OFFICE OF
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Characteristics of Future Ready Leadership

A Research Synthesis

U.S. DEPARTMENT OF EDUCATION

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Introduction

Strong leadership is essential to systemic, sustainable change in education. Superintendents and their leadership teams, with the support of state and local leaders, are key to leading the transition to digital learning in their districts. The challenges of doing so are multifaceted, and range from unifying a diverse set of stakeholders who may hold divergent views on the best path forward, to updating physical and technical infrastructure, to designing new learning models and resources, to building capacity of educators to take on new roles and new approaches to classroom instruction.

Superintendents throughout the country have expressed the desire for evidence-based approaches they can rely upon to lead this change. In response to this need, the U.S. Department of Education's Office of Educational Technology, in partnership with the American Institutes for Research (AIR), developed a research-based synthesis defining a set of policies and practices implemented by successful Future Ready district leaders. The resulting rubric provides a basis for personalized professional learning to expand the capacity of district superintendents to effectively transition to digital learning.

This rubric served as the foundation for developing a personalizable playlist of videos for superintendents highlighting essential policies and practices for successfully leading the transition to Future Ready schools. Fifty videos were shot on-site at eight school districts across the country. Collectively, these videos constitute a virtual site visit hosted by some of the most forward leaning Future Ready district leaders in the country sharing lessons learned and effective practices with their peers. In addition, the videos were carefully curated to represent each of the 27 evidence-based policies and practices described below.

Although the rubric was originally designed to support the development of the Future Ready professional learning videos, the rubric may also prove useful for strategic planning for superintendents, their leadership teams, and those supporting them in other contexts. The rubric is aligned with the recommendations of the 2016 National Education Technology Plan, ensuring that as district leaders work to become Future Ready they will also be making progress toward implementing the broader technology vision for the nation.

The Future Ready Leaders rubric defines exemplary dimensions of policy and/or practice within four focus areas (see Table 1). The rubric also specifies the types of evidence that support the description of exemplary policy and practice.

Table 1. The Four Focus Areas of the Future Ready Leaders Rubric

Focus Areas	Description
Collaborative Leadership	Commitment to demonstrating strong leadership aptitude, developing the vision, securing the ongoing funding, building a district-wide leadership team, and garnering broad-based support to ensure a successful digital learning transition for students and teachers
Personalized Student Learning	Personalized pathways for student learning through active and collaborative learning activities, which are aligned with standards, chosen through ongoing assessment of students' progress and preferences, and supported by the use and creation of rich content and robust tools
Robust Infrastructure	Equitable access to bandwidth, wireless networks, hardware, and devices, managed by support personnel for reliable use—both inside and outside of school
Personalized Professional Learning	Ongoing, job-embedded, and relevant professional learning designed and led by teachers with support from other experts to assist other teachers, administrators, and support personnel in making the digital transition

Types of Supporting Evidence

- Experimental research (ER)—empirical research that uses an experimental or quasi-experimental approach to test a theory of action and explore connections between inputs (e.g., programs, practices, policies) and outcomes
- Descriptive research (DR)—studies that use observations, surveys, case studies, or interviews to describe a phenomenon, intervention, or program
- Grey literature (GL)—multiple resources, such as white papers and technical reports, from reputable sources that provide helpful information to the field
- Professional standards (PS)—standards (sometimes explicated by aligned self-assessments) developed by leading organizations in the field and widely accepted as reflecting consensus about best practices
- Expert opinion (EO)—conclusions or conjecture collected from interviews or other resources from experts in the field with recognized practical or research-based expertise

Collaborative Leadership

Commitment to demonstrating strong leadership aptitude, developing the vision, securing the ongoing funding, building the district-wide leadership team, and garnering the broad-based support needed to ensure a successful digital learning transition for students and teachers

Dimension	Types of Supporting Evidence	Exemplary
Strong Leadership Aptitude	DR, GL, PS, EO	District leadership demonstrates situational awareness, seeks input in decision making, stimulates intellectual inquiry and innovation, and serves as a change agent for district-wide reform.
Shared Vision for Teaching, Leading, and Learning	DR, GL, PS, EO	District leadership convenes a team of diverse stakeholders (such as school board members, district staff, teachers, parents, community members, and students) to collaborate in adopting and communicating clear goals for Future Ready teaching, leading, and learning in the district. Technology facilitates—does not define—these goals.
Culture of Trust and Innovation	DR, GL, PS, EO	District leadership encourages leaders at all levels to foster a culture of risk taking, experimenting, and sharing innovative ideas. The district develops a system for gathering and responding to input on centralized decisions that benefit from scale (e.g., purchasing devices) while also trusting schools to make localized decisions to meet the needs of their communities and the goals of the shared vision.
Transparent Communications	GL, PS, EO	District leadership uses appropriate media and technology tools to reach a wide audience of stakeholders to establish an ongoing communications system and feedback loop. From the inception of the vision to its implementation, district leadership explains the vision, creates a process for gathering input, builds community support, interacts with stakeholders, and communicates successes and challenges.
Ongoing Plan for Improvement	DR, GL, PS	A strategic plan for accomplishing the shared vision is collaboratively developed by district leadership to provide specific action steps, which are aligned with a theory of change. An articulated plan for collecting formative and summative evaluation data at multiple points throughout the school year also is created, with clear criteria for decision making.
Modeling of Technology Use	DR, GL, PS	District leaders, including the superintendent, effectively model the use of technology and their commitment to personalized learning and development through active participation in and support of technology-related professional learning opportunities.

Dimension	Types of Supporting Evidence	Exemplary
District Policies	DR, GL, PS, EO	District leadership ensures that district policies support the shared vision for Future Ready teaching, leading, and learning (e.g., acceptable use, account creation and termination, administrative access, document retention, e-mail and mass communications, encryption, identity management, and passwords). Student safety and privacy are protected while allowing students and teachers to explore online environments and digital tools without unwarranted restrictions.
Sustainable Funding	DR, GL, PS, EO	District leadership develops funding plans to cover start-up and ongoing maintenance and upgrade costs during a 5- to 10-year period. The district uses multiple strategies to commit new resources specifically for digital learning as well as leverages existing funds by pooling budgets across departments (e.g., curriculum and instruction, professional development, facilities), seeking partnerships across districts or organizations to maximize purchasing power, or securing grants or other outside funding.

Personalized Student Learning

Personalized pathways for student learning through active and collaborative learning activities, which are aligned with standards, chosen through ongoing assessment of students' progress and preferences, and supported by the use and creation of rich content and robust tools

Dimension	Types of Supporting Evidence	Exemplary
Rigorous and Relevant Learning Outcomes	DR, GL, PS, EO	District leadership ensures a clearly defined set of district- and school-wide learning outcomes to guide instruction. Outcomes are defined in terms of competencies and align with the district's vision for Future Ready teaching and learning and state standards. The learning outcomes reflect the multidisciplinary nature of knowledge; prepare students for our participatory culture through attention to digital literacy and citizenship; and attend to general skills and dispositions, such as reflection, critical thinking, persistence, and grit.
Integrated Assessment	DR, GL, PS	District leadership puts policies into place that ensure that the district provides educators with the tools, professional development, and ongoing support to collect and analyze evidence of student learning on an ongoing basis. Evidence is diverse, including student and teacher observations and reflections, student work, formative and summative assessment results, and data from analytics embedded within learning activities and software. Analysis is aided by real-time availability of data and visualizations, such as information dashboards.
Pathways for Learning	DR, GL, PS, EO	District leadership puts policies into place to ensure that students have the opportunity to develop and demonstrate competencies aligned to shared learning outcomes through personalized sequences of learning activities that challenge them and reflect their interests and learning preferences. Activities are selected through a combination of student choice, teacher assignment, and adaptive recommendation by software, informed by assessment results. Completed activities are documented through a student profile or portfolio.
Powerful Learning Designs	ER, DR, GL, PS, EO	District leadership puts policies into place that ensure that students learn through a diverse set of activities. Designs combine self-directed learning and collaborative work. Students engage in active and multidisciplinary learning through projects and inquiries, often focused on genuine problems in their communities. Technology is integral to most designs, used daily within and beyond the classroom for collaboration, inquiry, and composition, as well as connecting with others around the world.

Dimension	Types of Supporting Evidence	Exemplary
Rich Learning Resources	DR, GL, PS	District leadership ensures that students and teachers have on-demand access to high-quality content and tools aligned with outcomes and activities but sufficiently diverse to allow choice. Content spans multiple media, integrates social learning, and includes open educational resources. Learning technology enables students to access content, conduct inquiry, collaborate, and create. The design of physical spaces for learning is appropriate to the design of learning activities.
New Teacher Roles	DR, GL, PS, EO	District leadership fosters a district culture in which teams of teachers are encouraged and supported to take leadership in developing learning outcomes, designs, pathways, and assessments, grounding their designs in collaborative analysis of evidence. They engage students, school and district leaders, and other stakeholders in the process and receive appropriate support, incentives, and recognition for this work. In the classroom, teachers serve as educational designers, coaches, and facilitators, guiding students through their personalized learning experiences.

Robust Infrastructure

Equitable access to next-generation bandwidth, wireless, hardware, and devices, managed by support personnel for reliable use—both inside and outside of school

Dimension	Types of Supporting Evidence	Exemplary
Connectivity and Capacity	DR, GL, PS, EO	District leadership ensures at least one gigabit per second (Gbps) per 1,000 students and staff for their connection to the Internet service provider and at least 10 Gbps per 1,000 students and staff for connections from the district to each school and among schools. The network allows for dependable simultaneous connectivity and access to varied digital learning tools and online resources. Technology plans include hardware to support the connectivity and capacity. Equipment, such as servers, switches, and access points, are well maintained with proper electrical, heating, cooling, and ventilation systems. Vendors are vetted as reliable, cost-effective partners.
Digital Devices	DR, GL, PS, EO	All teachers, students, and administrators have access to digital devices from the district that are equipped with the proper software, hardware, and Internet connectivity for Future Ready teaching, leading, and learning on a daily basis. Students are allowed to use their own devices to support learning.
Software and Systems for Teaching and Learning	GL, PS, EO	District leadership oversees the purchase and maintenance of up-to-date software for Future Ready teaching, leading, and learning (e.g., learning management system, e-portfolio system, assessment system, portal, learning object repository, and collaborative tools) on all district digital devices. Students and teachers have in-school access to social media tools that support learning, which is enabled by the district leadership's engagement of all stakeholders to obtain their agreement on acceptable use.
Administrative Data Systems	GL, PS, EO	District leadership oversees the purchase and maintenance of up-to-date administrative software (e.g., student information, human resources, financial, and assessment data systems), which allow for data analysis and seamless integration across systems, including with teaching and learning systems.
Technology Personnel	DR, GL, PS, EO	District leadership communicates to all members of the school community how to access timely, knowledgeable support to handle their technical needs. A team of full-time, qualified information technology professionals of a size commensurate to the number of students and staff they serve is available to answer questions, troubleshoot problems, and monitor networks.
Out-of-School Access	DR, GL, PS	District leadership is committed to providing ubiquitous, 24/7 connectivity for all students within the district through community partnerships, after-hours computer labs, one-to-one device programs, or other models, which allow students to have the same access out-of-school as they have in school.

Personalized Professional Learning

Ongoing, job-embedded, and relevant professional learning designed and led by teachers with support from other experts to assist other teachers, administrators, and support personnel in making the digital transition

Dimension	Types of Supporting Evidence	Exemplary
Aligned and Integrated Outcomes	DR, CL, PS, EO	District leadership develops clear outcomes for professional learning, which are aligned with the district's vision for Future Ready teaching, leading, and learning; state standards; and learning goals of individual educators, with student learning as the central focus. Technology use outcomes are means to the end of implementing personalized learning pedagogy, and supports for personalized learning and technology use are implemented simultaneously.
Collaboration and Community	DR, CL, PS, EO	District leadership ensures professional learning is highly collaborative and intended to build the capacity of the school and district as well as the capacity of individual teachers. Local teams of teachers (often called professional learning communities) conduct shared inquiries into student learning to identify effective practices and produce learning resources. They also connect to a broader group of educators and other experts through online communities and networks.
Shared Leadership and Ownership	DR, CL, PS, EO	District leadership encourages and supports teachers in contributing to professional learning through leading teams (such as professional learning communities), modeling practices, and coaching their peers. These teacher leaders make a commitment to implementing changes in their practices based on what they learn and to being accountable for documenting those changes and their impact on student learning. School leaders participate as learners in professional learning activities.
Job-Embedded and Personalized Learning	DR, CL, PS, EO	District leadership ensures that professional learning is ongoing throughout the year and during the school day. Teachers and school leaders choose from varied learning designs, as appropriate to individual and shared goals, needs, and preferences. Teachers set goals, document progress, and engage in reflective practice. Just-in-time learning resources are available to address emergent needs.

Dimension	Types of Supporting Evidence	Exemplary
Focus on Evidence	DR, CL, PS, EO	Teachers and other stakeholders are supported by district leadership to collaboratively examine evidence of student learning, including student work, recordings of classroom activity, formative and summative assessment results, learning analytics, and teacher and student observations and reflections. This analysis informs goal setting and changes in practice. Professional learning activity design and content are research-based, and results of professional learning are systematically evaluated.
Appropriate Technology	ER, DR, CL, PS, EO	District leadership ensures that professional learning resources have the same characteristics as those resources that support personalized learning for students. How teachers learn with technology is a model for how students should use technology to learn. Teachers have access to online collaboration and social media tools that does not restrict their use in support of professional learning. Video allows for documentation, analysis, and sharing of actual and best practices. Online communities provide access to educational resources, expertise, and support.
Systemic Support	DR, CL, PS, EO	District and school leadership and policies provide sustained support. Contracts, calendars, daily schedules, and incentive and evaluation systems support professional learning and collaboration. Teachers have significant and regular protected time for collaboration, as well as the role flexibility and autonomy needed to improve and innovate. Teacher credentialing systems are competency based, such as through the use of digital badges and portfolios.

Development Process

Under guidance from OET, AIR conducted a comprehensive literature review to develop this rubric, which was subsequently used as the foundation for the Future Ready Leaders personalized professional learning work. Initially, AIR researchers used the ConnectED focused areas of Connectivity, Digital Devices, Content, and Professional Development as an heuristic to guide collection of evidence, adding a fifth focus area of Leadership in light of the leadership focus of the project. After the research team collected and analyzed research and best practice sources, the team formalized final focus areas and dimensions to reflect the body of evidence.

Below is an outline of the process the research team followed to reach the final framework:

- *Identified existing literature reviews from related projects.* As a research-based organization, AIR has conducted numerous studies that address issues related to 21st century teaching and learning. The research team began this work by identifying the rigorous, systematic literature reviews that would most inform the team's efforts. These projects included an evaluation of the Intel Teach online professional development, PowerUp What Works, and a series of school and district leader evaluation studies.

- *Analyzed resources from the existing literature reviews.* The research team analyzed the 300+ resources and highlighted those resources meriting more in-depth study. (Many of the resources the researchers examined in depth are listed in the References section of this synthesis.) Team members also culled through the citation lists of the selected resources to identify secondary reports that might provide additional information.

- *Organized the support evidence.* The team used the original five focus areas as a starter framework to begin organizing the gathered information. If critical elements surfaced that did not fit within these focus areas, researchers noted the information for later consideration. Team members labeled the resources by their evidence types, as defined previously.

- *Conducted new literature reviews.* An initial analysis indicated gaps in the research compiled to date; therefore, the team conducted database queries for those missing components. For example, information about hardware, board policies, digital devices, and online portfolios was scant, so researchers conducted new literature reviews, paying particular attention to experimental and/or descriptive research that would support these potential focus area dimensions.

- *Interviewed key stakeholders.* In addition to conducting the research, the team contacted individuals and organizations that lead educational technology and leadership initiatives to collect first-hand experiences and perspectives about Future Ready leadership. Interviewers used a standard protocol to explore research conducted by the organizations; their professional opinions regarding actions necessary for successful Future Ready practice at the district level; and additional research studies, tools, existing rubrics, and other resources they recommend that the team consulted during the rubric development process. Researchers interviewed representatives from 18 organizations, which included major national member associations, nonprofit research and professional services organizations, think tanks, and educational advocacy groups.

- *Examined identified resources.* The team analyzed and synthesized the website resources, as well as those resources shared during the interviews, using the same process outlined previously.
- *Defined the four focus areas.* The team developed a framework of four focus areas (Collaborative Leadership, Personalized Student Learning, Robust Infrastructure, and Personalized Professional Learning), which describe the critical elements of leading efforts to create Future Ready districts, based on analysis of all the evidence collected.
- *Cross-checked the evidence.* With the new focus areas in place, the team re-analyzed the research to ensure that all data were properly categorized. The team then organized the evidence by dimensions, or subcategories, which address smaller elements of the focus areas. For example, the dimensions for the focus area of Robust Infrastructure include Connectivity and Capacity, Digital Devices, Software and Systems for Teaching and Learning, Administrative Data Systems, Technology Personnel, and Out-of-School Access.
- *Conducted a focus group.* The research team convened a group of superintendents from districts across the nation to provide feedback regarding the four Future Ready focus areas. The team used a structured protocol to ask the leaders about their efforts to impact digital transformation in their districts and further validated the focus areas by soliciting feedback about the focus areas themselves and what might be missing.
- *Compiled and reviewed the findings.* Through a standard qualitative analysis process, the team summarized the key themes shared by the superintendents and compared the themes to the existing framework. No new focus areas were identified. The team mapped the qualitative data to the relevant dimensions.
- *Finalized the framework.* After conducting a series of quality review checks, the team completed a final draft of the framework in the form of this rubric.

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