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Oklahoma State Department of Education

Technology Planning

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Developing a Technology Plan

- ❁ Developing a technology plan for technology integration means more than providing a means for the acquisition of hardware or software.
- ❁ It must promote meaningful learning and collaboration, provide needed professional development (PD) and support, and built-in mechanisms for flexibility.

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School Improvement

- ❁ Ideally, the technology plan should compliment and support your school improvement plan.
- ❁ As part of the school improvement plan, technology should support the curricular goals of the school.

Not an end....but a tool

- Technology is not an end in itself, nor an add-on.
- Technology is a tool for improving and transforming teaching and learning.

Three Generations of Planning

- Acquisition
- Integration
- Transformation

Transformation

- Facilitating the changes in teaching and learning from teacher-centered to student-centered
- From passive receipt of information to active exploration of knowledge

enGauge Model - North Central Regional Educational Laboratory (NCREL)



- Planning based on self-assessment
- Built around six essential conditions

enGauge - 6 Essential Conditions

- VISION - digital-age vision for teaching and learning
- PRACTICE - effective teaching and learning practices
- PROFICIENCY - educator proficiency in the use of effective teaching and learning practices, especially in the application of Ed Tech practices

enGauge - 6 Essential Conditions

- EQUITY - infrastructure and practices needed to eliminate the 'digital divide'
- ACCESS - access to information, resources, tools, and learning anywhere, anytime
- SYSTEMS - systems of leadership, organization, process, and planning

Vision

🍷 Digital-Age Vision for Learners

🍷 Does the vision define what it means to be "educated" in a knowledge-based society? Does it describe the type of learning organization required to achieve the vision?

Vision

🍷 Based in Research and Best Practices

🍷 Is the vision for technology use grounded in sound research on how people think and learn, and how technology influences and adds value to these processes?

Vision

🍷 Community Linkages

🍷 Does the vision recognize the links that technology has created to local and global communities as critical partners and stakeholders in the teaching and learning process? Does it capitalize on the potential benefits from and contributions to both the learners and the community?

Vision

Stakeholder Commitment

Were all stakeholders involved in creating the vision? Is the vision understood and committed to by the full range of stakeholders? Are school, district, and community leaders formally committed to implementing the vision?

Vision

Communication

Do the district and the schools effectively communicate the vision to students, staff, and the community?

Effective Teaching and Learning Practices

Learning Environment

Do the school and classroom cultures engage and motivate students, honor individual differences, support innovation, and endeavor to meet the learning needs of all students?

Effective Teaching and Learning Practices

- Based in Research and Best Practices
- Is technology use based on both high-impact, research-based practice and field-based best practices that are shown to add value to learning?

Effective Teaching and Learning Practices

- Alignment With the Vision
- Are content, instruction, vision, and assessment aligned to take full advantage of technology for learning?

Effective Teaching and Learning Practices

- Relevance
- Are students working on substantive projects that address meaningful issues and reach beyond the classroom to real-world practice?

Effective Teaching and Learning Practices

- Range of Use
- Do students have opportunities to use a range of technologies (e.g., learning, productivity, visualization, research, and communication tools) to support their learning?

Educator Proficiency

- Cultivation of Digital-Age Skills and Processes
- Do educators understand the span of skills and processes that students need to succeed in the Digital Age? Do they have the strategies for implementing and assessing those skills?

Educator Proficiency

- Planning and Design
- Are educators skilled in designing teaching strategies and learning environments to maximize the impact technology has on learning?

Educator Proficiency

- Implementation of Technology-Supported Learning
- Are educators prepared to use a variety of technology-supported strategies for teaching and learning to meet the needs of students?

Educator Proficiency

- Assessment Literacy
- Are educators prepared to apply technology in support of the assessment process? Are they prepared to apply new forms of assessment to the products of technology-supported learning?

Educator Proficiency

- Professional Practice and Productivity
- Are educators prepared to use technology to increase professional productivity and gain enriched access to professional resources?

Educator Proficiency

- Social, Ethical, and Legal Issues
- Are educators prepared to guide students as they deal with the social, ethical, and legal issues related to life in a technological world?

Digital-Age Equity

- Socioeconomic Equity
- Have the school and district ensured that socioeconomic status is not a barrier to readiness for the Digital Age?

Digital-Age Equity

- Gender Equity
- Have the school and district ensured that male and female students are equally well prepared to live and work in the Digital Age?

Digital-Age Equity

♣️ Racial Equity

- ♣️ Have the school and district ensured that students of all races are equally well prepared to live and work in the Digital Age?

Digital-Age Equity

♣️ Special Needs Equity

- ♣️ Are school and district staff familiar with assistive technologies? Are they prepared to identify and use these technologies where appropriate?

Digital-Age Equity

♣️ Systemwide Equity

- ♣️ Do all students have access to a range of high-quality technology uses within the curriculum, regardless of the school or classroom they attend?

Access

- Technology Resources
- Are equipment and digital resources strategically deployed and sufficient to meet the needs of learners and educators?

Access

- Connectivity
- Does the telecommunications infrastructure provide appropriate, robust communication from every learning setting? Does that access extend beyond the school day and outside the school facility?

Access

- Technical Support
- Does the school or district provide adequate and timely support for hardware, software, and instructional application?

Access

- Technology-Ready Facilities
- Do school facilities support connectivity and intensive technology use for learning? Does consideration of such use guide all renovation and new construction?

Access

- Virtual Learning Opportunities
- Does the district address unfulfilled learning needs of students by providing high-quality, technology-enriched learning opportunities and online access to digital content for students and teachers during and beyond the school day/environment?

Access

- Administrative Processes and Operations
- Is technology used strategically to improve administrative processes and operations?

Systems

🔥 Systems Thinking and Process Reengineering

- 🔥 Is the school or district transforming itself into a high-performance system driven by the digital-age learning needs of all students? Does the school or district have formal and informal processes to revise administrative policies and practices accordingly?

Systems

🔥 Digital-Age Standards and Assessments

- 🔥 Do student standards reflect digital-age proficiencies? Are curricula, instruction, and assessments aligned with these standards?

Systems

🔥 Culture of Learning and Innovation

- 🔥 Is innovation, with and without technology-supported, encouraged, and actively developed through policies and informal action? Do policymakers use funding, perks, waivers, and special opportunities to provide incentives for schools and educators to innovate?

Systems

- ♣ Community Connections
- ♣ Do formal technology-related structures and processes engage parents, community members, school faculty, and learners in meaningful exchanges, interactions, and partnerships that advance the vision?

Systems

- ♣ Administrator Proficiency
- ♣ Are administrators prepared to use technology effectively? Are they prepared to work with colleagues to guide their school system toward more effective uses of technology in teaching, learning, and managing?

Systems

- ♣ Professional Development
- ♣ Does the school and the district provide comprehensive professional growth opportunities for teachers, administrators, and other staff that build their capacity to advance the vision? Is the effectiveness of professional development linked to student performance?

Systems

- Data-Driven Decision Making and Accountability
- Has the school or district established the metrics and benchmarks for effective uses of technology at the student, educator, and systems levels?

Systems

- Does the school or district collect and analyze data to track progress and correlate findings? Is decision making at all levels informed and influenced by the results?

Systems

- Comprehensive, Prioritized Funding
- Does the school or district address the full cost of technology as a regular part of district/school budgeting?

Systems

Is funding prioritized to promote equity across and within schools to establish high-impact, student-centered uses of technology and to provide the support systems necessary to sustain them?

Underlying Principles of enGauge - 1

The challenge is bigger than technology. It is about the redefinition of what it means to be educated in a knowledge-based, digital age. This redefinition should be the single driver in reengineering the schools. —think students! think systems!

Underlying Principles of enGauge - 2

All students can learn. Technology brings new approaches to teaching and learning never before possible, providing new ways to reach and engage all students.

Underlying Principles of enGauge - 3

• The research is clear. Emerging brain research and cognitive learning theory indicate that students learn better when they are actively engaged. Interactive technologies support such engagement.

Underlying Principles of enGauge - 4

• While some applications of technology are effectively using didactic teaching methods, most technology interventions are enhanced significantly when accompanied by approaches to learning that more actively engage students.

Underlying Principles of enGauge - 5

• Digital equity is dependent on all children having access to—and being ready to use—engaging technology-supported learning opportunities.

Underlying Principles of enGauge - 5

♣ This requires the scaling of successful prototypes across classrooms, buildings, school districts, and regions in ways that build the capacity of local educators to adapt and shape the prototypes as they are incorporated into local schools.

Underlying Principles of enGauge - 6

♣ Strong, informed, insightful leadership in learning technology makes or breaks effective uses of technology in schools.

Underlying Principles of enGauge - 7

♣ Alignment of goals, curriculum, instruction, assessment, and technology use is vital to the effective use of technology in schools. If it is not measured, it will not be systematically addressed with all children.

Underlying Principles of enGauge - 8

It is important that multiple measures of student performance and achievement include student uses of technology in the context of the academic content standards. If it is not measured, it will not be systematically addressed with all children.

Underlying Principles of enGauge - 9

Given the accelerating pace of today's digital age, schools must become learning organizations that build the capacity of individuals (educators and learners) to make sound, wise choices guided by a common vision.

Underlying Principles of enGauge - 10

Schools will need a "next generation" professional development system that uses the technology to cost-effectively engage teachers and others in ongoing, everyday professional development tightly linked to student learning.

Other Frameworks

- ♣ CEO Forum STAR Charts and Annual Reports (Based on the U.S. Department of Education's Four Pillars) By CEO Forum
- ♣ Computer-Based Technology and Learning: Evolving Uses and Expectations By NCREL
- ♣ Seven Dimensions for Gauging Progress By Milken

Other Frameworks

- ♣ EDvancenet By NSBA, CoSN & TCI
- ♣ Plugging In By NCREL
- ♣ Schools Matrix By the State of Minnesota
- ♣ TAGLIT- Principals Academy in North Carolina By Sheila Cory

Other Frameworks

- ♣ Schools Matrix By the State of Minnesota
- ♣ <http://www.ncrel.org/engage/intro/compare/compare.htm>

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

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♣ “An outline of the SEA’s long-term strategies for improving student academic achievement, including technology literacy, through the effective use of technology in classrooms throughout the State, including through improving the capacity of teachers to integrate technology effectively into curricula and instruction.”

♣ <<http://www.ed.gov/programs/edtech/legislation.html>>

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

Key Questions to Consider

- ♣ How can technology be used to support the improved academic achievement, including technology literacy, of ALL students?
- ♣ What strategies will you use to improve teachers’ capacity to integrate technology effectively into curriculum and instruction?

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

- ♣ Use technology in support of student learning in key content areas by linking to existing district or school initiatives.
- ♣ Process Writing
 - ♣ Webbing and Concept Mapping (Inspiration Software)
 - ♣ Portable Smart Keyboards, Handheld Devices

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

- ♣ Mathematics, Data Organization and Interpretation
 - ♣ Databases
 - ♣ Spreadsheets
 - ♣ Java-Based Manipulatives

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

- ♣ Early Literacy Initiatives
 - ♣ Technologies that incorporate reading, writing, speaking, listening (Wiggleworks, Reader Rabbit, JumpStart)

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

District leaders can use technology tools to collect, organize, analyze, disaggregate, and report on student achievement data

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

- Doing so offers tremendous opportunity to identify strengths and weaknesses in curriculum and instruction.
- Spreadsheets, relational databases, student information systems
- Involve teachers in the process of looking at student performance data to inform curriculum and instruction decisions and practice.

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

Teachers can use Personal Digital Assistants PDAs and handheld computing devices to assist in classroom assessments.

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

- Using technology to support different learning styles and meet the needs of all learners in the district.

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

- Multiple means of expression**
 - multimedia presentation tools
- Multiple means of engagement**
 - simulations, online manipulatives, content-based software
- Multiple means of representation**
 - digital images, digital sounds, animation, text-speech

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

- Increased Teacher Capacity**
- Consider providing on-site technical and instructional support for the integration of technology.

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

- Professional Development is essential to ensure that teachers are able to choose the most appropriate technologies and instructional strategies to meet district curriculum goals and student learning needs.
- “The primary reason teachers do not use technology is a lack of experience with the technology itself.” (Wenglinsky, 1998)

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

- Consider the importance of creating school conditions that support and encourage teachers as they work to develop basic technology skills and integration strategies.
- Reliable, Internet-connected workstations
- Presentation stations in classrooms

1. Strategies for Improving Academic Achievement and Teacher Effectiveness

- Ensure that district goals and expectation support teachers in their integration efforts.
- Aligning teacher evaluation systems and hiring practices with district technology goals and vision will support technology integration in the curriculum.

2. Goals

2. Goals

🍷 A description of the applicant's specific goals, aligned with challenging State standards, for using advanced technology to improve student academic achievement.

2. Goals

- 🍷 Primary goals of Enhancing Education Through Technology are:
- 🍷 To improve student achievement through the use of technology.
 - 🍷 Ensure that all students become technologically literate by the end of the 8th grade.

2. Goals

- ♣ Primary goals of Enhancing Education Through Technology are:
 - ♣ Promote effective integration of technology into on-going professional development
 - ♣ To advance research-based instruction through technology integrated curriculum development

2. Goals

- ♣ Goals should be concrete and measurable
- ♣ Must connect to professional development
- ♣ Must connect to resource coordination
- ♣ Must connect to academic achievement/ improvement
- ♣ Must take steps to increase accessibility

2. Goals

Key Questions to Consider

- ♣ How do your goals support local curriculum initiatives aligned with national and state content standards?
- ♣ How do your goals contribute to a comprehensive system that supports effective uses of technology and contributes to improved student achievement?

2. Goals

Key Questions to Consider

- ♣ How do your goals support the use of technology for ongoing professional development for teachers and administrators?

2. Goals

- ♣ Goal statements ought to be specific and clearly describe what you wish to accomplish so that specific action steps can be defined and outcomes measured.
- ♣ Goals could relate to professional development, curriculum development and integration, technology literacy, access, or student achievement.

2. Goals

- ♣ Sample Goals: Professional Development
- ♣ Our teachers will participate in online professional development to acquire instructional strategies and pedagogy necessary to facilitate learner-centered, standards-based curricula that integrate the use of technology tools.

2. Goals

- Our administrators will participate in professional development to acquire the tools and skills needed to analyze student achievement data.

2. Goals

- Sample Goals: Student Technology Literacy
- Our students will use technology resources for solving problems and making informed decisions in technology infused mathematics, science, social studies, and language arts classes.
- Our students will use technology enhanced research to locate, evaluate, and collect information from a variety of sources.

2. Goals

- Sample Goals: Access
- A ratio of one workstation to every three students will be established in each school in the districts in order to ensure access for learners to write and publish across the curriculum.

2. Goals

- Sample Goals: Curriculum Development and Integration
- Our elementary teachers will incorporate the use of technology tools such as text-to-speech and word processing hardware and software into the classroom in order to facilitate the writing process, promote creativity, and increase accessibility to text content.

3. Steps to Increase Accessibility

3. Steps to Increase Accessibility

- A description of the steps the applicant will take to ensure that all students and teachers have increased access to technology. The description must include how the applicant will use Ed Tech funds to help students in high-poverty and high-needs schools, or schools identified for improvement or corrective action under section 1116 of Title I, and to help ensure that teachers are prepared to integrate technology effectively into curricula and instruction.

3. Steps to Increase Accessibility

- ♣ Accessibility means more than just access to hardware, software, and the Internet.
- ♣ It includes training content, learner differences, and supportive environments for teachers and students.

3. Steps to Increase Accessibility

Key Questions to Consider

- ♣ Are your educators trained and encouraged in a supportive environment to utilize technology with content that will effectively enhance the achievement of all students, regardless of gender, socioeconomic status, race, ethnicity, or special needs?

3. Steps to Increase Accessibility

Key Questions to Consider

- ♣ Do your teachers have access to high quality content that is appropriate, relevant, and engaging for every student, regardless of gender, socioeconomic status, race, ethnicity, or special needs?

3. Steps to Increase Accessibility

Key Questions to Consider

- Do all of your students have positive, supportive learning opportunities that are hands-on experiences with technology resources and high-quality content?

3. Steps to Increase Accessibility

Accessibility Infrastructure

- Students per computer ratio: One student per computer
- Teacher per computer ratio: One computer per teacher

3. Steps to Increase Accessibility

- Replacement cycle: Computer replacement established for three years or less
- Internet Access: Internet in all rooms on all campuses, adequate bandwidth, easy access, wireless connectivity.

3. Steps to Increase Accessibility

- ♣ Accessibility: Meeting the needs of all learners
 - ♣ Universal Design for Learning (UDL)
 - ♣ Screen readers
 - ♣ Sound amplifiers
 - ♣ Hardware modifications

3. Steps to Increase Accessibility

- ♣ Equal access
- ♣ Culturally relevant resources
- ♣ Relevant content for males/females

4. Promotion of Curricula and Teaching That Integrate Technology

4. Promotion of Curricula and Teaching That Integrate Technology

- A description of how the applicant will identify and promote curricula and teaching strategies that integrate technology effectively into curricula and instruction, based on a review of relevant research and leading to improvements in student academic achievement.

4. Promotion of Curricula and Teaching That Integrate Technology

- A review of relevant research to justify strategies for effective technology integration shows mounting evidence that educational technology can have a positive impact of student achievement.
- The Center for Applied Research in Educational Technology (CARET) have web sites that provide ready access to some of the best available research.

4. Promotion of Curricula and Teaching That Integrate Technology

Key Questions to Consider

- How will you identify curricula and teaching strategies that integrate technology effectively and lead to improvement in student academic achievement?
- How will you promote the use of these curricula and teaching strategies that integrate technology effectively in your district?

4. Promotion of Curricula and Teaching That Integrate Technology

Identifying Curricula and Teaching Strategies

- Ideal time to plan for integration is during curriculum specific revision cycles.
- Specifically charge committees with selecting materials, technologies and strategies to support teaching and learning.

4. Promotion of Curricula and Teaching That Integrate Technology

- Technology Professional Development Specialist/ Integration Specialist focuses on supporting teachers in matching technology to curriculum needs. Makes best use of technology to maximize student learning.

4. Promotion of Curricula and Teaching That Integrate Technology

- Promoting Curricula and Teaching Strategies.
- Use both policy-oriented and support-oriented approaches.

4. Promotion of Curricula and Teaching That Integrate Technology

- ❁ Policy-oriented approaches are those adopted by a school or district at the initiative of the administration or a faculty committee.
- ❁ Adoption of specific curricula with technology components.

4. Promotion of Curricula and Teaching That Integrate Technology

- ❁ Inclusion of technology criteria in teacher and principal evaluation instruments.
- ❁ Inclusion of technology criteria in a teacher's individual professional development plan.

4. Promotion of Curricula and Teaching That Integrate Technology

- ❁ Support-oriented approaches are those that focus on encouragement of teachers by peers (colleagues, mentors, individuals with roles such as technology professional development specialists) to examine and consider changing, existing teaching practices.
- ❁ Approaches include co-planning, co-teaching, and modeling of units by more experienced teachers.

4. Promotion of Curricula and Teaching That Integrate Technology

- More traditional methods such as workshops, summer institutes.
- Support-oriented approaches do not follow “one-size-fits-all” methods.

5. Professional Development

5. Professional Development

- A description of how the applicant will provide ongoing, sustained professional development for teachers, principals, administrators, and school library media personnel to further the effective use of technology in the classroom or library media center.

5. Professional Development

Key Questions to Consider

- ♣ Do you have an overall professional development (PD) plan, tied to goals and standards, that provides for ongoing and sustained staff training?
- ♣ Is your PD for technology linked to curriculum programs and student performance?
- ♣ Does each of your educators develop an individual PD plan that includes technology

5. Professional Development

- ♣ Engage teachers in looking closely at students and their work.
- ♣ Provides opportunities for meaningful teacher leadership roles to emerge.
- ♣ Provides occasions for teachers to reflect critically on their practice.

5. Professional Development

- ♣ Is continuously woven into the fabric of the profession of teaching.
- ♣ Is sustained and intensive, supported by modeling, coaching, and problem solving around specific problems of practice.

5. Professional Development

- ♣ Provides anytime, anyplace flexibility that results in new PD opportunities being available.
- ♣ Enables new collegial relationships and professional learning communities.

5. Professional Development

- ♣ Provides access to resources, colleagues, and experts that may not be available otherwise.
- ♣ Gives teachers a chance to experience for themselves new ways of learning, which can inform their decisions about the use of technology with their students.

5. Professional Development

- ♣ Increased access to personalized learning experiences.
- ♣ Potentially reduces the cost of PD programs.

5b. Professional Development

Five Stages of Instructional Evolution (Apple, ACOT)

5. Professional Development

- ♣ 1 - Entry Stage: teachers learn to master the new tools themselves and begin to plan how to use them in their classrooms.
- ♣ 2 - Adoption Stage: teachers begin to blend technology into their classroom practices, without making any significant changes to those practices.

5. Professional Development

- ♣ 3 - Adaptation Stage: the new technology becomes thoroughly integrated into traditional classroom practices and teachers begin to see some real benefits in student learning and engagement.

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5. Professional Development

- 4 - Appropriation Stage: the teachers understand technology, use it effortlessly in their own work and in the classroom, and have difficulty imagining how they would function without it.

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5. Professional Development

- 5 - Invention Stage: teachers experiment with new instructional patterns and ways of relating to students and to other teachers enabled by the technology, resulting in significant changes in their classroom practices and professional lives.

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5. Professional Development

- Professional development for technology integration is MOST effective when it is in the context of curriculum content, effective pedagogy, and student learning, not focused on the technology itself.

6. Technology Type and Costs

6. Technology Type and Costs

♣ A description of the type and costs of technology to be acquired with Ed Tech funds, including provisions for interoperability of components.

6. Technology Type and Costs

- ♣ Long-term strategic technology plans must be flexible toward new technologies and funding models.
- ♣ Selecting technologies that are cost effective AND provide impact on teaching and learning are a challenge in any school district.
- ♣ It is crucial to realize the Total Cost of Ownership (TCO) with the technologies invested in your school district.

6. Technology Type and Costs

- ♣ School Interoperability Framework (SIF), an industry-standard blueprint for K-12 software ensures that instructional and administrative software applications work together effectively.
- ♣ Understanding SIF concepts can help school leaders successfully identify the kinds of technology to consider in system-wide planning.

6. Technology Type and Costs

Key Questions to Consider

- ♣ What technology options effectively support teaching and learning in a variety of classroom and learning environments?
- ♣ What are some lower-cost options to providing technological support besides a desktop computer for every student?
- ♣ What are the real cost factors involved in successful uses of technology to support teaching and learning?

6. Technology Type and Costs

- ♣ Goes beyond just the cost of computers
 - ♣ Computer software
 - ♣ Networking hardware and connectivity
 - ♣ Servers
 - ♣ Printers
 - ♣ Scanners
 - ♣ Projectors

6. Technology Type and Costs

- Total Cost of Ownership
 - Professional Development
 - Support
 - Connectivity
 - Software
 - Replacement Costs
 - Retrofitting

6. Technology Type and Costs

- Technical Support
 - At least one technical staff employee to 350 computers.
 - Staff are centrally deployed and campus-based.
 - Technical support is on-site and response time is less than four hours.

6. Technology Type and Costs

- Instructional and Administrative Staffing
 - Full-time district level Technology Coordinator or Assistant Superintendent for Technology.
 - Dedicated campus-based instructional technology support staff.
 - one per campus plus one for every 1,000 students, with additional staff as needed.

6. Technology Type and Costs

🍷 Budget

- 🍷 Campus budget for hardware and software purchases
- 🍷 Sufficient staffing support
- 🍷 Costs for PD
 - 🍷 Incentives for PD
- 🍷 Facilities
- 🍷 Other ongoing costs

6. Technology Type and Costs

🍷 Funding

- 🍷 State and Federal programs directed to support technology
- 🍷 Bond funds
- 🍷 Business partnerships
- 🍷 Donations
- 🍷 Foundations

7. Coordination with other Resources

7. Coordination with Other Resources

- A description of how the applicant will coordinate activities funded through the Ed Tech program with technology-related activities supported with funds from other sources.

7. Coordination with Other Resources

- Combine separate funding sources to support integrated school initiatives.
- The three school-level resources
 - use of time
 - use of staff
 - use of funds

7. Coordination with Other Resources

Key Questions to Consider

- How will you coordinate initiatives funded under an Ed Tech grant with other technology-related initiatives in your school or district?
- Does your plan include opportunities and structures necessary to share and coordinate resources?

7. Coordination with Other Resources

- ♣ A best practice is to find out which existing grants and programs could benefit from the addition of technology resources.
- ♣ These may be curriculum centered or focused on administrative issues or activities.

7. Coordination with Other Resources

- ♣ To ensure that technology will be used to support content and learning goals, staff your curriculum planning committees with members that have both curriculum specialist and technology integration specialist.

8. Integration of Technology with Curricula and Instruction

8. Integration of Technology with Curricula and Instruction

- A description of how the applicant will integrate technology (including software and electronically delivered learning materials) into curricula and instruction, and a timeline for this integration.

8. Integration of Technology with Curricula and Instruction

- Identifying technology solutions and instructional strategies at the curriculum development level, district leaders can act to maximize the impact of technology on system-wide teaching and learning.
- It is critical for school leaders to invest substantial time and resources in system-wide planning for technology integration.

8. Integration of Technology with Curricula and Instruction

- Such planning will enable districts to optimize their use of funds and available technology resources.

8. Integration of Technology with Curricula and Instruction

Key Questions to Consider

- How can you maximize the instructional impact of your existing technology resources?
- How can you balance resources for hardware, software, personnel, and professional development to reach curricular and instructional goals most effectively?

8. Integration of Technology with Curricula and Instruction

- The creation of a cohesive and well-designed plan for resource management can maximize the investment in technology.

8. Integration of Technology with Curricula and Instruction

• Software

- Having a wide range of disparate software packages can be a handicap when attempting to implement a cohesive technology integration plan.
- Support and skill set required with a wide variety stretches support staff beyond their limits and results in unfocused professional development.

8. Integration of Technology with Curricula and Instruction

- ♣ Identify a set of software tools or suites that your district can standardize.
- ♣ Identify software tools that are limited in number but are versatile and valuable across subject areas.
- ♣ Purchase different packages for different grade levels.

8. Integration of Technology with Curricula and Instruction

- ♣ Another approach is to acquire resources based on curriculum needs that are aligned with specific objectives.
- ♣ 1st grade classroom software <-> 5th grade classroom software
- ♣ Create software review committees comprised of curriculum and technology specialist that plan for purchase, integration, and support.

8. Integration of Technology with Curricula and Instruction

- ♣ Hardware
 - ♣ Think beyond the computer lab concept!
 - ♣ Focus on hardware that optimizes access.
- ♣ Equip all classrooms with at least one computer with an Internet drop.
- ♣ Technology fixture will help teachers use email and increase comfort level.

8. Integration of Technology with Curricula and Instruction

- Implement a combination of computer labs, classroom computer pods (2-6), and mobile carts of wireless laptops.
- With wireless, learning can take place anytime, anywhere, and is enabling. Learning does not have to be taken TO the computer.

8. Integration of Technology with Curricula and Instruction

• Personnel

- A district's single most important resource.
- The success or failure of technology is more dependent on human and contextual factors than on hardware or software (Valdez, 2000).
- Educational staff and technical support is essential to achieve technology integration.
- Absence of either can derail efforts.

8. Integration of Technology with Curricula and Instruction

• Roles

- Technicians are in charge of setting up, maintaining, and fixing equipment.
- Education Technology Specialists are charged with working with teachers and leading professional development.
- They often have classroom experience and can work with teachers within the context of their school day.

8. Integration of Technology with Curricula and Instruction

🍷 Timelines

- 🍷 Some districts have spent considerable funds on hardware/software only to find out that teachers do not know what to do with the technology...takes up space.

8. Integration of Technology with Curricula and Instruction

- 🍷 Some districts have spent considerable time investing in professional development only to find that teachers return to their classrooms unable to utilize their new skills because they have no access to the technology.

8. Integration of Technology with Curricula and Instruction

- 🍷 A timeline is a planning and communication tool.
- 🍷 Help planning groups sequence the interrelates aspect of district initiatives such as technology acquisition, professional development, and technical and curriculum support.

8. Integration of Technology with Curricula and Instruction

♣ Administrators can then use the timeline to communicate effectively with stakeholders and to build political support for the plan.

9. Innovative Delivery Strategies

9. Innovative Delivery Strategies

♣ A description of how the applicant will encourage the development and use of innovative strategies for the delivery of specialized or rigorous courses and curricula through the use of technology, including distance learning technologies, particularly in areas that would not otherwise have access to such courses or curricula due to geographical distances or insufficient resources.

9. Innovative Delivery Strategies

- ♣ Online Courses/Virtual Schools are coming into widespread use.
- ♣ Fourteen states have launched virtual high school to provide online courses.
- ♣ Oklahoma schools are years ahead of U.S. in terms of H.323 distance learning.

9. Innovative Delivery Strategies

Key Questions to Consider

- ♣ What are the primary purposes that online courses can serve in extending the curriculum offerings in your district?
- ♣ What will be the process for planning, implementing, and evaluating online courses for your district? How will all the relevant constituents be involved?

9. Innovative Delivery Strategies

Key Questions to Consider

- ♣ Will the online courses be developed and taught by district staff, purchased from outside the district, or some of each?

9. Innovative Delivery Strategies

• Providing online courses successfully requires careful planning that involves policymakers, teachers, online course managers, parents, and students.

9. Innovative Delivery Strategies

• The “Guide to Online High School Courses” developed by the National Education Association provides seven categories that need to be considered in planning.

9. Innovative Delivery Strategies

• 1 - Curriculum: Online curricular offerings should be challenging, relevant, and aligned with appropriate national, state, and district standards for student learning.

9. Innovative Delivery Strategies

♣ 2 - Instructional Design: online courses should be designed to take advantage of the online learning environment and support the development of the 21st-century learning skills.

9. Innovative Delivery Strategies

♣ 3 - Teacher Quality: teachers should be skilled in the subject matter, learning theory, technologies, and teaching pedagogies appropriate for the content area and the online environment.

9. Innovative Delivery Strategies

♣ 4 - Student Roles: students should be actively engaged in the learning process and interact on a regular basis with the teacher and online classmates.

9. Innovative Delivery Strategies

♣ 5 - Assessment: assessment should provide opportunities for students to reflect on their own learning and work quality during the course, and give students the opportunity to demonstrate mastery of the course content.

9. Innovative Delivery Strategies

♣ 6 - Management and Support Systems: support systems should provide resources to teachers, students, and parents comparable to those provided by face-to-face courses, as well as special support necessitated by the unique circumstances of the online environment.

9. Innovative Delivery Strategies

♣ 7 - Technological Infrastructure: the technology behind the course should work reliably, simply, and economically. Technical assistance should be available whenever needed by students or teachers.

10. Parental Involvement

10. Parental Involvement

♣ A description of how the applicant will use technology effectively to promote parental involvement and increase communication with parents, including a description of how parents will be informed of the technology used.

10. Parental Involvement

♣ When parents participate in their children's education, the result is an increase in student achievement and an improvement of students' attitudes toward learning.

10. Parental Involvement

Technology, namely Internet-based tools, provides a powerful communications link to engage parents in their children's school experience.

10. Parental Involvement

Key Questions to Consider

Does your application and long-range technology plan enable parents, educators, students, and community members to contribute to and benefit from the investment in technology?

10. Parental Involvement

Key Questions to Consider

Is the community involved in district and school strategic technology planning efforts?

10. Parental Involvement

Key Questions to Consider

- Does your application describe how parents will leverage existing networks and communication systems to facilitate communication with educators regarding student progress, assessment results, and support resources?

10. Parental Involvement

- E-Mail
- Classroom Web sites
- Online student performance portfolios
- Gradebooks
- Student Information Systems
- eCalendars

11. Collaboration with Adult Literacy Service Providers

11. Collaboration with Adult Literacy Service Providers

♣ A description of how the program will be developed, where applicable, in collaboration with adult literacy service providers.

11. Collaboration with Adult Literacy Service Providers

♣ An important consideration for applicants is to understand the extent of need in their communities for increasing adult and family literacy as well as for greater access to technological resources.

11. Collaboration with Adult Literacy Service Providers

Key Questions to Consider

- ♣ What are the adult literacy needs in your community and how are they currently being met?
- ♣ What other funds and resources, such as 21st Century Community Learning Centers or the Community Technology Centers, can you access to increase your impact?

11. Collaboration with Adult Literacy Service Providers

Key Questions to Consider

- ♣ In what ways might collaboration between your schools, district, and organizations that promote adult literacy around technology use produce increased benefits for each of their constituents?

11. Collaboration with Adult Literacy Service Providers

- ♣ Three types of services are provided under the federally supported adult education programs.
- ♣ 1 - Adult Basic Education
 - ♣ Adult learners with skills below 8th grade
- ♣ 2 - Adult Secondary Education
 - ♣ Adult learners earning a high school diploma or GED certificate

11. Collaboration with Adult Literacy Service Providers

- ♣ 3 - English as a Second Language (ESL)
- ♣ ESL services are the fastest growing portion of adult education programs.

12. Accountability Measures

12. Accountability Measures

♣ A description of the process and accountability measures that the applicant will use to evaluate the extent to which activities funded under the program are effective in integrating technology into curricula and instruction, increasing the ability of teachers to teach, and enabling students to reach challenging State academic standards.

12. Accountability Measures

- ♣ Effective evaluation is critical because it:
- ♣ 1 - Serves as a continuous accountability guide for the educators in the district.
- ♣ 2 - Provides feedback and results in data that support the project in continuous improvement.

12. Accountability Measures

- ♣ 3 - Provides preestablished, required data from the district.
- ♣ 4 - Documents the extent to which the goals and objectives of the project are actually achieved in terms of the work accomplished, the quality of the work, and the impact of the work.

12. Accountability Measures

Key Questions to Consider

- ♣ What set of evaluation questions will most effectively yield answers to whether and how your district needs were addressed through funding provided by the grant (competitive and formula)?

12. Accountability Measures

Key Questions to Consider

- ♣ What evaluation strategies will most effectively provide the data needed to address your evaluation questions?
- ♣ When addressing accountability measures, what is the quality, reach, and impact of your project's work?

12. Accountability Measures

Other Essential Questions

- How has the funding from the grant actually been spent?
- What steps has the grant applicant taken to increase accessibility of technology?
- What professional development strategies have been used within the project?
- What has the grant applicant done to integrate technology into curricula and instruction?

12. Accountability Measures

Other Essential Questions

- What is the quality and reach of the work of the project?
- What is the impact on student and teacher attitudes toward technology use?
- What is the impact of student achievement in identified content areas?

12. Accountability Measures

- The evaluation plan needs to demonstrate a clear understanding of:
 - The need on which the proposed work is based.
 - The related data to be tracked over time.
 - The manageability of the evaluation work by the designated internal or external persons who will do the work.

12. Accountability Measures

- ♣ Identify the evaluation questions.
- ♣ Select evaluation strategies.
- ♣ Identify or develop instruments used for data collection.
- ♣ Develop a timeline for all evaluation activities.
- ♣ Determine who will be responsible for the various aspect of the evaluation and at what budget amount.

13. Supporting Resources

13. Supporting Resources

- ♣ A description of the supporting resources, such as services, software, other electronically delivered learning materials, and print resources, that will be acquired to ensure successful and effective uses of technology.

13. Supporting Resources

Supporting resources can boost a technology plan from adequate to highly effective.

13. Supporting Resources

Key Questions to Consider

What supporting resources and services do you already have available that effectively leverage and expand your technology investment? Where are the gaps?

13. Supporting Resources

Key Questions to Consider

What untapped community resources are available that can provide hands-on support of technology-enhanced learning?

13. Supporting Resources

Key Questions to Consider

- Does your school provide an expectation and structures that encourage technology and curriculum coordinators to plan together so that software, services, and resource acquisition link directly to current curriculum priorities? Are there particular supporting resources that can assist in this sort of ongoing collaboration?

13. Supporting Resources

- Technology means more than access to computers.
- Supporting resources should include publications, informational services, and content specific hardware like microscopes and probeware.

Questions?

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