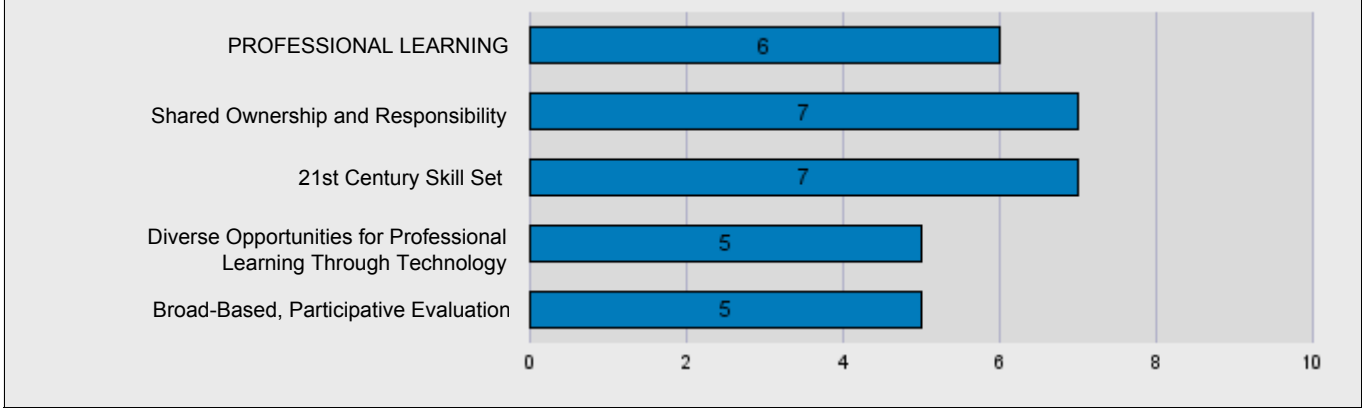
PROFESSIONAL LEARNING

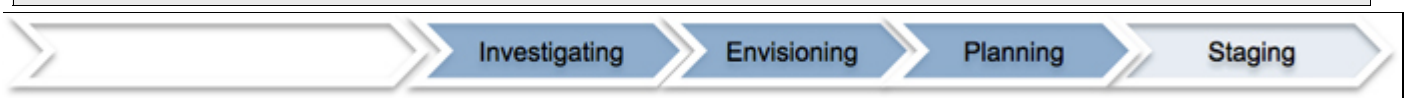
- Shared Ownership and Responsibility for Professional Growth
- 21st Century Skill Set
- Diverse Opportunities for Professional Learning Through Technology
- Broad-Based, Participative Evaluation

Your district provided the following Professional Learning vision:

Professional learning for stakeholders precedes the implementation of successful digital learning for students. Greenfield-Central CSC is committed to insure that Professional Learning is on-going, relevant and collaborative.

Your District's Stage of Readiness for Professional Learning





Depth of Your District's Knowledge Base on Professional Learning

Investigating, researching, and professional discussions are critical at all levels. The chart below reports the depth of your district's leadership team's knowledge base for Professional Learning:

Confidence of Your Leadership Team in Discussing Topics Related to Professional Learning for Digital Learning	Not Yet Prepared to Discuss	Could Discuss After Additional Research	Could Discuss with Confidence Now
Models of shared ownership of professional development, where district policy encourages and supports teachers and administrators in self-directed uses of online, social media for professional growth.		√	
The pedagogical shifts required for 21st Century digital learning, which will need to be addressed in teachers' and administrators' professional development.			√
The models and merits of staff evaluation models that are goal-oriented, participatory, and focused on metrics directly related to 21st Century digital learning.		√	

Strategic Interpretation of Your District's Data

Displayed below are the elements for this gear, your district's progress toward them, and associated rubrics. To use this data strategically, begin by locating your district's readiness level on the rubric based on your district's reported scores. A look to the immediate right will be your district's potential targets. If at the "staging" level, your district is ready for implementation.

Rubrics for Professional Learning (Gear 6)

Shared Ownership and Responsibility for Professional Growth: Readiness Score of 7

Teachers, administrators, and other education professionals actively support their own professional practices by using technology to optimize teaching and learning. They are actively taking responsibility for their own professional growth through professional learning networks and online communities of practice. Educators have access to collaborative tools and environments that break down classroom, school, and district walls. Professional development encourages, facilitates, and often requires creating and maintaining professional networks both within and outside of the district, frequently leveraging the latest in social media. In addition, the district has established policies that honor and encourage personalization of professional learning for teachers, administrators and other education professionals.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Shared Ownership and Responsibility for Professional Growth	District leaders investigate the use of technology, the Internet and social media in self-directed professional learning of teachers, administrators, and other education professionals. They review the research on adult learning related to personalized, self-directed learning, and to outside of education to identify models in other sectors.	District leaders build on key research studies and the opportunities that digital and social media present to today's education professionals as they conceptualize shared ownership and responsibility for professional learning. They build scenarios for a preferred future, identifying the policy, practice, and cultural shifts their district will need to implement personalized learning successfully for all education professionals.	District leaders formulate a plan for shared ownership and responsibility of professional growth based on their investigations, research, and their preferred future scenarios. They pilot the new approach within a limited number of current programs, evaluate, and adjust the plan through lessons learned.	District leaders model the innovative use of technology, eLearning, and social media in the professional learning offered through the district. They do the same as they take ownership of their own professional growth, in part by engaging in self-directed professional learning networks on a daily basis. They formally adopt policies and procedures and set expectations for shared ownership and responsibility of professional learning among all education professionals in the district and build the capacity of all leaders in the district to implement the plan using established policies and procedures.

21st Century Skill Set: Readiness Score of 7

Educators expand their skill sets to move beyond content knowledge. Professional learning includes immersion into cognitive and learning sciences, providing support both for new instructional practices and for purposefully promoting deeper learning in all students. Educators master a variety of new, research-based instructional strategies to better engage students and prepare them for college and beyond.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
21st Century Skill Set	The investigative focus is on the learning sciences research related to 21st Century learning and technology-enabled learning.	District leaders build on key research studies and associated effective practices related to 21st Century skills to inform scenario building and visioning. They envision student learning environments and their individual and team professional practices, which incorporate 21st Century skills, technology/ media-enabled learning, and technical skill development.	District leaders develop a professional learning plan that addresses 21st Century skills. It includes staying current with research and trends on 21st Century skills, plus policies and funding for professional learning that, when implemented will result in increased capacity by teachers, administrators, and other education professionals to integrate proven 21st Century skill sets into classroom practices and professional learning.	District leaders assign roles and responsibilities for the implementation of the plan. They formally adopt expectations for education professionals to acquire such competencies within a specified timeframe, offering diverse pathways for staff to acquire such competencies. They establish sets of metrics to gauge progress. Plans include competency-based skill assessment for 21st Century learning and technology-enabled learning in professional learning that are designed to lead to integration in classroom practices and professional practices.

Diverse Opportunities for Professional Learning Through Technology: Readiness Score of 5

Digital leaders model new types of professional learning and ensure that educators have access to (and the technology savvy necessary to leverage) professional development opportunities that are diverse, customizable and often supported by the latest technologies. Professional learning is available anytime in a variety of modes. Alternative models are supported through coherent policies and practices in the district.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Diverse Opportunities for Professional Development Through Technology	District leaders collect research on the effectiveness of a broad spectrum of professional learning options and recent cognitive science research on the importance of choice and participant engagement in adult learning.	District leaders consider their research findings as they strategize on the benefits and pitfalls to new, alternative forms of professional learning now possible through technology and social media. They have made efforts to understand current professional learning practices (both formal and informal) of education professionals, and have started to expand their own use of technology mediated professional learning.	District leaders have collected data on current practice, skills, and available technologies. They have used that data to develop a plan for professional learning that includes a broad spectrum of opportunities from face-to-face, through new technology-mediated options. The plan addresses elements essential to the success of these new options including the assurance that education professionals have required technologies and associated skills, and that policies related to professional learning support such options.	District leaders have shared their plan for professional learning, being transparent about the link between the professional learning in the district and recent research. They encourage, model, and provide opportunities for a broad spectrum of professional learning. That spectrum ranges from series of face-to-face professional learning, to professional learning through social media. There is access to required technologies, and opportunities to develop the skills that enable the use of those technologies. Education professionals are expected to choose options that meet their needs and to participate fully in the professional learning District policies are revised to ensure coherence.

Broad-Based, Participative Evaluation: Readiness Score of 5

In order to promote goal-oriented, self-regulated professional behaviors, evaluation is participative (i.e., the educator who is the subject of evaluation is actively involved in goal-setting, collecting indicators of progress, and self-evaluative behaviors). Professional evaluation uses a broad set of indicators that includes student achievement, evidence of improved instructional practice, student engagement, and 21st century skill attainment.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Broad-Based, Participative Evaluation	District leaders explore and document new models for participative evaluation, but they do not yet define specific new directions. All stakeholders have representation in this exploration and communication of progress and findings are provided to all.	District leaders describe and select new research-based models of evaluation that are supportive of digital learning goals. In these models, teachers play more active roles in the evaluative process and data sources enable teachers to establish goals and independently track their progress toward goals. District leaders use data sources beyond standardized assessments.	District and school leaders plan the transition to a system where evaluation is a collaborative process. Multiple data sources are identified that will allow educators to discover areas of need and collaboratively plan to meet those needs. Digital tools are identified that allow educators to access data, communicate, and collaborate in the service of professional development for digital learning.	District and school leaders make initial changes that will lead to a more collaborative evaluation process. Multiple and diverse sources of data related to student learning and twenty-first-century skill development are made priorities in plans and budgets.

Summary

Resources related to Professional Learning can be accessed at the Future Ready dashboard: dashboard.futurereadyschools.org/app/framework

The rubrics in this section should give your district strong guidance in determining its next targets for closing gaps in Gear 6. Your district is encouraged to follow Future Ready events and activities at the U.S. Department of Education at: tech.ed.gov

Finally, information on how to participate in a free courses visit: fi.ncsu.edu/selected-resources/

GEAR 7: Budget and Resources

The transition to digital learning will require strategic short-term and long-term budgeting and leveraging of resources. All budgets at the district and the school should be aligned to the new vision, with consistent funding streams for both recurring and non-recurring costs to ensure sustainability. During the transition, district leaders should strive for cost-savings and efficiencies through effective uses of technology. The financial model should include the metrics and processes to ensure not only sustainability, but also accountability for learning returns on investments. The essential elements that comprise this gear are listed below.

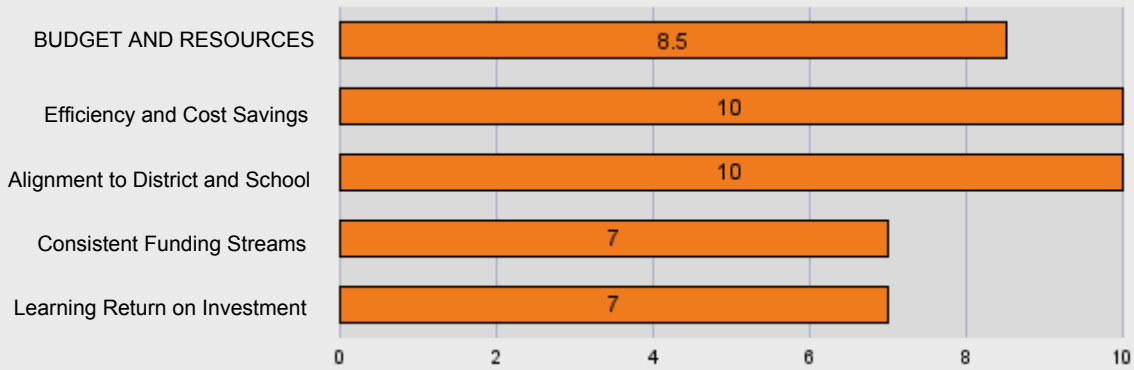
BUDGET & RESOURCES

- Efficiency and Cost Savings
- Alignment to District and School Plans
- Consistent Funding Streams
- Learning Return on Investment

Your district provided the following Budget and Resources vision:

Strategic planning between the Superintendent, the Finance Department, the Technology Department and the Curriculum, Instruction and Assessment Department is on-going. Greenfield-Central CSC is committed to identifying and implementing sustainable funding sources for the long-term success of an effective digital learning program.

Your District's Stage of Readiness for Budget and Resources



Depth of Your District's Knowledge Base on Budget and Resources

Investigating, researching, and professional discussions are critical at all levels. The chart below reports the depth of your district's leadership team's knowledge base for Budget and Resources:

Confidence of Your Leadership Team in Discussing Topics Related to Budget and Resources for Digital Learning	Not Yet Prepared to Discuss	Could Discuss After Additional Research	Could Discuss with Confidence Now
Discuss ways to support students with tools and resources for digital learning that offer efficiencies and cost savings (e.g., BYOD, Web 2.0 tools, free apps, etc.).			√
Discuss strategies to support systemic digital learning that offer efficiencies and cost savings (e.g., online courses or blended learning, cloud-computing solutions, digital resources to replace textbooks, "going green", etc.).			√
Discuss use of non-recurring funding for short-term digital learning initiatives (e.g., for innovative pilot programs) by leveraging business partnering, community donations and special grants.			√

Strategic Interpretation of Your District's Data

Displayed below are the elements for this gear, your district's progress toward them, and associated rubrics. To use this data strategically, begin by locating your district's readiness level on the rubric based on your district's reported scores. A look to the immediate right will be your district's potential targets. If at the "staging" level, your district is ready for implementation.

Rubrics for Budget and Resources (Gear 7)

Efficiency and Cost Savings: Readiness Score of 10

Funding for digital learning leverages technologies that increase efficiency and cost savings. District leaders have strategies for calculating the total cost of ownership (TCO) for all technology resources.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Efficiency and Cost Savings	A cross-functional District leadership and budget development team does a high-level review of current District, State, and Federal financial processes. They identify current barriers to budgeting for digital learning and collect strategies and best practice examples of innovative funding structures and scenarios that effectively determine Total Cost of Ownership (TCO). The team identifies innovative solutions to funding the transition to digital learning.	Innovative, proven practice examples, funding structures and budget scenarios inform District leadership and budget development efforts. The District's creates a vision for transformational and sustainable funding for a high performing and effective digital learning environment.	District leaders and budget development teams define their strategies, processes and metrics for determining Total Cost of Ownership (TCO). The district develops sound policies and procedures for the ongoing review and analysis of cost variables for equitable funding of digital learning. The District designs a communication plan that illustrates cost/benefit opportunities associated with digital learning.	District leaders and budget development teams conduct timely reviews of the analysis of efficiencies, effectiveness, and costs of implementing and sustaining a digital learning environment The cross-functional District leadership team develops implementation strategies and viable timelines to activate procedures and practices needed to maximize educational investment. The District communicates actual costs, efficiencies, and effectiveness of implementing and sustaining a digital learning environment.

Alignment to District- and Building-Level Strategic and Tactical Plans: Readiness Score of 10

Priorities for budget and resources are clearly linked to district- and building-level strategic and tactical plans and to school improvement goals. All expenditures must be justified as supportive of these plans. Innovative programs are funded conditionally upon their alignment to the vision and mission.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Alignment to District- and Building-Level Strategic and Tactical Plans	District leaders ensure that annual academic planning processes inform and guide technology budget development activities. A cross-functional budget team identifies best practice examples of district-and building-level strategic and tactical plans that map funding structures to technology-enabled learning tools and resources, and 21st Century skill development.	District leaders and budget development teams analyze best practice funding structures and scenarios to help define the District's vision for a sustainable digital learning environment. They explicitly link funding requirements to strategic and tactical plans. The District shares its vision for sustaining a digital learning environment with stakeholders. They communicate logic and best practice examples in order to broaden support.	As District leaders and key stakeholders build district- and building-level strategic and tactical plans they explicitly map curriculum integration to digital learning expenditures to viable funding streams, timelines, and accountability measures. The planning process identifies and prioritizes multiple funding and accountability scenarios.	District leaders build a broad base of stakeholders to support their strategic and tactical plans. The District illustrates the alignment of curriculum, instruction, and technology-enabled resources. District leaders and key stakeholders are prepared to communicate strategic and tactical plans. They can justify budgets and identify cost-saving strategies that leverage technology and the academic return of investment.

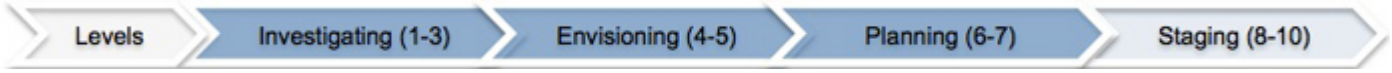
Consistent Funding Streams: Readiness Score of 7

Budgets for digital learning programs and initiatives are part of the annual maintenance and operation budget for the district. Reliance on grant funding or temporary sources is minimal, and funding for digital learning is integrated into all budget areas where appropriate.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Consistent Funding Streams	District leaders investigate and analyze innovative and best practice methods for consistent and sustainable funding of digital learning environments and technology-enabled learning initiatives as part of annual maintenance and operation budgets. District leaders and budget development teams also investigate alternative funding sources (i.e., public/private partnerships, community donations, foundation awards, etc.) that can assist the district initiate or maintain consistent funding.	District leaders analyze current budgeting strategies relevant to technology-enabled learning tools, resources and instructional practice. This would include budgeting for broadband, network infrastructure, hardware, technical support, instructional content, and professional learning. A cross-functional budget team uses the analyses of innovative and best practice examples and practices to envision and propose potential transformational funding strategies and scenarios.	Based on District vision and priorities for supporting digital learning, district leaders develop a viable plan that identifies funding priorities, propose viable funding streams and timelines, and define accountability measures.	District leaders have identified viable funding sources for short and long-term funding. The District is committed to consistent and sustainable expenditures with explicit intent to support digital learning over time.

Learning Return on Investment: Readiness Score of 7

All metrics for review of budget priorities are based on their demonstrated relationship to student learning goals.



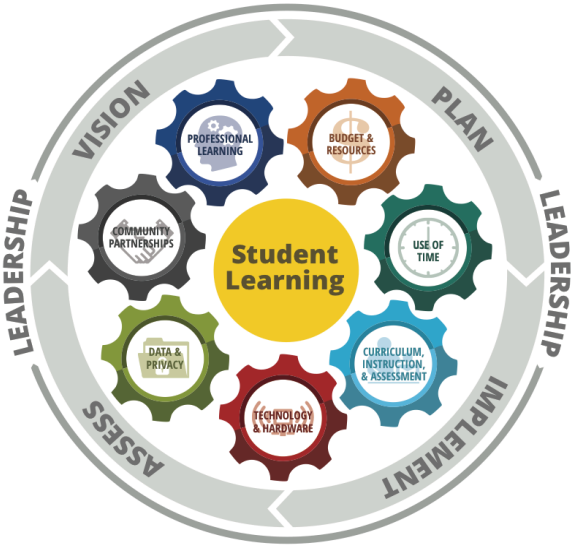
Learning Return on Investment	District leaders investigate return-on-investment models and metrics that can be used to relate budget priorities for digital learning to student learning goals.	District leaders propose metrics and a methodology that demonstrate budget priorities for digital learning that relate to student learning goals.	District leaders have a plan and tools for monitoring the relationship between budget for digital learning and student learning goals.	District leaders build the financial model with metrics and a methodology for monitoring budget priorities for digital learning, based on student learning goals.

Summary

Resources related to Budget and Resources can be accessed at the Future Ready dashboard:
dashboard.futurereadyschools.org/app/framework

Rubrics in this section should give your district strong guidance in determining its next targets for closing gaps in Gear 7. Your district is encouraged to follow Future Ready events and activities at the U.S. Department of Education at:
tech.ed.gov

Finally, information on how to participate in a free courses visit: fi.ncsu.edu/selected-resources/



Across the Gears

Empowered, Innovative Leadership

The Future Ready framework provides a roadmap toward digital learning, success within a district is depended on innovative leadership at all levels. First and foremost, leaders within a district must be empowered to think and act innovatively, they must believe in the district's shared, forward-thinking vision for deeper learning through effective uses of digital, 21st Century technologies. Critical to their success will be a culture of innovation that builds the capacity of students, teachers, administrators, parents, and community to work collaboratively toward that preferred future. The policy foundation that results must be coherent with that vision. Unleashed in a culture of vision and empowerment, leaders will have the flexibility and adaptability they require to prepare their students to thrive in the 21st Century. The essential elements that comprise this section on leadership are listed below.

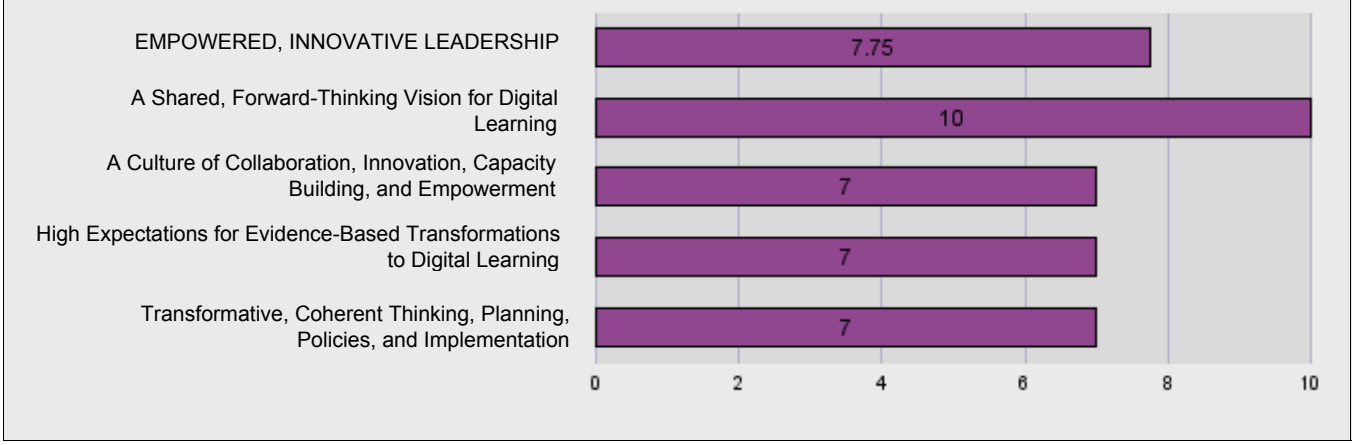
EMPOWERED, INNOVATIVE LEADERSHIP

- A Shared, Forward-Thinking Vision for Digital Learning
- A Culture of Collaboration, Innovation, Capacity Building, and Empowerment
- High Expectations for Evidence-Based Transformations to Digital Learning
- Transformative, Coherent Thinking, Planning, Policies, and Implementation

Your district provided the following Leadership vision:

All vested leaders have a voice in planning and implementation of our digital learning initiative. This includes the Superintendent, district leaders, building leaders, teacher leaders, community leaders, parents and students. As a result of these discussions Greenfield-Central will implement innovative technology integration for all students.

Your District's Stage of Readiness for Leadership



Depth of Your District's Knowledge Base on Leadership

Investigating, researching, and professional discussions are critical at all levels. The chart below reports the depth of your district's leadership team's knowledge base for Leadership:

Confidence of Leadership Team in Discussing Topics Related to Leadership for Digital Learning	Not Yet Prepared to Discuss	Could Discuss After Additional Research	Could Discuss with Confidence Now
Discuss the district's strategy for developing, communicating, implementing, and evaluating a shared, forward-thinking vision for digital learning.			√
Discuss strategies to establish a culture of collaborative innovation, where leaders at all levels are informed, trusted, empowered, and ready to lead.			√
Discuss the high expectations that will be required of all students, education professionals, and family/community if the district is to realize continuous, sustainable progress toward the vision.		√	
Discuss the coherent strategic, tactical, and budgetary policies and planning required to achieve the vision.		√	

Strategic Interpretation of Your District's Data

Displayed below are the elements for this gear, your district's progress toward them, and associated rubrics. To use this data strategically, begin by locating your district's readiness level on the rubric based on your district's reported scores. A look to the immediate right will be your district's potential targets. If at the "staging" level, your district is ready for implementation.

Rubrics for Leadership (Across all gears)

A Shared, Forward-Thinking Vision for Digital Learning: Readiness Score of 10

The district recognizes that, to prepare their students to thrive in today's connected, fast-paced society will require an education that engages students in evidence-based, deeper learning through smart uses of technology and new pedagogies. The district has engaged students, teachers, administrators, parents, and the community in the envisioning of a transformed education system that personalizes learning for all students through the effective uses of technology.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
A Shared, Forward-Thinking Vision for Digital Learning	A cross-functional team participates in conferences and discusses strategies with other districts and experts on a vision for digital learning. The team explores the economic, social, educational, and ethical underpinnings for such a vision.	The district uses the research and investigations to conceptualize the essential elements of their vision for digital learning. They develop scenarios as to how those elements would be actualized in their district, noting the benefits and consequences.	District leaders establish strategic and tactical plans for: a) developing a shared vision for digital learning, b) formally adopting that vision as a component of the district's overall goals, c) aligning all programs to the vision, and d) establishing metrics to assess progress toward the vision.	District leaders have engaged students, teachers, administrators, parents, and the community in the envisioning of a transformed education system that provides personalized, deeper learning through the effective uses of technology. The vision has been formally adopted, communicated internally and externally.

A Culture of Collaboration, Innovation, Capacity Building, and Empowerment: Readiness Score of 7

The District leadership team has established a collaborative culture of innovation in which leaders at all level are empowered to innovate. The capacity of leaders to innovate is maximized through a culture of trust and respect, providing leaders with the flexibility and adaptability they require to lead. This culture leads to sustainable change, informed by research and facilitated by digital leaders.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
A Culture of Collaboration, Innovation, Capacity Building, and Empowerment	District leaders are becoming more deeply informed about creative, innovative, empowered leadership. They have established a research base that identifies the potential outcomes for a culture of collaboration, innovation, capacity building, and empowerment in leadership.	Based on their research, district leaders have identified the type of leadership that has the greatest potential for transforming the district. The leadership they identified as optimal is collaborative, where leaders at all levels are empowered to act innovatively, and creatively provided such actions have high potential for advancing the district vision.	District leaders have established a plan for transitioning to a collaborative culture of change, where empowered leaders have the flexibility, adaptability, responsibility, and authority to act, provided such actions have high potential to advance the vision.	The capacity of leaders to innovate is maximized through capacity building within a culture of trust and respect. This culture provides leaders with the flexibility and adaptability to innovate, which in turn leads to sustainable change, informed by research and driven by the district vision for digital learning.

High Expectations for Evidence-Based Transformations to Digital Learning: Readiness Score of 7

Across the district, teachers, administrators, and students are expected to show progress toward the district vision. The district has established metrics for gauging such progress and is working across the district to monitor progress and to use evidence-based decision making to ensure that technologies are implemented in ways that advance the vision.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
High Expectations for Evidence-Based Transformations to Digital Learning	District leaders analyze research studies on the potential impact of digital leaning on student attainment of the learning goals, thus forming a knowledge base on digital learning. They also document various models of evidence-based reasoning and models of change management.	District leaders carefully review the knowledge base on digital learning resulting from their investigations. Based on that evidence, they envision a time when instructional decisions are informed by this knowledge base.	District leaders develop plans for building the capacity of education professionals to use the knowledge base to inform decisions. They pilot projects where teachers collaborate to identify and close gaps in student learning through digital learning.	District leaders set high expectations for the district, schools, and classrooms to adopt the types of digital learning shown to be effective with targeted students groups. To ensure success, the district provides the conditions essential to local, evidence-based decision making related to digital learning.

Transformative, Coherent Thinking, Planning, Policies, and Implementation: Readiness Score of 7

The district's forward-thinking vision is advanced through leaders' transformative thinking. Leaders have ensured that the district's policies are coherence with the philosophy underpinning the vision (e.g., personalizing professional learning for education professionals, just as they personalize learning for students). They have developed strategic plans that map potential pathways to the district's preferred future, and have created the tactical and financial plans and dedicated budget necessary for implementation. As they implement they monitor, adjust, build capacity, and incrementally improve.

Levels	Investigating (1-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
Transformative, Coherent Thinking, Planning, Policies, and Implementation	District leaders study the processes by which other districts successfully transformed their school system to deeper and extend learning through technology.	District leaders identify the changes that will be required in their schools in order to attain the vision they have set for digital, 21st Century learning.	District leaders develop a strategic plan to advance digital learning. The plan uses the Future Ready framework to ensure coherent thinking across the system's policies, procedures, cultures, practices, and investments.	District leaders work with policymakers to adopt the strategic plan as a way forward to attaining the vision. While working toward coherence across the district, the plan is implemented in ways that empower district and school leaders and teams with the flexibility to think and innovate as they make decisions that meet the needs of learners in their charge.

Summary

Resources related to Innovative Leadership can be accessed at the Future Ready dashboard: dashboard.futurereadyschools.org/app/framework

Rubrics in this section should give your district strong guidance in determining its next targets for closing gaps in Leadership. Your district is encouraged to follow Future Ready events and activities at the U.S. Department of Education at: tech.ed.gov

Finally, information on how to participate in a free courses visit: fi.ncsu.edu/selected-resources/

Greenfield-Central CSC's Vision for Digital Learning

A summary of your district's vision statements from your district's assessment:

Vision for students:

Our vision for engaging students is to meet the diverse learning needs of our students. Our education system must provide a more personalized, rigorous, and collaborative learning environment, which transitions from teacher directed - one-size-fits-all instructional strategies toward a learner-centered model.

Curriculum, Instruction, and Assessment (Gear 1):

Learner-centered instruction will effectively utilize modern tools to prepare students for college and careers. Instruction is rigorous and is based on college and career-ready expectations. Instruction will be driven by real-time assessments and will be personalized, collaborative, relevant, applicable and adaptive.

Use of Time (Gear 2):

Learning will take place anytime and at any place. Learning will move beyond classroom seat time and setting to meet the needs of all students.

Technology, Networks, and Hardware (Gear 3):

Technology infrastructure will support a seamless, user-oriented experience. The infrastructure will just work, and will be invisible to all users.

Data and Privacy (Gear 4):

Student data will be available on demand, in a usable format, for authorized users. Policies are established and procedures are implemented to insure that the G-C CSC meets or exceeds legal requirements and local, state and federal guidelines.

Community Partnerships (Gear 5):

Community partnerships are built and cultivated to insure that all students have access to the hardware, learning tools and infrastructure required to effectively prepare them for higher education or a 21st century career.

Professional Learning (Gear 6):

Professional learning for stakeholders precedes the implementation of successful digital learning for students. Greenfield-Central CSC is committed to insure that Professional Learning is on-going, relevant and collaborative.

Budget and Resources (Gear 7):

Strategic planning between the Superintendent, the Finance Department, the Technology Department and the Curriculum, Instruction and Assessment Department is on-going. Greenfield-Central CSC is committed to identifying and implementing sustainable funding sources for the long-term success of an effective digital learning program.

Leadership (Across all gears):

All vested leaders have a voice in planning and implementation of our digital learning initiative. This includes the Superintendent, district leaders, building leaders, teacher leaders, community leaders, parents and students. As a result of these discussions Greenfield-Central will implement innovative technology integration for all students.

The Future Ready Schools Initiative is a bold new initiative, led by the Alliance for Excellent Education, supported by the US Department of Education, and in partnership with the LEAD Commission and a vast coalition of organizations, working to support school district superintendents and their leadership teams on district-wide transformation. For additional resources to guide your district's transformation, visit the Future Ready Website at:

For further information, contact:

Tom Murray
State and District Digital Learning Director
Alliance for Excellent Education

Glossary

Adaptive learning. An approach that uses technology to engage students in interactive learning activities, which are customized to meet each individual's learning needs, based on continuous feedback and data analytics.

Authentic learning. A general model for designing learning activities that are rigorous, in-depth and have value beyond the classroom. The work assigned in authentic learning environments often mirrors the type of work done in the real world.

Blended learning. Blended learning describes models of learning where a student learns at least in part at a supervised brick and-mortar location away from home and at least in part through online delivery with some element of student control over time, place, path, and/or pace; often synonymous with hybrid learning. (Horn and Staker, 2011)

21st Century Skills. 21st Century Skills are essential skills that children need to succeed as citizens and workers in the 21st century. They include core subjects, 21st century content, learning and thinking skills, ICT literacy, and life skills.

Collaborative Workspaces. Any tool that allows for collaboration or access to shared documents such as Google Docs or TeamBox.

Competency-based. A type of learning where the student advances in mastery of a set of competencies at a pace, and often in an order, determined by the student.

Data culture. An educational environment characterized by the effective use of data and evidence-based reasoning.

Deeper learning. Deeper learning prepares students to know and master core academic content, think critically and solve complex problems, work collaboratively, communicate effectively, and be self-directed and able to incorporate feedback. It enables graduating high school students to be college and career ready and to make maximum use of their knowledge in life and work.

Digital Citizenship. Understanding the safety concerns, rights and responsibilities necessary to access and participate in online communications or communities.

Document Management. Tools for storing, sharing and organizing documents such as drop boxes, file storage and organization tools, shared public spaces, etc.

Performance-based. Learning activities that require complex performances as demonstrations of knowledge.

Personalized learning. An approach to learning that is student-centric, where students have a significant degree of control and choice in what, when, and how they learn.

Privacy: The balance between collection and dissemination of data, technology, and individuals' right to have their personal information kept private. (Source: Data Quality Campaign.)

Project-based learning. Inquiry-based learning where learning takes place in response to a complex question or challenge.

Security: The policies and practices implemented at the state, district, and school levels to ensure that data are kept safe from corruption and that access is limited and appropriate. Data security helps ensure privacy and protects personally identifiable information. (Source: Data Quality Campaign.)

Synchronous Tools. Communication tools that support real-time communication such as webinars, Skype or chat rooms.

Visualization Tools. Tools that support the visual representation of thinking and ideas such as charting, graphing, or concept mapping tools.