2016 Progress Report on the Long-Range Plan for Technology, 2006-2020

A Report to the 85th Texas Legislature from the
Texas Education Agency
Standards and Support Services

This progress report is presented to the 85th Texas Legislature from the Texas Education Agency.

Submitted to the Governor, Lieutenant Governor,
Speaker of the House of Representatives,
and Members of the
Eighty-fifth Texas Legislature

About the Report

The Progress Report on the Long-Range Plan for Technology, 2006–2020 is a legislative report developed by staff at the Texas Education Agency.

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Introduction: The Long-Range Plan for Technology

The Long-Range Plan for Technology, 2006-2020 (long-range plan) charts the course for educational technology in Texas and provides recommendations to various stakeholders. The vision of the long-range plan focuses on preparing students to learn, work, and live in the 21st century.

Developing a plan for educational technology through 2020 requires systematic planning and step-by-step strategies implemented over time to make the vision a reality. The Texas education system is built upon a commitment to excellence and equity, providing a quality education to all students. Rigorous curriculum standards, quality instructional materials, and comprehensive student assessments provide the framework for ensuring student success. Visionary school leaders and well prepared teachers build upon that framework to provide opportunities for students to reach their full potential.

In Texas, planning for the use of technology in education has been in place for more than 25 years. The long-range plan has guided this effort.

Table 1: Phases of the *Long-Range Plan for Technology, 2006–2020*

Phases of the *Long-Range Plan for Technology, 2006–2020*		
Phase I:	Phase I refers to work completed in 2006–2010.	
Phase II:	Phase II refers to work completed in 2010–2015.	
Phase III:	The final phase of the long-range plan covers 2016–2020.	

Reporting Requirements

The Texas Education Code (TEC), §39.334, requires TEA to prepare and deliver to the governor, the lieutenant governor, the speaker of the House of Representatives, and each member of the legislature a technology report covering the preceding two school years and containing information on the status of the implementation of and revisions to the long-range plan. This 2016 progress report documents the state's progress and accomplishments in meeting recommendations from September 2014 through August 2016.

Data Sources

For this and previous progress reports, TEA relied on Texas School Technology and Readiness (STaR) Chart data to measure progress in meeting recommendations of the long-range plan. (There were separate charts for campuses and for teachers/librarians.)

With federal technology funding no longer available through NCLB, Title II, Part D, and with technology planning no longer a requirement in order to receive E-Rate discounts, the Texas Education Agency

(TEA) announced in December 2014 that it would no longer require completion of the Texas STaR Chart. TEA continued to make the STaR Chart system available to districts and open-enrollment charters for voluntary use during the 2014–2015 and 2015–2016 school years.

For districts that no longer used the STaR Chart system but wished to be represented in this progress report, TEA posted a District STaR Chart in an online survey in March 2016. Information regarding the voluntary survey was made available to districts through TEA correspondence.

Data for this report, therefore, was collected through voluntary participation by teachers, campuses, and districts. The following table provides a summary of how STaR Chart data was collected over the 2014–2015 and 2015–2016 school years.

Table 2: STaR Chart Data for School Years 2014–2015 and 2015–2016

Survey tool	School year	Number of respondents	Data included in this report?
Teacher and Campus STaR Charts (voluntary participation)	2014–2015	4,880 campuses	yes
Teacher and Campus STaR Charts (voluntary participation)	2015–2016	1,310 campuses	yes
District STaR Chart (voluntary participation)	2015–2016	228 districts	yes

For districts that ended use of the Texas STaR Chart, many opted to use other online survey tools. Examples of those tools include BrightBytes, Speak Up!, or locally-created surveys. Links to reports provided by two of the organizations that work with Texas schools in measuring technology implementation are listed below.

- BrightBytes (PDF report)
- Speak Up! (Excel spreadsheet)

Currently, districts rely greatly on personalized data to measure progress in meeting local technology-based goals and in planning for future initiatives. At the beginning of the 2016–2017 school year, TEA was no longer able to make the updates needed to sustain the STaR Chart system. The system was closed, and STaR Chart data is no longer collected.

Key Vocabulary for this Report

This report frequently references vocabulary unique to the long-range plan and the Texas STaR Chart. A list of terms and definitions follow.

1. *Long-Range Plan for Technology, 2006–2020*, or long-range plan—a three-phase plan developed by the Educational Technology Advisory Committee (ETAC) and approved by the State Board of Education that provides a framework for the expansion of educational technology in Texas public schools from 2006 through 2020

2. Texas School Technology and Readiness (STaR) Chart—an online survey tool for teachers, librarians, and administrators that measures progress in meeting recommendations in the long-range plan

3. Key Areas—four key areas to be addressed throughout the implementation of the long-range plan: Teaching and Learning; Educator Preparation and Development; Leadership, Administration, and Instructional Support; and Infrastructure for Technology

4. Focus Areas—categories that describe the various components of a key area; for the key area "Teaching and Learning," focus areas include Patterns of Classroom Use (TL1); Frequency/Design of Instructional Setting Using Digital Content (TL2); Content Area Connections (TL3); etc.

5. Levels of Progress—the ratings a STaR Chart respondent assigns to himself, his campus, or his district as he reads descriptions of progress within each focus area. For example, when rating progress in meeting goals in the Key Area of Teaching and Learning, the respondent reads four descriptions listed under each Focus Area and then selects the description that best matches his, his campus's, or his district's knowledge and skills. The descriptions signify four Levels of Progress and their corresponding points: Early Tech (1 pt.), Developing Tech (2 pts.), Advanced Tech (3 pts.), and Target Tech (4 pts.).

Example of How a STaR Chart Respondent Identifies Levels of Progress

To better understand how a respondent arrived at a rating for the Key Area of Teaching and Learning, consider the following scenario:

A representative of Lone Star Independent School District views the Teaching and Learning section of the STaR Chart and sees that Teaching and Learning has been broken out into six Focus Areas. The six focus areas are further broken out into four descriptions that signify Levels of Progress. After reading the four descriptions for each focus area, the respondent selects descriptions (i.e., levels of progress) that best reflect his district. (For brevity, the names of each focus area and the descriptions for levels of progress are not included in the table below. Focus Areas are shown as TL1, TL2, etc.)

Teaching and Learning							
	TL1	TL2	TL3	TL4	TL5	TL6	Totals
Early Tech (1 pt.)							
Developing Tech (2 pts.)							
Advanced Tech (3 pts.)	✓	✓			✓		9 pts.
Target Tech (4 pts.)			✓	✓		✓	12 pts.
Totals	3 pts.	3 pts.	4 pts.	4 pts.	3 pts.	4 pts.	**21 pts.**

After making his selections, the district representative sees the total score and compares the total to the following STaR Chart scale:

- Early Tech = 6–8 pts.
- Developing Tech = 9–14 pts.
- Advanced Tech = 15–20 pts.
- Target Tech = 21–24 pts.

The district representative learns that his district is at the Target Tech Level of Progress in the Key Area of Teaching and Learning.

Complete charts, including explanations of Focus Areas and Levels of Progress, for each of the four Key Areas of the Texas STaR Chart are provided below.

- Teaching and Learning
- Educator Preparation and Development
- Leadership, Administration, and Instructional Support
- Infrastructure for Technology

Vision

Successful implementation of the long-range plan in Texas schools will result in an education system in which, by 2020, the following will have been accomplished:

Table 3: Vision for the *Long-Range Plan for Technology, 2006–2020*

Learners will	Educators will
• use digital media content and social networking technologies to collaborate, construct knowledge, and provide solutions to real-world problems. • use research-based strategies and critical thinking in all subject areas to improve academic achievement. • use digital media and environments to communicate effectively in a variety of formats for diverse audiences. • create digital portfolios to document academic growth. • use personal, Internet-ready devices for learning.	• graduate from a preparation program that infuses current technology in instructional and administrative practices. • use technology effectively in the teaching-learning process as demonstrated by the State Board for Educator Certification (SBEC) Technology Applications Standards and integrate appropriate technology throughout all curriculum and instruction. • develop new learning environments that use technology as a flexible tool. • keep up-to-date with emerging trends and technologies and implement new teaching strategies into everyday teaching and learning.
Leaders will	**Infrastructure will**
• inspire and lead development and implementation of a shared vision for the transformation of teaching and learning using technology. • create, promote, and sustain a dynamic, technology-rich environment that provides a rigorous, relevant, and engaging education for all students. • promote an environment of professional learning and innovation to enhance student opportunities through the infusion of a variety of technologies and digital resources. • provide for the effective use of information and technology resources. • model and facilitate understanding of social, ethical, and legal issues and responsibilities related to a digital environment.	• provide equitable access to all digital technologies through ubiquitous broadband resources available 24/7 for all users at school and at home. • ensure just-in-time technical assistance to support teaching and learning. • provide for measures to ensure all data is secure and accurate. • have measures to ensure security of any device connected to the district's infrastructure. • implement the most cost-efficient approach to supporting the technology environment. • ensure uniform data standards to support the Texas Student Data System, interoperability, and accessibility for all users.

Priorities for Phase II, 2010–2015

The following priorities were established to assist with meeting the recommendations in the long-range plan:

- Continue to refine and align curriculum content standards that reflect 21st century expertise and that take advantage of the flexibility and power of technology to reach all learners anytime/anywhere to produce graduates who are equipped to excel in the workplace and post-secondary education.

- Develop a vision and roadmap for shifting to digital learning, including the use of digital content and open education resources.

- Provide quality instructional materials aligned to content standards and deliver in print and digital formats to meet the needs of all students.

- Provide anytime/anywhere professional development for educators that models best practices for embedding digital resources into all curricular areas, for personalizing instruction, and for using data to inform instructional practice.

- Build capacity for all members of the education community to effectively use, adapt, and construct digital tools.

- Demonstrate and measure digital literacy skills of educators in all content areas as outlined in the technology applications standards.

- Adopt the mindset of career-long professional growth for educators to keep abreast of latest technology trends.

- Replace time-based staff development standards with competency-based standards including measurable performance indicators.

- Build capacity of leaders in education to use current and emerging technologies so that the educational community reflects a changing world.

- Leverage TEA digital initiatives to support learning, collaborations, professional development, and school operations.

- Eliminate barriers and provide opportunities for students and educators to use personally owned Internet-ready devices for learning and collaboration.

- Determine and implement the most cost-efficient 21st century infrastructure to support classroom instruction, virtual learning, assessment, professional development, and school operations.

- Build the architecture to sustain equitable, high-speed access for all members of the education community so that anytime/anywhere learning can occur.

Recommendations for Phase III, 2016–2020

Because technology planning is an on-going process, the current long-range plan requires a new round of review and revision. Strategies for Phase III have not been developed. Given the large presence of technology in all subject areas and across the majority of Texas K–12 classrooms, it is recommended that, rather than establish separate "technology priorities" for phase III, revisions to *The Long-Range Plan for Technology, 2016–2020* be merged with future updates to the *Long-Range Plan for Public Education.*

Data from Campuses and Districts: Texas STaR Chart

The Texas STaR Chart is aligned to the four key areas of the long-range plan. The STaR Chart has assisted in measuring the impact of state and local efforts to improve student learning through the use of technology.

Schools have used the Texas STaR Chart to accomplish the following:

- Determine professional development needs

- Determine funding priorities

- Provide data to support the need for grants or other resources

- Help conceptualize the campus or district vision of technology

- Document the use of state and federal funding for technology

STaR Chart data indicates the status of campuses and districts in meeting the recommendations in the long-range plan, showing areas of progress and areas in need of improvement. Data for 2014–2015 and 2015–2016 are shown below. According to the STaR Chart scale (as described on page 11 of this report), the majority of campuses and districts are currently at or near the Advanced Tech level of progress for Teaching and Learning; the Developing Tech level of progress for Educator Preparation and Development; the Advanced Tech level of progress for Leadership, Administration, and Instructional Support; and the Advanced Tech level of progress for Infrastructure and Technology.

Figure 1: STaR Chart Data—Overall Scores
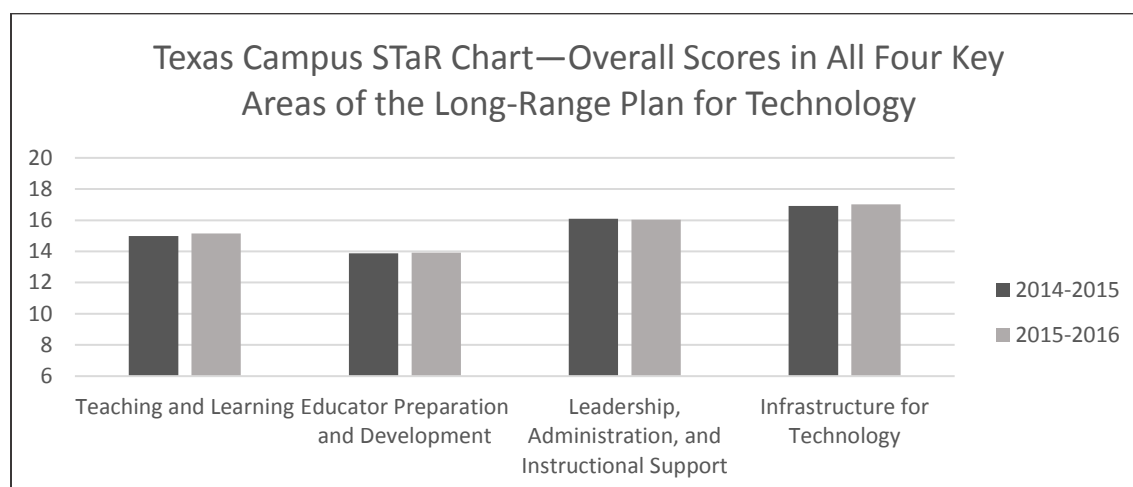
Key Area One: Teaching and Learning

Data from Campuses and Districts: Texas STaR Chart

Standards and Guidelines

Key Area One: Teaching and Learning

Technology provides tools that allow students to work, learn, and create beyond the physical boundaries of the classroom. By using resources such as online courses, cloud-based services, and digital instructional materials, educational technology can enhance students' learning environments and expand their opportunities for success. Students can also benefit from specialized software, communication aids, and assistive technology. Classroom management strategies that leverage technology—flipped classrooms, blended learning—support highly interactive, engaging learning environments for students. Providing students with technological tools, digital content and resources, and sufficient access to the Internet both at school and at home helps prepare Texas students for post-secondary success.

The long-range plan provides recommendations for teaching and learning to the Texas Education Agency (TEA), the State Board of Educator Certification (SBEC), education service centers (ESCs), Texas public school districts and open-enrollment charters, the Texas Higher Education Coordinating Board (THECB), and parents, community members, and private sector members. The recommendations begin on page 19 of the plan.

Data from Campuses and Districts: Texas STaR Chart

The Texas STaR Chart produces a profile of each campus or district's status in reaching the goals of the long-range plan. The profile indicators place a campus or district at one of four levels of progress in each key area of the plan: Early Tech, Developing Tech, Advanced Tech, and Target Tech.

Campuses and districts in Texas continue to improve in the Teaching and Learning key area. The chart below shows the percentage of campuses/districts across Texas at each progress level. Breakdowns by each Teaching and Learning focus area are located in Appendix A: Teaching and Learning by Focus Area.

Figure 2: STaR Chart Data—Teaching and Learning
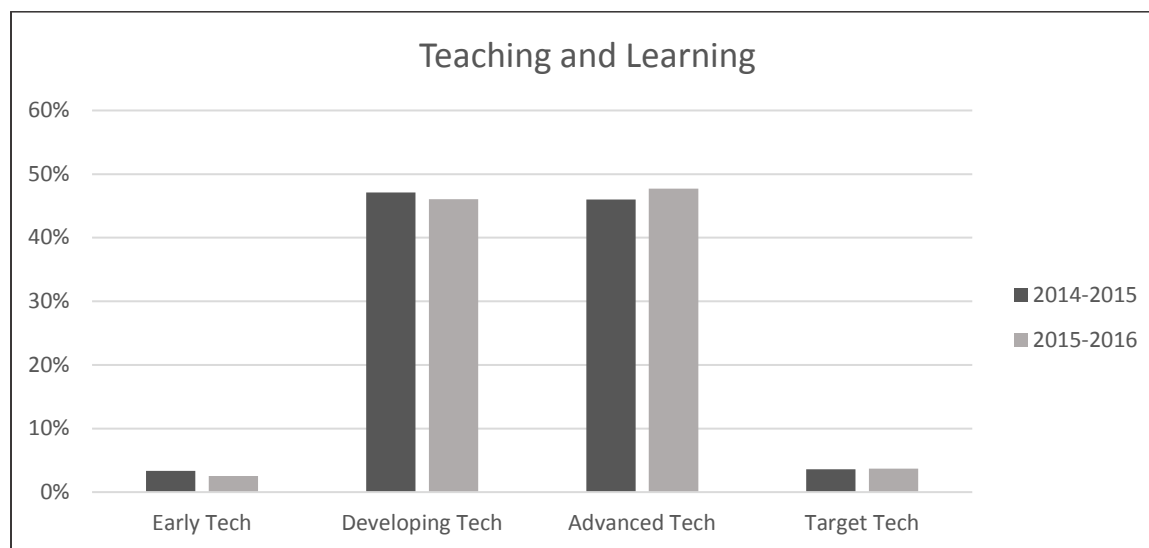
Standards and Guidelines

Texas provides standards and guidelines for technology applications as they apply to students, teachers, librarians, and administrators. The following table provides a list of standards and guidelines, the intended audiences, and links.

Table 4: Standards and Guidelines for Technology Applications

Standards and Guidelines	Links
Technology Applications for Prekindergarten Students	Prekindergarten Guidelines
Technology Applications TEKS for K-12 Students	Technology Applications Texas Essential Knowledge and Skills (TEKS), Texas Administrative Code Chapter 126
Technology Applications (All Beginning Teachers)	Technology Applications EC–12 and Computer Science 8–12 Standards (Standards I–VII)
Technology Applications for Specialized Teachers and Master Technology Teachers	Master Technology Teacher Standards
Standards for School Librarians	School Library Standards
Technology Standards for Administrators	ISTE Technology Standards for School Administrators

The purpose of the state's technology applications standards is to ensure students and educators gain and apply critical 21st century digital knowledge and skills across the curriculum. Technology applications standards provide a vertical alignment of what is expected for students from prekindergarten through grade twelve.

Prekindergarten guidelines and grades K–12 standards are specified in the following:

- Texas Prekindergarten Guidelines
- 19 TAC Chapter 126. Texas Essential Knowledge and Skills for Technology Applications

The long-range plan recommends continued support for the implementation of the Prekindergarten Guidelines (Domain X, Technology Applications) and the technology applications TEKS for grades K–12. In addition, the plan identifies the need for periodic revision of technology applications standards to ensure appropriateness of requirements over time and alignment with 21st century skills. The Prekindergarten Guidelines were last revised and updated in 2015, and the technology applications TEKS were most recently revised in 2011.

Key Area Two: Educator Preparation and Development

Data from Campuses and Districts: Texas STaR Chart

Standards

Key Area Two: Educator Preparation and Development

Professional learning is an essential and ongoing process that provides all educators with knowledge, skills, and classroom strategies to transform teaching and learning. All Texas educators pursue professional growth throughout their careers and, increasingly, focus on the needs of digital-age students. The growth resulting from professional development is then translated into the classroom, affecting lasting change in instruction and learning.

Professional learning supports and encourages teachers to create new learning environments and use instructional strategies that reflect best practices in technology integration. Educator preparation programs can ensure that beginning teachers have a broad understanding of the many applications of technology in 21st century classrooms.

Distance learning and telecommunication technologies are important tools for providing today's teachers and administrators with new opportunities for professional growth. As educators complete more online professional development, it is expected that they will draw from their online learning experiences and use those experiences to determine how they will use technology in their classrooms.

The long-range plan provides recommendations for educator preparation and development to TEA, SBEC, ESCs, Texas public school districts and open-enrollment charters, the THECB, and parents, community members, and private sector members. The recommendations begin on page 25 of the plan.

Data from Campuses and Districts: Texas STaR Chart

The Texas STaR Chart produces a profile of each campus or district's status in reaching the goals of the long-range plan. The profile indicators place a campus or district at one of four levels of progress: Early Tech, Developing Tech, Advanced Tech, and Target Tech.

Currently, the majority of Texas campuses and districts are at the Developing Tech level of progress. The chart below shows the percentage of campuses/districts across Texas at each progress level. Breakdowns by focus area can be found in Appendix B: Educator Preparation and Development by Focus Area.

Figure 3: STaR Chart Data—Educator Preparation and Development
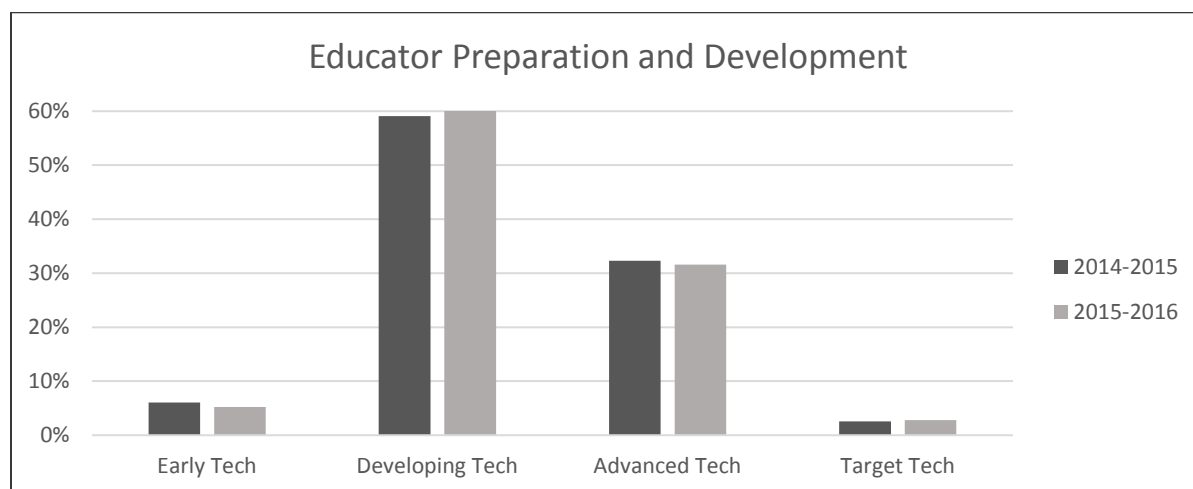
Standards

In October 2015, new Technology Applications standards for all beginning teachers, EC–12, were adopted. The seven standards are expected of all beginning teachers and are incorporated into the new Texas Examination of Educator Standards (TExES) for Pedagogy and Professional Responsibilities.

Table 5: Technology Applications Standards for Beginning Teachers

Technology Applications Standards for Beginning Teachers	
Standard I.	All teachers use and promote creative thinking and innovative processes to construct knowledge, generate new ideas, and create products.
Standard II.	All teachers collaborate and communicate both locally and globally to reinforce and promote learning.
Standard III.	All teachers acquire, analyze, and manage content from digital resources.
Standard IV.	All teachers make informed decisions by applying critical-thinking and problem-solving skills.
Standard V.	All teachers practice and promote safe, responsible, legal, and ethical behavior while using technology tools and resources.
Standard VI.	All teachers demonstrate a thorough understanding of technology concepts, systems, and operations.
Standard VII.	All teachers know how to plan, organize, deliver, and evaluate instruction for all students that incorporates the effective use of current technology for teaching and integrating the Technology Applications Texas Essential Knowledge and Skills (TEKS) into the curriculum.

Texas also provides standards for educators wishing to earn Master Technology Teacher (MTT) certification. The MTT certificate prepares teachers to mentor other teachers and work with students in order to increase the appropriate use of technology in each classroom. Certified Master Technology Teachers play a critical role in schools as they work with teachers to ensure the best uses of technology to improve student achievement and help other teachers try new methods of enhancing curriculum with technology.

Table 6: Standards for Master Technology Teachers

Standards for Master Technology Teachers	
Standard I.	Effectively models and applies classroom teaching methodology and curriculum models that promote active student learning through the integration of technology and addresses the varied learning needs of all students

Standard II.	Selects and administers appropriate technology-related assessments on an ongoing basis and uses the results to design and improve instruction
Standard III.	Applies knowledge of digital learning competencies including Internet research, graphics, animation, website mastering, and video technology
Standard IV.	Serves as a resource regarding the integration of assistive technologies and accessible design concepts to meet the needs of all students
Standard V.	Facilitates appropriate, research-based technology instruction by communicating and collaborating with educational stakeholders; mentoring, coaching, and consulting with colleagues; providing professional development opportunities for faculty; and making decisions based on converging evidence from research

Key Area Three: Leadership, Administration, and Instructional Support

Data from Campuses and Districts: Texas STaR Chart

Standards

Key Area Three: Leadership, Administration, and Instructional Support

Implementing and sustaining school improvement and technology innovation requires skilled and persistent leadership. District and school administrators play a key role in creating a shared vision and serve as a catalyst for change. School administrators typically conduct needs assessments to determine strengths and challenges within a district or campus and use the results of those assessments to adjust, continue, and plan for district- and campus-wide initiatives. Today, many of those initiatives include technology. As leaders, administrators must plan for, fund, implement, and assess the use of technology in classrooms. Administrators must also consider how technology is available for student, faculty, administrative, and community use beyond the traditional school environment, particularly in light of today's online instructional materials.

As models for 21st century skills, administrators collaborate with all stakeholders to develop technology plans that reflect a shared vision. The plan typically includes technology integration in classrooms but also addresses other components such as disaster recovery, communication, infrastructure, and policies that facilitate accessibility to online materials and resources.

The long-range plan provides recommendations for leadership, administration, and instructional support to TEA, SBEC, ESCs, Texas public school districts and open-enrollment charters, THECB, and parents, community members, and private sector members. The recommendations begin on page 31 of the plan.

Data from Campuses and Districts: Texas STaR Chart

The Texas STaR Chart produces a profile of each campus or district's status in reaching the goals of the plan. The profile indicators place a campus or district at one of four levels of progress in each key area of the long-range plan: Early Tech, Developing Tech, Advanced Tech, and Target Tech.

During the past biennium, the data gathered through the Texas STaR Chart for Leadership, Administration, and Instructional Support shows that the majority of Texas campuses/districts perceive campus leadership and support to be at the Advanced Tech level. The chart below shows the percentage of campuses/districts across Texas at each progress level. Breakdowns by focus areas can be found in Appendix C: Leadership, Administration, and Instructional Support by Focus Area.

Figure 4: STaR Chart Data—Leadership, Administration, and Instructional Support
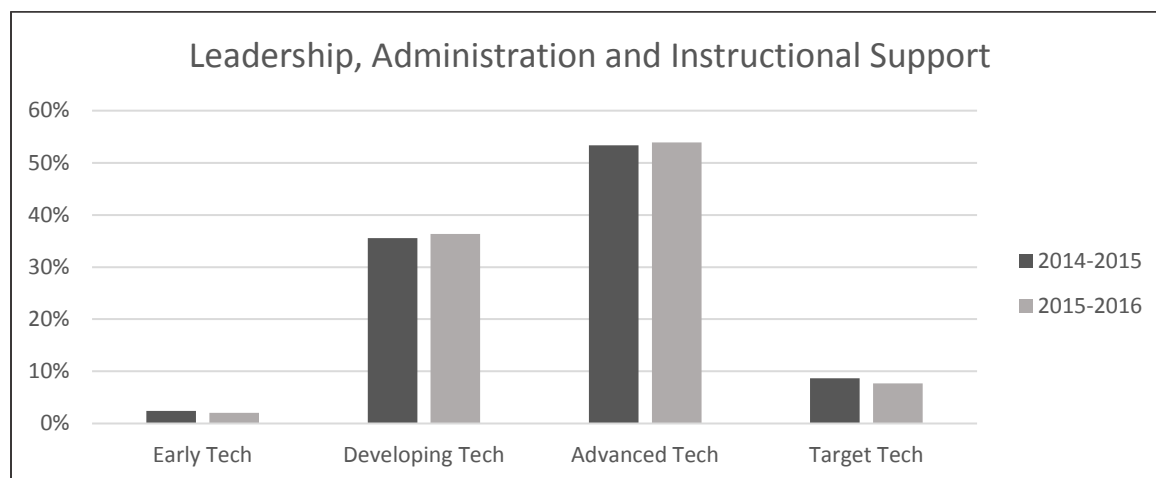
Standards

When measuring technology proficiencies in school leadership, a campus or district may use the following International Society for Technology in Education (ISTE) Technology Standards for School Administrators:

Table 7: ISTE Technology Standards for School Administrators

ISTE Technology Standards for School Administrators	
Visionary Leadership	Educational administrators inspire and lead development and implementation of a shared vision for comprehensive integration of technology to promote excellence and support transformation throughout the organization.
Digital Age Learning Culture	Educational administrators create, promote, and sustain a dynamic, digital-age learning culture that provides a rigorous, relevant, and engaging education for all students.
Excellence in Professional Practice	Educational administrators promote an environment of professional learning and innovation that empowers educators to enhance student learning through the infusion of contemporary technologies and digital resources.
Systemic Improvement	Educational administrators provide digital-age leadership and management to continuously improve the organization through the effective use of information and technology resources.
Digital Citizenship	Educational administrators model and facilitate understanding of social, ethical, and legal issues and responsibilities related to an evolving digital culture.

Key Area Four: Infrastructure for Technology

Data from Campuses and Districts: Texas STaR Chart

State Activities on Broadband and Connectivity

Key Area Four: Infrastructure for Technology

Educators and students use the Internet as an educational resource. Texas schools require a truly high-performance infrastructure to take advantage of new technologies, significantly reduce costs, increase student access, and improve communication and collaboration among all stakeholders.

A 21st century infrastructure offers high-speed connectivity among schools, colleges, medical facilities, libraries, businesses, and homes and provides ample digital tools and resources for all learners. A robust statewide infrastructure is critical in providing access to all learners. Districts should have an infrastructure that is safe and secure, flexible, scalable, and reliable. The campus infrastructure needs to integrate voice, video, and data and have the capacity to host large volumes of digital content and powerful applications.

The long-range plan provides recommendations for infrastructure to TEA, the SBOE, ESCs, Texas public school districts and open enrollment charters, the THECB, and parents, community members, and private sector members. The recommendations begin on page 37 of the plan.

Data from Campuses and Districts: Texas STaR Chart

The Texas STaR Chart produces a profile of each campus or district's status in reaching the goals of the long-range plan. The profile indicators place a campus at one of four levels of progress in each key area of the plan: Early Tech, Developing Tech, Advanced Tech, and Target Tech.

The data gathered through the STaR Chart for Infrastructure for Technology shows that the majority of Texas campuses/districts rate themselves at the Advanced Tech level. The chart below shows the percentage of campuses/districts across Texas at each progress level. Breakdowns by focus area can be found in Appendix D: Infrastructure for Technology by Focus Area.

Figure 5: STaR Chart Data—Infrastructure for Technology
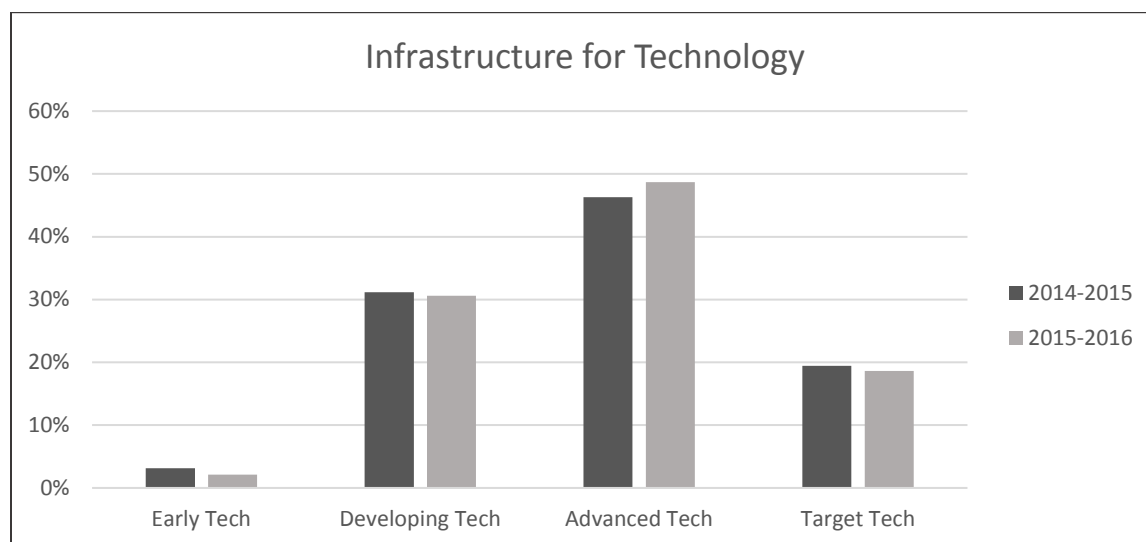
State Activities on Broadband and Connectivity

Public School Network Capabilities Study

In 2013, the 83rd Texas Legislature passed HB 1926, which called for a broadband study to assess the network capabilities of each school district. The study gathered sufficient information to determine whether the network connections of a district and campuses in the district meet the following targets:

- An external Internet connection to a campus's Internet service provider featuring a bandwidth capable of a broadband speed of at least 100 megabits per second for every 1,000 students and staff members

- An internal wide area network connection between the district and each of the school campuses in the district featuring a bandwidth capable of a broadband speed of at least one gigabit per second for every 1,000 students and staff members

The Public School Network Capabilities Study was completed and made available in November 2015.

Technology Lending Program Grants

In addition to improving and increasing access to broadband services, Texas districts and open-enrollment charters are also focused on ensuring that students have continuous access to learning made possible through technology and the Internet. Senate Bill 6, passed by the 82nd Texas Legislature, established a program to fund district technology lending grants. The grant program was created to award funds to school districts and open-enrollment charter schools to implement or enhance an existing technology lending program established to lend students the equipment necessary to access and use electronic instructional materials. The goal of the program was to ensure that all students, including economically disadvantaged students, have dedicated access to a personal technology device.

The 2014–2016 Technology Lending Program awarded competitive grants to Texas public school districts and open enrollment charters through a request for applications. With the Technology Lending Program Grant, districts were able to move forward with the implementation of electronic instructional materials while ensuring access for students through grant-provided equipment for learning at school and at home. Approximately $10 million was award to 109 districts and open-enrollment charters.

Table 8: 2014–2016 Technology Lending Program Grants

2014–2016 Technology Lending Program Grants
61,933 students checked out devices made available through the grant program.
44,234 economically disadvantaged students participated in the program.
18,024 economically disadvantaged students were provided Internet access for learning at home.
29,932 students demonstrated Technology Applications TEKS proficiency for their grade level at the end of the grant period.
1,863 students enrolled in online courses as a result of the program.

2,518 teachers used digital instructional materials for students as a result of the program.
80% of districts used funds for students' wireless access at home.
91% of districts allowed students to use the devices at home.

The grant program closed August 31, 2016. Grant awardees and additional information are listed at
http://tea.texas.gov/Finance_and_Grants/Grants/Grants_Awarded/2014%E2%80%932016_Technology
_Lending_Program_Grant/.

Classroom Connectivity Initiative

In April 2016, TEA Commissioner Mike Morath sent correspondence to districts regarding the Classroom
Connectivity Initiative. The initiative is a result of a partnership between Texas and
EducationSuperhighway and is "designed to increase access to affordable, high-speed broadband for
public schools in Texas" (To the Administrator Addressed Correspondence, April 15, 2016).

In September 2016, Commissioner Morath sent additional information to districts regarding the
initiative. TEA, ESCs, and EducationSuperhighway continue to work with districts in securing funding and
support to launch broadband upgrade projects across the state.

Conclusion and Next Steps

Texas districts have shown progress in meeting the recommendations in the *Long-Range Plan for Technology, 2006-2020*. As a key indicator of progress, on average, campuses and districts have reached the Advanced Tech level or close to this level for each of the four key areas in the long-range plan: Teaching and Learning; Educator Preparation and Staff Development; Leadership, Administration, and Instructional Support; and Infrastructure for Technology.

Education stakeholders should continue to work together to plan for and implement technology programs that reach for higher levels of progress. Some suggestions for next steps are provided below.

- Continue to measure progress in local technology implementation.

- Determine if changes need to be made to local technology plans as the result of new technologies, new approaches for delivering instruction and supporting students, and new partnerships and collaborations with various stakeholders.

- Continue to explore new uses for digital content, open source, and existing and emerging technology.

- Keep students in mind, understanding their needs and enthusiasm for bringing digital learning into schools and classrooms as well as into their homes.

Appendix

Teaching and Learning by Focus Area

Educator Preparation and Development by Focus Area

Leadership, Administration, and Instructional Support by Focus Area

Infrastructure for Technology by Focus Area

Appendix A: Teaching and Learning by Focus Area

Profile indicators are organized and reported according to six focus areas in Teaching and Learning: Patterns of Classroom Use (TL1); Frequency/Design of Instructional Setting Using Digital Content (TL2); Content Area Connections (TL3); Technology Applications TEKS Implementation (TL4); Student Mastery of Technology Application (TL5); and Online Learning (TL6). Focus area scores in the key area of Teaching and Learning are provided in the charts that follow.

TL1—Patterns of Classroom Use

The Patterns of Classroom Use (TL1) focus area responses are primarily in Advanced Tech. The Advanced Tech level uses technology in teacher-led and student-centered learning to collaborate and develop higher-order thinking skills.

TL2—Frequency/Design of Instructional Setting Using Digital Content

The Frequency/Design of Instructional Setting Using Digital Content (TL2) focus area responses are primarily at the Advanced Tech level. At the Advanced Tech level, most teachers have regular weekly access and use of technology and digital resources in various instructional settings

TL3—Content Area Connections

TL4—Technology Application (TA) TEKS Implementation

The Content Area Connections (TL3) focus area responses are primarily at the Advanced Tech level. At this level, most teachers incorporate technology in their subject area TEKS, and classroom applications of technology support the development of higher-order thinking skills and encourage collaboration.

The Technology Applications TEKS Implementation (TL4) focus area responses are primarily at the Developing Tech level. In this area at K–8, teachers are aware of the technology applications TEKS appropriate to content areas and regularly include technology skills in planning and implementing instruction. At grades 9–12, at least four technology applications courses are offered, and two are taught.

TL5—Student Mastery of Technology Applications (TA) TEKS

TL6—Online Learning

The Student Mastery of Technology Applications (TL5) focus area responses are primarily at the Developing Tech level. At the Developing Tech level, Technology Applications TEKS are mastered by 26–50% of the students.

The Online Learning (TL6) focus area responses are primarily in the Developing Tech level. At the Developing Tech level, most teachers customize several web-based lessons that include online TEKS-based content, resources, learning activities, and interactive communication that support learning objectives.

The data above reflects survey responses provided by individual teachers and campuses. For districts that opted to report data at the district level for the 2015–2016 school year, district-level results follow. For the charts below, progress levels are designated by 1–4, with 1=Early Tech, 2=Developing Tech, 3=Advanced Tech, and 4=Target Tech.

TL1—Patterns of Classroom Use
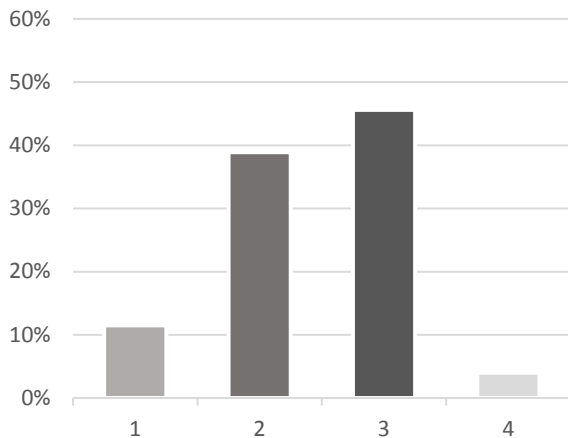
TL2—Frequency/Design of Instructional Setting Using Digital Content
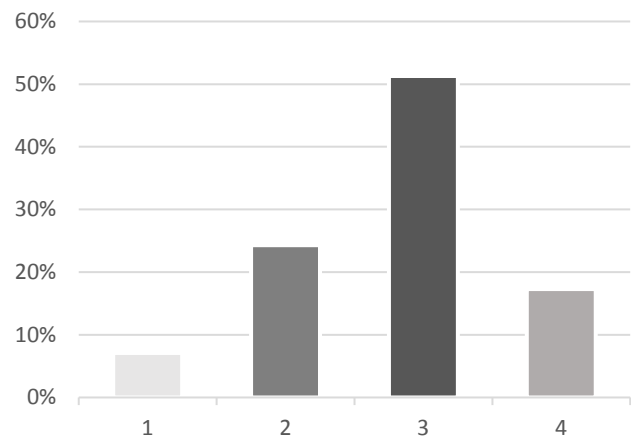
The Patterns of Classroom Use (TL1) focus area responses are primarily at Advanced Tech. The Advanced Tech level indicates use of technology in teacher-led and student-centered learning to collaborate and develop higher-order thinking skills.

The Frequency/Design of Instructional Setting Using Digital Content (TL2) focus area responses are primarily at the Advanced Tech level. At the Advanced Tech level, most teachers have regular weekly access and use of technology and digital resources in various instructional settings.

TL3—Content Area Connections
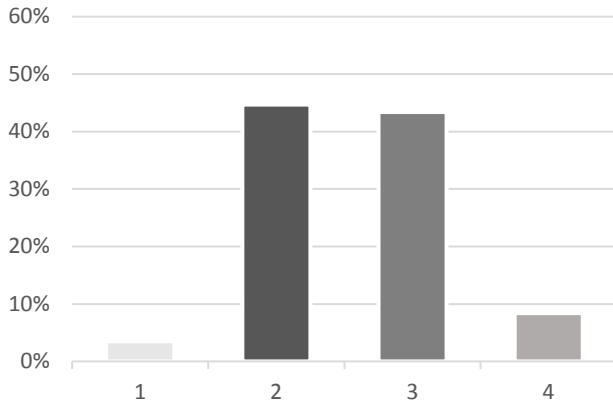
The Content Area Connections (TL3) focus area responses are primarily in progress level 2, Developing Tech. At this level, teachers use technology to support content objectives. A large number responses are also at level 3, Advanced Tech. At the Advanced Tech level of progress, teachers incorporate technology in subject area TEKS and use technology to develop higher order thinking skills.

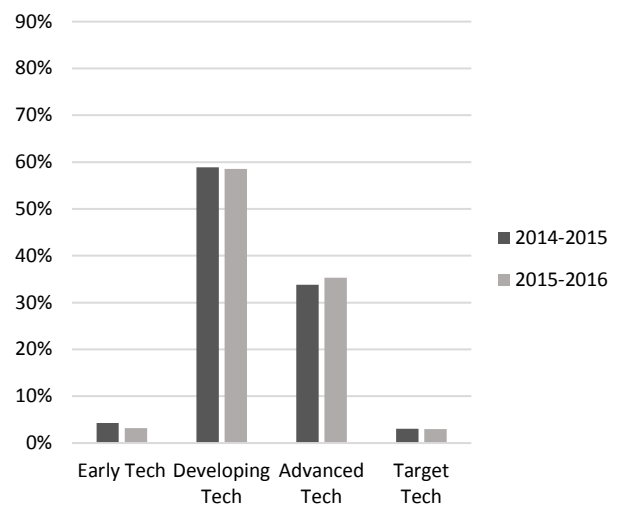### TL4—Technology Applications (TA) TEKS Implementation
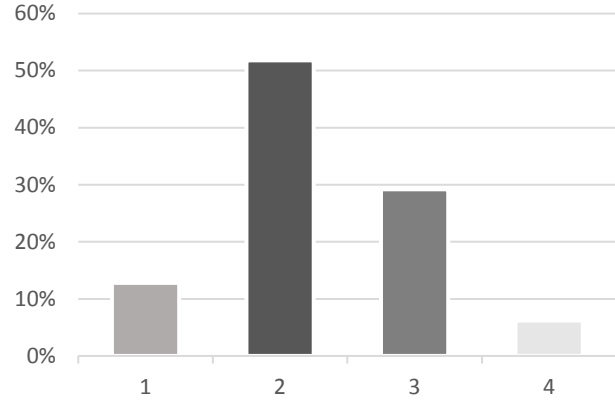
The Technology Applications TEKS Implementation (TL4) focus area responses are primarily at the Developing Tech level. In this area at grades K–8, teachers are aware of the technology applications TEKS appropriate to content areas and regularly include technology skills in planning and implementing instruction. At grades 9–12, at least four technology applications courses are offered and two are taught.

TL5—Student Mastery of Technology Applications (TA) TEKS
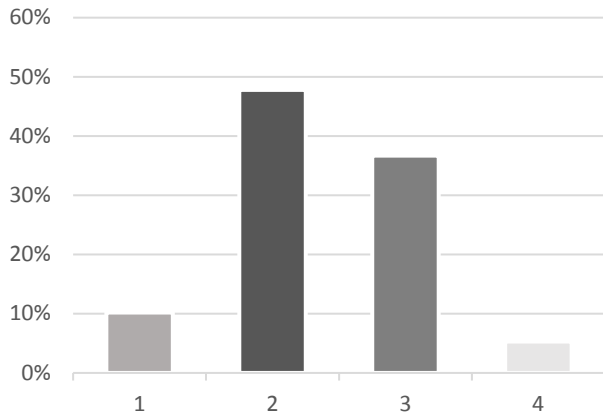
The Student Mastery of Technology Applications (TL5) focus area responses are primarily at the Developing Tech level. At the Developing Tech level, Technology Applications TEKS are mastered by 26–50% of the students.

TL6—Online Learning
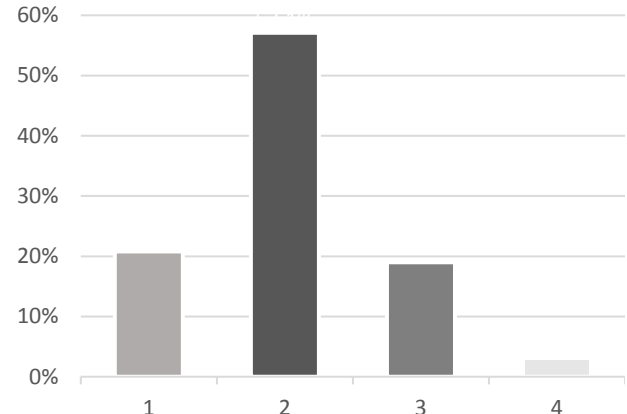
The Online Learning (TL6) focus area responses are primarily in the Developing Tech level. At the Developing Tech level, most teachers customize several web-based lessons that include online TEKS-based content, resources, learning activities, and interactive communication that support learning objectives.

Appendix B: Educator Preparation and Development by Focus Area

Profile indicators are organized and reported according to six focus areas in Educator Preparation and Development: Content of Professional Development (EP1); Models of Professional Development (EP2); Capabilities of Educators (EP3); Access to Professional Development (EP4); Levels of Understanding and Patterns of Use (EP5); and Professional Development for Online Learning (EP6). Focus area scores in the key area of Educator Preparation and Development are explained in the following charts.

EP1—Content of Professional Development

The Content of Professional Development (EP1) focus area shows little change over the two school years. Most campuses are at the Developing Tech level where they focus most professional development on the integration of technology into content areas and use technology to improve productivity.

EP2—Models of Professional Development

The Models of Professional Development (EP2) shows a slight increase at the Developing Tech level and a decrease at the Advanced Tech level. At the Developing Tech level, campuses provide large-group professional development sessions that focus on increasing teacher productivity and building capacity.

EP3—Capabilities of Educators

EP4—Access to Professional Development

The Capabilities of Educators (EP3) shows a slight decrease at the Developing Tech level and a slight increase at the Advanced Tech level. Most campuses report that their educators fall in Developing Tech, which indicates mastery of two to three Technology Applications Educator Standards. At Advanced Tech, most teachers are able to demonstrate proficiency in four standards.

The Access to Professional Development (EP4) falls primarily at the Developing Tech level. At the Developing Tech level, campuses report that there are 9–18 hours for technology professional development available per school year. Advanced Tech signifies 19–29 hours of technology professional development.

EP5—Levels of Understanding and Patterns of Use
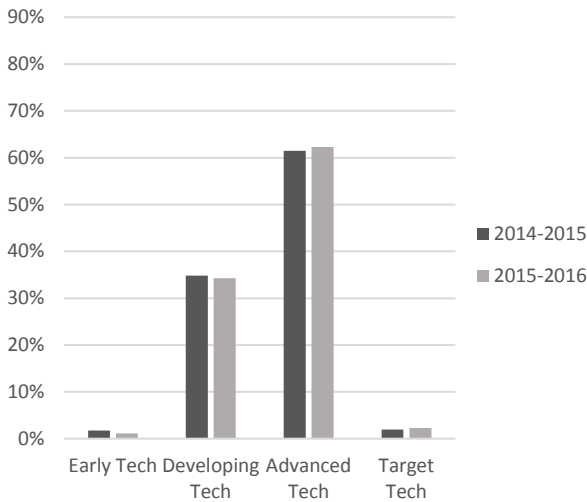
The Levels of Understanding and Patterns of Use (EP5) are predominantly at the Advanced Tech level. The Advanced Tech level indicates most teachers use technology as a tool in and across content areas to enhance learning.

EP6—Professional Development for Online Learning
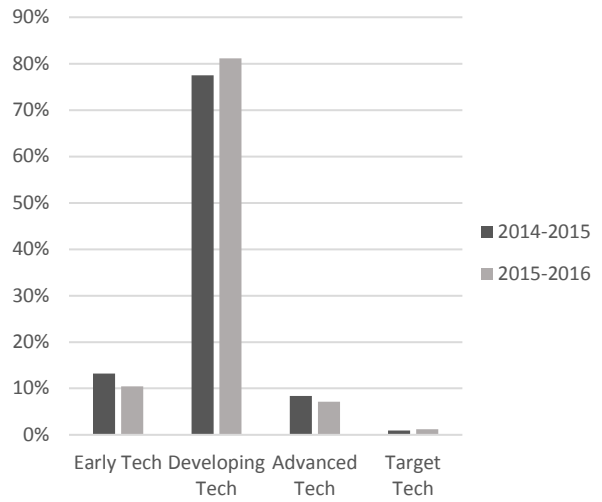
The Professional Development for Online Learning (EP6) focus area falls heavily at the Developing Tech level. At the Developing Tech level, campuses report that most teachers have participated in professional development on the customization of online courses or content for appropriate subject areas.

The data above reflects survey responses provided by individual teachers and campuses. For districts that opted to report data at the district level for the 2015–2016 school year, district-level results follow. For the charts below, progress levels are designated by 1–4, with 1=Early Tech, 2=Developing Tech, 3=Advanced Tech, and 4=Target Tech.

EP1—Professional Development Experiences

TL2-Frequency/Design of Instructional Setting Using Digital Content
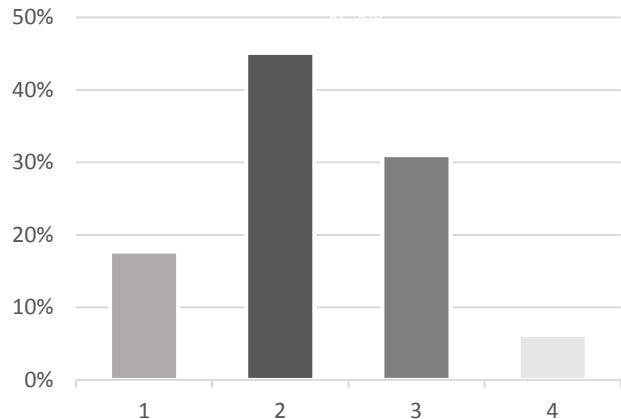
The Professional Development Experiences (EP1) focus area responses are primarily in Developing Tech. Most teachers have completed professional development on the integration of technology specific to their content area and how to increase productivity to accomplish a variety of instruction and management tasks.

The Models of Professional Development (EP2) focus area responses are primarily in Developing Tech. Campuses provide large-group professional development sessions that focus on teacher productivity and technology integration into content areas and include follow-up to facilitate implementation.

EP3—Capabilities of Educators
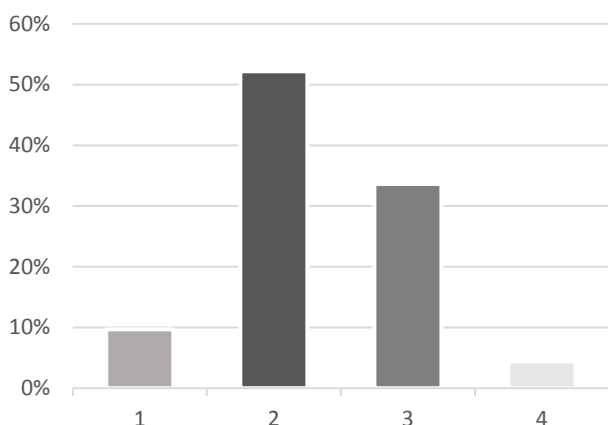
The Capabilities of Educators (EP3) focus area responses are primarily in Developing Tech. Most of the teachers demonstrate proficiency in two to three of the SBEC technology applications standards.

EP4—Access to Professional Development
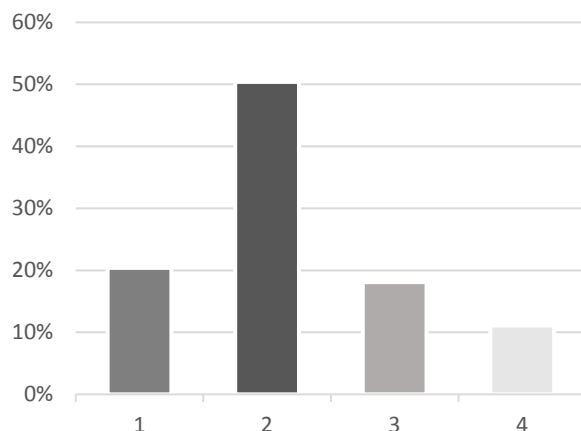
The Access to Professional Development focus area responses are primarily in Developing Tech. At the Developing Tech level, campuses report that 9–18 hours of technology professional development are available per school year.

EP5—Levels of Understanding and Patterns of Use
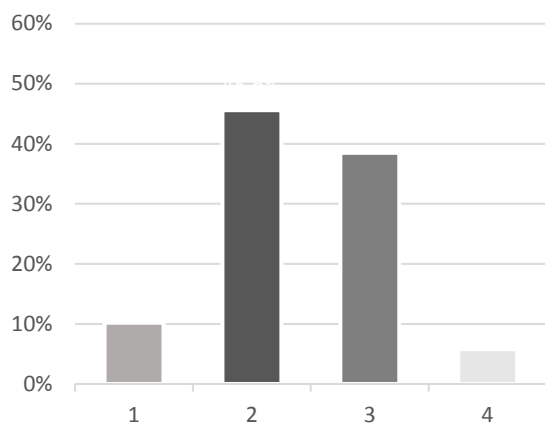
The Levels of Understanding and Patterns of Use focus area responses are primarily in Developing Tech. Most teachers adapt technology knowledge and skills for content area instruction.
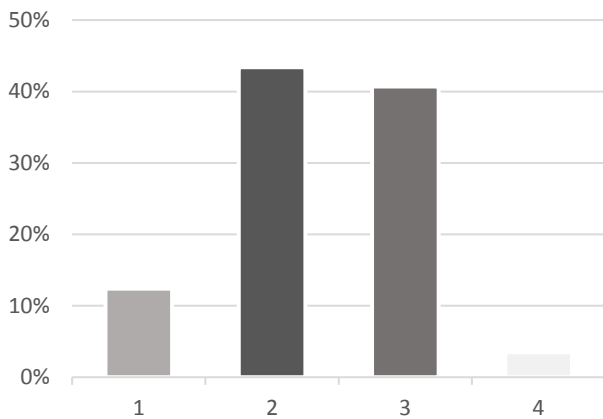
EP6—Professional Development for Online Learning
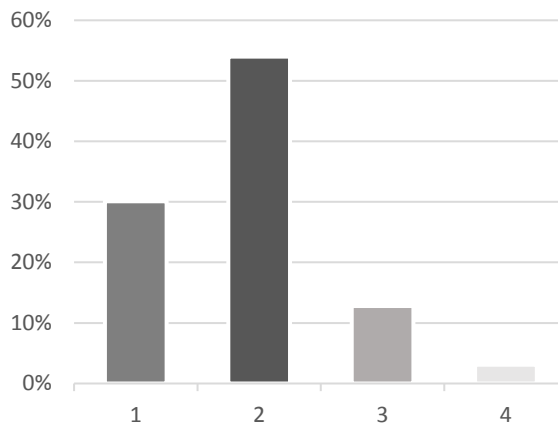
The Professional Development for Online Learning focus area responses are primarily in Developing Tech. Most teachers have participated in professional development on the customization of online courses or content for appropriate subject area.

Appendix C: Leadership, Administration, and Instructional Support by Focus Area

Profile indicators are organized and reported according to six focus areas in Leadership, Administration, and Instructional Support: Leadership and Vision (L1); Planning (L2); Instructional Support (L3); Communication and Collaboration (L4); Budget (L5); and Leadership and Support for Online Learning (L6). Focus area scores in the key area of Leadership, Administration, and Instructional Support are provided in the following charts.

L1—Leadership and Vision

The majority of campus responses in Leadership and Vision (L1) continue to fall in the Advanced Tech area. At the Advanced Tech level, leadership communicates and implements a shared vision and obtains buy-in for comprehensive integration of technology leading to increased student achievement.

L2—Planning

The majority of campus responses in Planning (L2) fall in Developing Tech, closely followed by Advanced Tech. Planning at the Developing Tech level includes the development of several technology goals and objectives that are incorporated into the Campus Improvement Plan. The Advanced Tech level adds the component of having a leadership team that sets annual benchmarks for technology standards.

L3—Instructional Support

The majority of campus responses in Instructional Support (L3) fall at the Developing Tech level. Instructional Support at the Developing Tech level includes providing regular access to instructional support for the use of technology in content areas.

L4—Communication and Collaboration

The majority of campus responses for Communication and Collaboration (L4) are in Advanced Tech. The Advanced Tech level indicates that campuses use current information tools and systems for communication, management of schedules and resources, performance assessment, and professional development.

L5—Budget

The majority of campus responses in the Budget (L5) focus area are at Advanced Tech. Budget at the Advanced Tech level indicates that the campus uses discretionary funds and other resources to advance implementation of most of the technology strategies to meet the goals and objectives outlined in the campus improvement plan.

L6—Leadership and Support for Online Learning

The majority of campus responses in Leadership and Support for Online Learning (L6) are in Advanced Tech. At the Advanced Tech level, online learning is encouraged and supported through professional development, and goals for online learning are developed for the campus improvement plan. At the high school level, online for-credit courses are available to students who meet a variety (more than two) of specific circumstances.

The data above reflects survey responses provided by individual teachers and campuses. For districts that opted to report data at the district level for the 2015–2016 school year, district-level results follow. For the charts below, progress levels are designated by 1–4, with 1=Early Tech, 2=Developing Tech, 3=Advanced Tech, and 4=Target Tech.

L1—Leadership and Vision

The majority of responses in Leadership and Vision (L1) are at the Developing Tech level. At the Developing Tech level, campus leadership develops a shared vision and begins to build buy-in for comprehensive technology integration.

L2—Planning

The majority of responses in Planning (L2) are at the Developing Tech level. At the Developing Tech level, each campus has several technology goals and objectives incorporated into the campus improvement plan.

L3—Instructional Support

The majority of responses in Instructional Support (L3) are at the Developing Tech level. At the Developing Tech level, each campus provides regular access to instructional support for the integration and use of technology in content areas.

L4—Communication and Collaboration
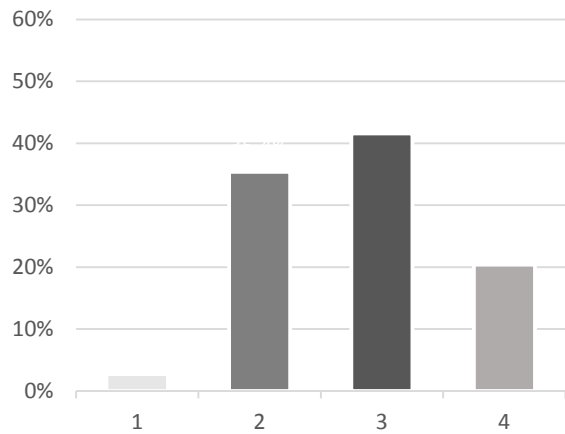
The majority of responses for Communication and Collaboration (L4) are at the Advanced Tech level. The Advanced Tech level indicates that campuses use current information tools and systems for communication, management of schedules and resources, performance assessment, and professional development.
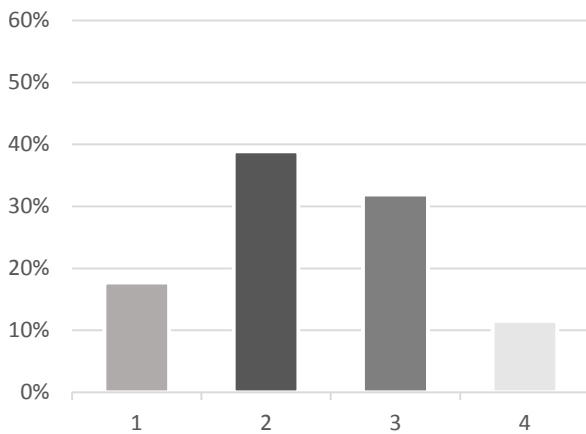
L5—Budget

The majority of district responses in the Budget (L5) focus area are in Developing Tech. Budget at the Developing Tech level indicates that discretionary funds and other resources are allocated to advance implementation of some technology strategies to meet goals and objectives outlined in the campus improvement plan.

L6—Leadership and Support for Online Learning
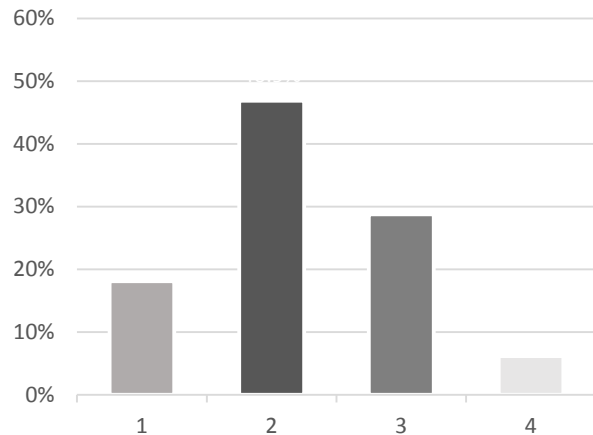
The majority of district responses in Leadership and Support for Online Learning (L6) are in Developing Tech. For grades K–8, campuses use online learning, and educators collaborate on the integration of online learning into the curriculum. For grades 9–12, online for-credit courses are available to meet individual learning needs in a limited number (1–2) of specific circumstances.

Appendix D: Infrastructure for Technology by Focus Area

Profile indicators are organized and reported according to six focus areas in Infrastructure: Students per Computer (INF1); Internet Access Connectivity/Speed (INF2); Other Classroom Technology (INF3); Technical Support (INF4); Local Area Network/Wide Area Network (INF5); and Distance Learning Capacity (INF6). Focus area scores in the key area of Infrastructure are provided in the charts that follow.
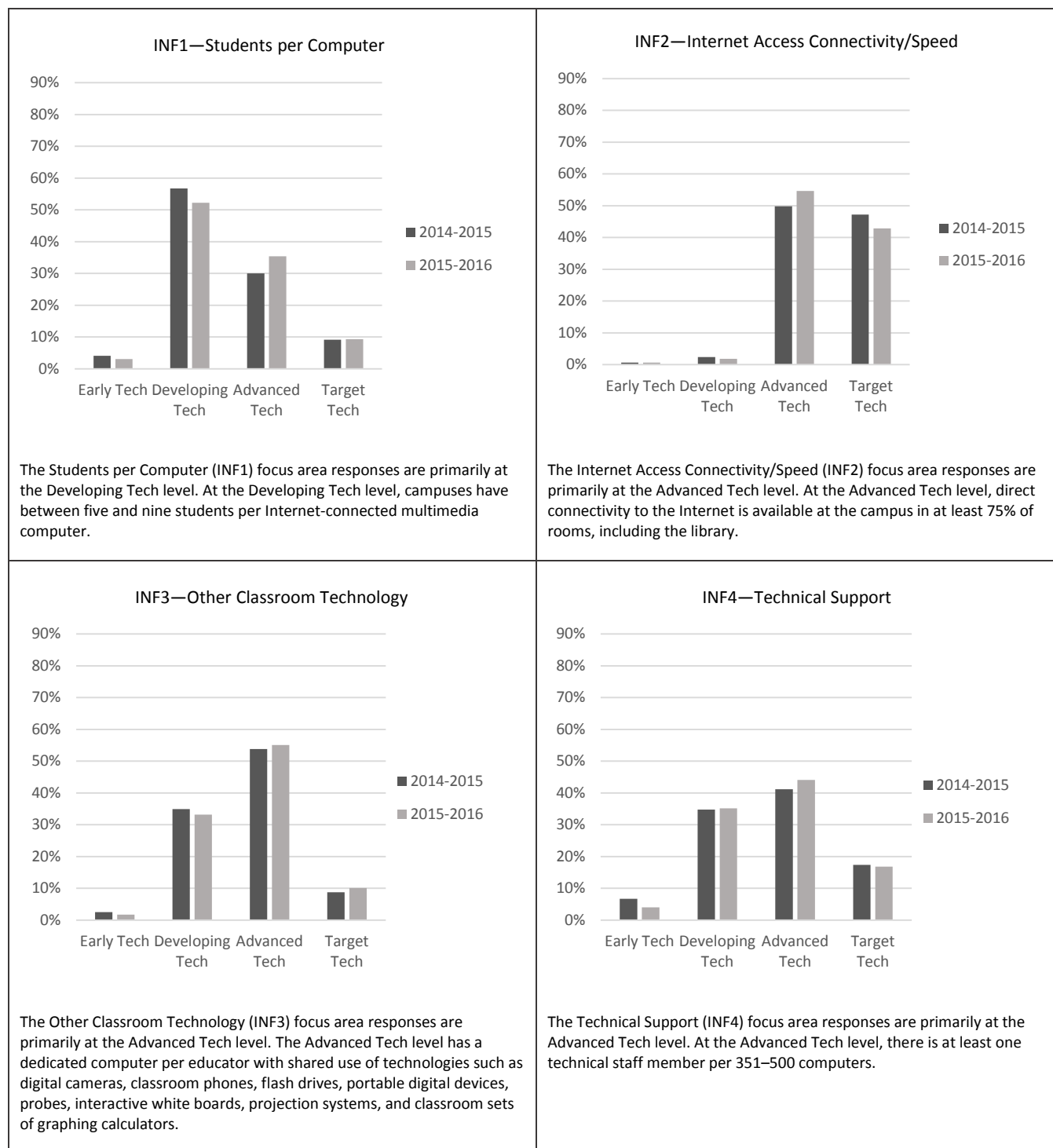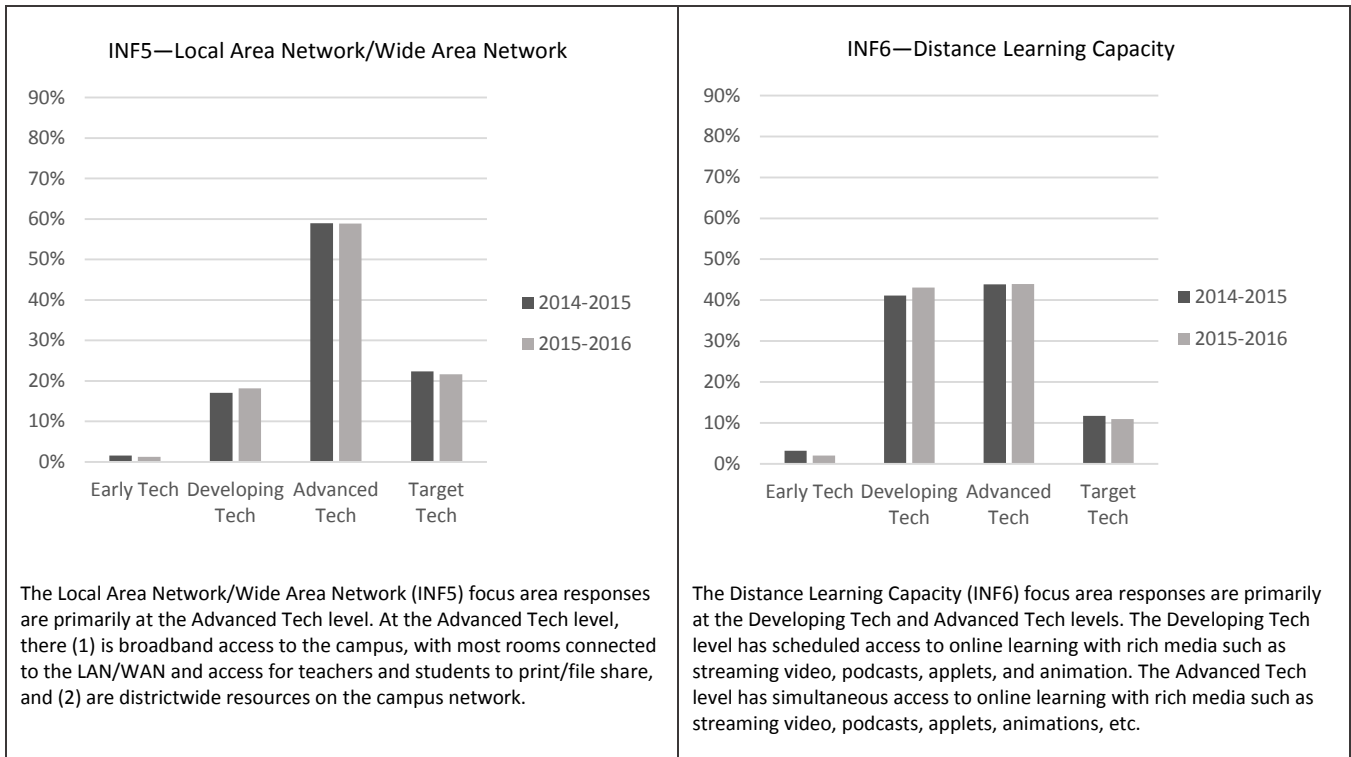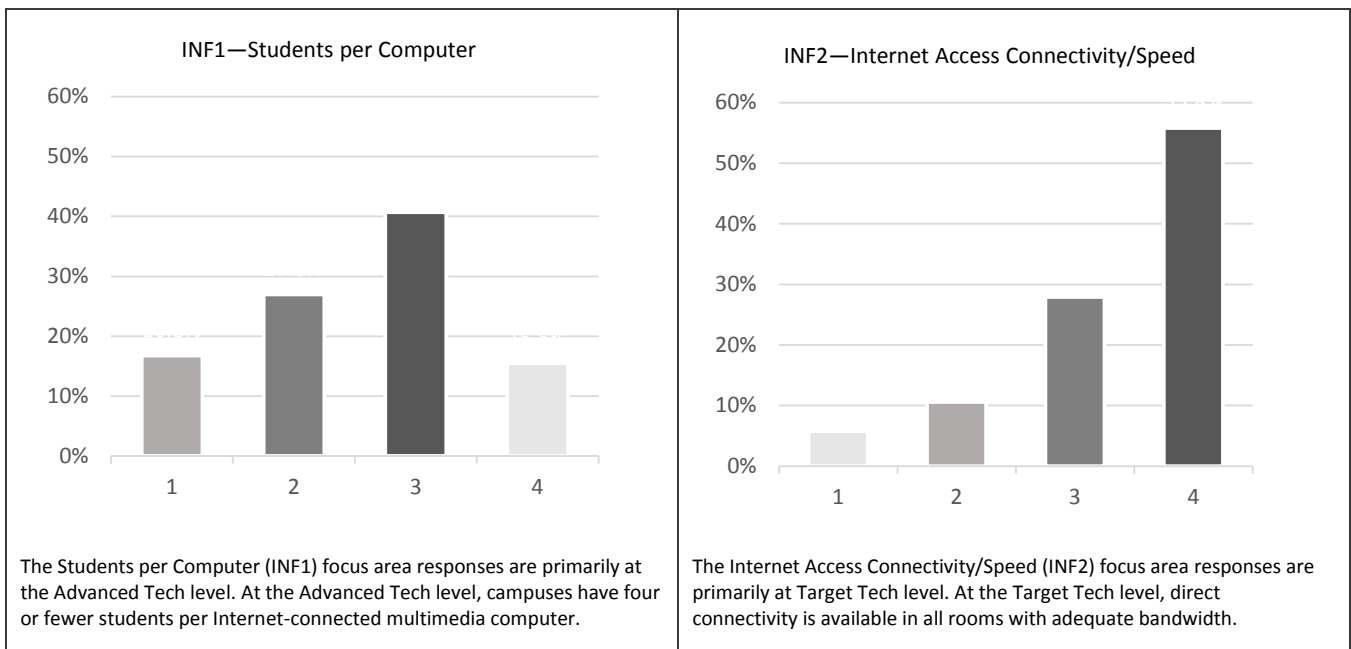

INF1—Students per Computer

The Students per Computer (INF1) focus area responses are primarily at the Developing Tech level. At the Developing Tech level, campuses have between five and nine students per Internet-connected multimedia computer.

INF2—Internet Access Connectivity/Speed

The Internet Access Connectivity/Speed (INF2) focus area responses are primarily at the Advanced Tech level. At the Advanced Tech level, direct connectivity to the Internet is available at the campus in at least 75% of rooms, including the library.

INF3—Other Classroom Technology

The Other Classroom Technology (INF3) focus area responses are primarily at the Advanced Tech level. The Advanced Tech level has a dedicated computer per educator with shared use of technologies such as digital cameras, classroom phones, flash drives, portable digital devices, probes, interactive white boards, projection systems, and classroom sets of graphing calculators.

INF4—Technical Support

The Technical Support (INF4) focus area responses are primarily at the Advanced Tech level. At the Advanced Tech level, there is at least one technical staff member per 351–500 computers.

INF5—Local Area Network/Wide Area Network

The Local Area Network/Wide Area Network (INF5) focus area responses are primarily at the Advanced Tech level. At the Advanced Tech level, there (1) is broadband access to the campus, with most rooms connected to the LAN/WAN and access for teachers and students to print/file share, and (2) are districtwide resources on the campus network.

INF6—Distance Learning Capacity

The Distance Learning Capacity (INF6) focus area responses are primarily at the Developing Tech and Advanced Tech levels. The Developing Tech level has scheduled access to online learning with rich media such as streaming video, podcasts, applets, and animation. The Advanced Tech level has simultaneous access to online learning with rich media such as streaming video, podcasts, applets, animations, etc.
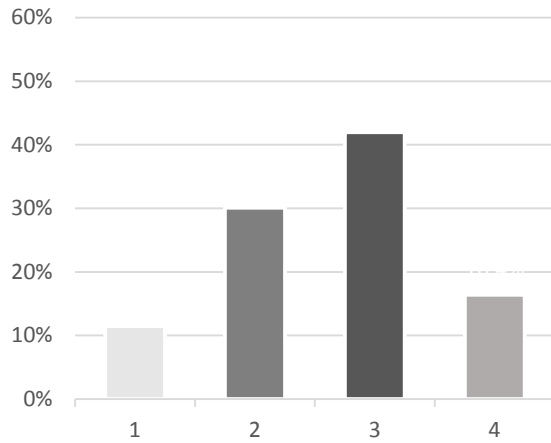
The data above reflects survey responses provided by individual teachers and campuses. For districts that opted to report data at the district level for the 2015–2016 school year, district-level results follow. For the charts below, progress levels are designated by 1–4, with 1=Early Tech, 2=Developing Tech, 3=Advanced Tech, and 4=Target Tech.

INF1—Students per Computer

The Students per Computer (INF1) focus area responses are primarily at the Advanced Tech level. At the Advanced Tech level, campuses have four or fewer students per Internet-connected multimedia computer.

INF2—Internet Access Connectivity/Speed

The Internet Access Connectivity/Speed (INF2) focus area responses are primarily at Target Tech level. At the Target Tech level, direct connectivity is available in all rooms with adequate bandwidth.

INF3—Other Classroom Technology

The Other Classroom Tech (INF3) focus area responses are primarily at the Advanced Tech level. The Advanced Tech level has a dedicated computer per educator with assigned use of technologies such as digital cameras, classroom phones, flash drives, portable digital devices, probes, interactive white boards, projection systems, and classroom sets of graphing calculators.

INF4—Technical Support
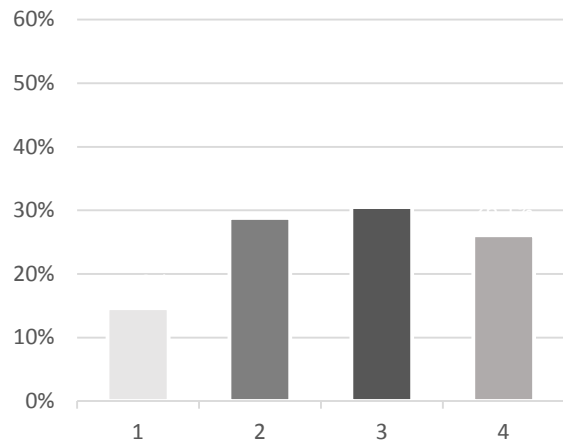
The Technical Support (INF4) focus area responses are primarily at the Advanced Tech level. At the Advanced Tech level, there is at least one technical staff member for every 351–500 computers. An almost equal number of districts reported progress at the Developing Tech level. At the Developing Tech level, there is at least one technology staff member for every 501–750 computers.

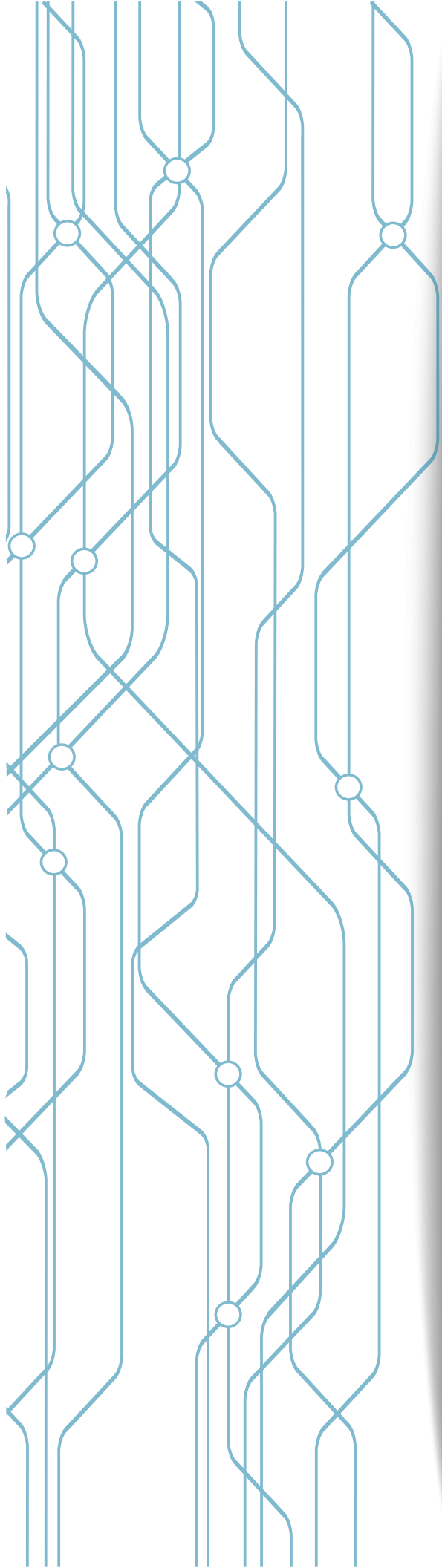## INF5—Local Area Network Wide Area Network
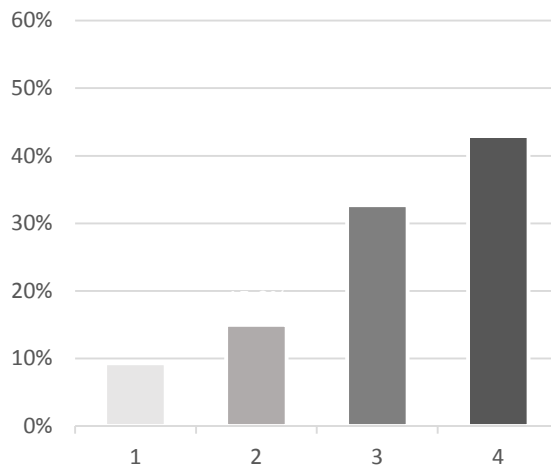
The Local Area Network Wide Area Network (INF5) focus area responses are primarily at the Target Tech level. At the Target Tech level, all rooms are connected to a robust LAN/WAN that allows for easy access to multiple district-wide resources for students, teachers, and administrators, such as video streaming, desktop videoconferencing, online assessment, and data access.

INF6—Distance Learning Capacity
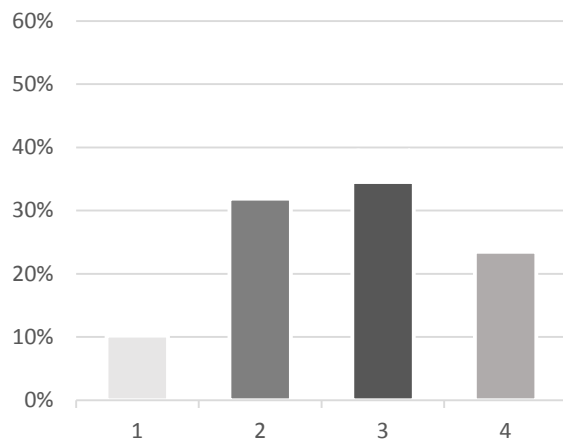
The Distance Learning Capacity (INF6) focus area responses are primarily at the Advanced Tech level. At the Advanced Tech level, students have simultaneous access to online learning with rich media such as streaming video, podcasts, applets, animation, etc.