

# **State Policy Framework for Assessing Educational Technology Implementation**

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This framework describes ways that State policy can enhance educational technology usage to improve student learning and standards-based educational reform. The framework presents a process for categorizing and charting the evolution of State policy for learning technologies in the overall context of strategic planning to improve education. Its content draws on ideas in the policy papers commissioned for the February, 2000 CCSSO State Educational Technology Conference, as well as on items in the American Institutes for Research Online Survey of State Technology Coordinators (<http://www.air.org/essi/look/isetview.html>). Its format is based on assessments using a framework of indicators and essential questions, such as EnGauge (<http://www.ncrel.org/engage/>) and the New England Association of Schools and Colleges Standards for High School Accreditation and Restructuring (<http://www.lab.brown.edu/neasc/>).

This framework is intended primarily as a means of self-assessment for State Department of Education staff and other education decision makers. The categories provide a menu for potential State policy actions, as well as a common template for comparative policy discussions among policy setters. The indicators depict an evolutionary path for the progression of State policy, while allowing for variation among States depending on individual circumstances and political philosophy. The essential questions highlight the issues involved in these policies.

To refine the framework, I am interested in receiving feedback on the following questions:

- What types of State policies for educational technology should be added—or deleted from—these categories?
- Should any categories of policies be combined or disaggregated?
- How can the essential questions and the indicators of policy evolution for each category be improved?
- How are these categories of State policies interrelated?

Beyond incorporating the results of feedback, future stages in the evolution of this assessment tool may include:

- Developing a visual model of educational innovation through technology, to complement the category format by showing interrelationships among policy activities
- Including policy examples from various States that provide specific illustrations, benchmarks, and quantitative levels for indicators
- Including a glossary
- Implementing a question-based format for using the assessment (such as the Computer Systems Policy Project Readiness Guide [<http://www.cspp.org/projects/readiness/>])
- Validating the overall model through application to several States exemplifying a wide range of policy settings

I welcome other ideas for further development.

Please let me know your reactions by joining the online dialogue about this framework at <http://www.neirtec.org/statepolicy/>. Thanks!

### **Categories of State Policies for Educational Technology Implementation**

- A. *State Technology Standards and Assessments for Students*
- B. *State Technology Standards, Assessments, Professional Development, and Assistance for Teachers and Teacher Educators*
- C. *State-wide Subsidized Electronic Network Linking Districts and Other Stakeholders for Information Exchange, Collaboration, and Distance Education*
- D. *State-wide Program Providing Data or Administrative Systems to Districts (e.g., fiscal databases, student assessment results)*
- E. *State Guidelines for Technology-Related Facilities Design, Equipment, Software, Connectivity, and Infrastructure; State-wide Consortium Purchasing Programs (Discounts for Large-Scale Orders) and Funding Support for Technology Acquisition*
- F. *State-Sponsored Research and Evaluation of Educational Technology Initiatives; Development of Educational Technology Devices, Applications, and Approaches; Dissemination and Adaptation of Educational Technology*
- G. *State Strategic Plan for Educational Improvement, including Technology; State Funding for Educational Technology Plans and Initiatives*

## ***A. State Technology Standards and Assessments for Students***

### Essential Questions

How does the State ensure quality in student learning, assessment, and usage of technology?

- Does the State have a well articulated set of policies and procedures that support the ongoing improvement of student learning?
- Do these policies and procedures specifically address the integrated usage of technology to enhance teaching, learning, and assessment?
- Do these policies and procedures specifically address the diverse needs of the varied population of learners for whom schools are responsible?
- Are technology tools and services used as a vehicle for ongoing improvement of student learning and assessment?

### Indicators

- State technology standards for students are integrated into and aligned with State content standards for students
- State assessments of students' progress in meeting technology standards are integrated into and aligned with State assessments of students' progress in meeting content standards
- State has technology standards and assessments for students at all grade levels
- State validates its technology standards for students against national models such as ISTE standards
- State technology standards for students include provisions for learners with special needs and varied linguistic, cultural, ethnic, and socioeconomic backgrounds, including educational resources designed for universal usability
- State provides online resources for model curriculum units and lesson plans linking State content standards and student assessments
- State assessment strategies exemplify effective use of technology for assessment
- State provides incentives to develop virtual learning environments for students who have difficulty obtaining access to classroom settings and for all pupils' educational access outside of classroom settings

## ***B. State Technology Standards and Assessments for Educators; Professional Development and Assistance for Teachers, Teacher Educators, and Administrators***

### Essential Questions

How does the State ensure quality in teaching and administration?

- Does the State have a well articulated set of policies and procedures that support the ongoing improvement of teaching and administration in both school districts and teacher preparation programs?

- Do these policies and procedures specifically address the integrated usage of technology to enhance teaching, learning, assessment, and management in schools and in teacher preparation programs?
- Are technology tools and services used as a vehicle for ongoing improvement of teaching and administration, as well as for assessing compliance with these standards?
- Is technology used as a means of linking the needs of schools with the preparation provided by teacher education programs?
- Is State financial assistance provided to enable districts and teacher preparation programs to meet these standards and use technology as a means of professional development?
- Does the State fund programs and organizations whose mission is to aid educators in achieving these standards?

### Indicators

- State sets technology standards for all teachers, administrators, and teacher educators
- State technology standards for teachers, administrators, and teacher educators center on technology integration into both curriculum content areas and student assessments
- State technology standards for teachers, administrators, and teacher educators are validated against national models such as ISTE standards for teachers and NCATE standards for teacher educators
- State technology standards for teachers are integrated into other State teacher standards and aligned with student technology and content standards
- State assessments of teachers', administrators', and teacher educators' progress in technology standards are based on integration of learning technologies into curriculum content areas and exemplify effective use of technology for assessment
- State assistance is provided for developing district and teacher education program professional development plans in technology usage, in students' safe and acceptable use of technology, and in copyright and intellectual property issues.
- State financial incentives for professional development include administrators and State level leaders
- State financial incentives for professional development emphasize effective technology usage across the curriculum and in student assessment
- State financial incentives for professional development emphasize districts with unusual challenges, such as urban and rural settings and impoverished communities
- State support for professional development includes aid for exemplary technology usage in professional development (e.g., virtual communities-of-practice and distant mentoring), increased time for educators' planning
- State provides technical training programs for school and district technology-coordinators, teacher education program faculty, instructors of content courses for teachers
- State-provided regional technology centers aid all educators (including instructors of content courses for teachers), including providing quality reviews and adoption guidelines for digital resources

***C. State-wide Subsidized Electronic Network Linking Districts and Other Stakeholders for Information Exchange, Collaboration, and Distance Education***

Essential Questions

Has the State developed a capacity for information exchange, resource sharing, and collaborative action among multiple stakeholders at all levels?

- Do educators have access to high bandwidth networking services?
- Do State subsidies for these services give priority to groups who otherwise would likely not be connected?
- Are policies and programs in place that support collaborative partnerships among districts, higher education, State government agencies, and for-profit and non-profit organizations?

Indicators

- All districts, schools, and teacher preparation institutions are connected via a State-subsidized electronic network
- State financial incentives for participating in the network emphasize districts with unusual challenges, such as urban and rural settings and impoverished communities
- All schools and teacher preparation institutions have high-speed connections to the State network
- State creates incentives for districts and teacher preparation institutions to receive discounts in implementing and maintaining the network
- State provides financial incentives and logistical support for districts collaborating electronically with other districts, higher education, industry, other social service providers

***D. State-wide Program Providing Data or Administrative Systems to Districts (e.g., fiscal databases, student assessment results)***

Essential Questions

Does the State provide districts with information for each school synthesized in a manner that facilitates making educational policies and decisions?

- Does the State encourage districts to collect student and financial data in ways that facilitate sharing information and providing comparative analyses across districts?
- Does the State provide districts with fiscal data on its annual financial allotments?
- Does the State analyze comparative data from schools to assess alternative educational interventions and disseminate the results to districts and to the public?
- Does the State provide financial incentives for districts to participate in data-based decision making?

### Indicators

- State provides incentives for districts using common administrative systems for student and fiscal data
- State provides financial incentives for participating in data collection and analysis, targeting these allocations to districts with unusual challenges, such as urban and rural settings and impoverished communities
- State provides districts with comparative fiscal data on financial allotments
- Student and fiscal data is collected from all districts in standardized format and analyzed by the State; comparative information is disseminated to districts and the public in a manner that facilitates making educational policies and decisions
- Data mining of statistical records is conducted by the State, extensively disseminated, and informs policy and program decisions

### ***E. State Guidelines for Technology-Related Facilities Design, Equipment, Software, Connectivity, and Infrastructure; State-wide Consortium Purchasing Programs (Discounts for Large-Scale Orders) and Funding Support for Technology Acquisition***

#### Essential Questions

Does the State aid districts in designing and purchasing their technology infrastructure?

- Does the State provide guidelines for purchasing equipment, software, and connectivity and for designing or renovating facilities?
- Does the State negotiate volume purchasing discounts from suppliers and vendors?
- Does the State provide financing for technology infrastructure, and does this support give priority to districts that face economic challenges?

### Indicators

- State technology purchasing guidelines stress evolutionary, strategic approaches in developing infrastructures for new and existing facilities and for installations of equipment, software, and connectivity
- State technology infrastructure standards are integrated with districts' and teacher education programs' educational plans
- Based on advances in technology, the State regularly updates technology purchasing guidelines and infrastructure standards for facilities, equipment, software, connectivity
- State has a program for hardware, software, and online services purchasing, with discounts for large-scale orders
- State provides extensive financial support for hardware, software, and online services purchasing
- State financial incentives for technology and infrastructure development emphasize districts with unusual challenges, such as urban and rural settings and impoverished communities

***F. State-Sponsored Research and Evaluation of Educational Technology Initiatives; Development of Educational Technology Devices, Applications, and Approaches; Dissemination and Adaptation of Educational Technology***

Essential Questions

How does the State provide support for the effective usage and evolution of educational technology resources?

- Does the State assess the effectiveness of its technology investments through conducting research and evaluation studies?
- Does the State sponsor the development of technologies customized to its needs?
- Does the State provide means by which districts can adapt innovations successful elsewhere?
- Does the State compare its educational policies and outcomes to alternative improvement strategies in other States?

Indicators

- Systematic State-sponsored research is based on analyses from state-wide database; outcomes inform policy and program decisions
- State provides incentives for districts to apply as designated testbeds for innovation, evaluation
- State conducts systematic evaluation of technology initiatives, including collection of evaluations from other sources and usage of analyses from state-wide database; outcomes inform policy and program decisions
- State provides vendors with guidelines on desired devices, applications, assistive technologies
- State offers vendors incentives for developing desired devices and applications and for involving local teachers in adapting standards-based software
- State sponsors educational technology development, including distance education, as well as participation in consortia for this purpose
- State conducts systematic dissemination, based on transfer and adaptation of innovations via technology service centers and State electronic network
- State research, development, and dissemination initiatives emphasize technological innovations that could improve equal educational opportunity
- State policy making is informed by comparative analyses of alternative educational improvement practices in other States, sharing information based on common templates for student and fiscal data

***G. State Strategic Plan for Educational Improvement, including Technology; State Funding for Educational Technology Plans and Initiatives***

Essential Questions

Does the State make strategic investments in improving education through technology?

- Does the State have a strategic process for educational improvement to which the State technology plan is aligned?
- Does the State provide systematic long term funding for achieving the objectives of its technology plan?
- Does the State leverage its educational technology investments with related funding from other sources?

### Indicators

- State plan for educational technology is aligned with overall State strategic plan for educational improvement
- Evaluation is an integral part of the State plan for educational technology, assessing the impact of all major initiatives
- State plan for educational technology incorporates insights and lessons learned from other States, federal efforts
- State plan for educational technology emphasizes innovations that could improve equal educational opportunity
- State plan for educational technology provides systematic, long-term funding support for professional development for teachers, administrators, and teacher educators
- State provides systematic funding for capital investments in educational technology infrastructure, including depreciation
- State provides systematic, long-term funding support for hardware, applications, connectivity, and professional development
- State funding provides systematic, long-term support for adequate staffing in technology usage [based on guidelines such as those in the North Carolina Technology Plan (<http://www.tps.dpi.state.nc.us/techplan2000/techplan2000.html#Personnel>)]
- State provides assistance in applying for funded educational technology initiatives
- State provides matching funds to foster participation in Federal and philanthropic educational technology initiatives
- State policy is developed to complement and supplement Federal and philanthropic funding, research, and equity initiatives
- State financial incentives and assistance emphasize districts with unusual challenges, such as urban and rural settings and impoverished communities