Alaska State Educational Technology Plan

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Submitted By
Alaska Department of Education and Early Development
Teaching and Learning Support

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PL107-111 Elementary and Secondary Education Act

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Introduction

The Alaska Department of Educational and Early Development (EED) has developed this five-year educational technology plan based on the recommendations of a taskforce representing education stakeholders throughout the state (as listed in appendix 1). A state technology plan is required under NCLB, specifically the Enhancing Education Through Technology (Ed Tech) – Title II, Part D. Although this plan is required by NCLB, it provides much more than the fifteen requirements (as referenced in appendix 2). The taskforce recommendations for educational technology go beyond merely satisfying the federal requirements but create a plan that can meet the districts' needs and expand the implementation of technology in an equitable manner. The Alaska State Educational Technology Plan provides a blueprint to guide future state and local technology planning.

Through implementation of this plan, EED hopes to inform and educate stakeholders by: obtaining and sharing a snapshot on current educational technology progress; identifying best practices, resources, and tools in educational technology; providing guidance on educational technology implementation; and using performance indicators to evaluate success over time. All the goals in this plan will help meet the goals of the Title II, Part D (Ed Tech) program.

The Ed Tech program primary goal is:

> To improve student academic achievement through the use of technology in elementary schools and secondary schools.

The Ed Tech program additional goals are:

1. To assist every student in crossing the digital divide by ensuring that every student is technology literate by the time the student finishes the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability.
2. To encourage the effective integration of technology resources and systems with teacher training and curriculum development to establish research-based instructional methods that can be widely implemented as best practices by State educational agencies and local educational agencies.

These additional goals will be addressed more directly through the five goals in the plan. The five goal titles of the plan are Integration and Learning, Professional Development, Data-Driven Schools, Access and Infrastructure, and Community Involvement. In the development of these goals there was often overlap involving professional development and some in access and infrastructure. These overlaps were eliminated when possible. The plan contains objectives, actions, and indicators established for each of the goals.

Actions for the goals will be implemented, as resources are available. Initially the Ed Tech state-level activities funding will be used to establish resources outlined in this plan. Additionally, any competitive grant funds available will be used to implement this plan. In order to fully implement this plan, additional funding and resources will be necessary.

After approval of this plan, EED will provide a web-based version of the educational technology plan. In addition to providing the contents of the plan online, links will be provided to additional resources, best practices, assessment tools, and information about what school districts are doing statewide in educational technology.

Mission

To provide equitable access and a system for meaningful use of educational technology for the improvement of academic achievement of all students.

Vision Statement

Students' learning will be enhanced and individualized through technology-based educational opportunities. Students will become responsible life-long learners, competent in 21st century skills, and active global citizens.

Belief Statements

- We want students who have the skills to continue to be successful Alaskan citizens. Technology will help them become the knowledge brokers and decision-makers they need be. They will be responsible, self-directed, and life-long learners.
- With technology as the tool, students and staff will become innovative learners and teachers. Schools no longer have to have walls. New opportunities will develop more complex thinkers who know how to work independently and collaboratively. Connections and relationships are more important than ever.
- The potential for the collection of data on students and other information is overwhelming. Professional staff needs assistance in making sense of data to impact learning. Professional development has been identified as one of the key elements necessary for school improvement. Communication with all stakeholders is essential.
- One of the side effects of living in "The Last Frontier" is that Alaska often lacks systems. This educational technology plan identifies ways to develop the system to provide for needed professional development, resources, and increased student learning.

Goals

The five identified goals are:

1. Increase academic achievement across all content areas through the meaningful and effective use of technology by students, teachers, and administrators.
2. Enhance the capacity of professionals and paraprofessionals in technology integration and data-driven instruction through high-quality professional development.
3. Improve and personalize student learning by supporting the collection, collation, and communication of relevant student assessment data for use by the educational community.
4. Expand learning options for all students and schools by developing and maintaining dependable access to advanced technologies and telecommunications connectivity.
5. Engage families and communities in developing relationships with schools, districts, and other educational organizations to promote interactive communication through the use of technology.

Goal 1: Integration and Learning

Increase academic achievement across all content areas through the meaningful and effective use of technology by students, teachers, and administrators.

Narrative

The integration of technology into the curriculum is achieved by using technology as a tool in all areas rather than as a content area in itself. Technology integration is the incorporation of technology into the daily routines of schools. Integration is occurring if teachers are trained in a full range of technology uses and in the determination of their appropriate roles and applications. Teachers and students routinely turn to technology when needed. Teachers and students are empowered, encouraged, and provided with the necessary equipment, connectivity, and curriculum support to use the technology as an educational tool. Technology literacy and proficiency is the ability of an individual to use technology effectively, appropriately, and responsibly to acquire lifelong knowledge and skills.

Objective A: Promote effective practices and resources for integrating technology with curriculum and instruction and encouraging technology literacy.

Actions:

1. Identify and compile effective practices and resources for integrating technology and technology literacy.
2. Establish a website to disseminate effective practices and resources aligned to the state standards when appropriate.
3. Continue partnerships with subject area consortia and organizations to keep resources current.
4. Provide training on the effective practices and resources website.
5. Survey users of the website to determine effectiveness and use.

Indicators:

a. Increase the number of identified effective practices and resources for integrating technology and technology literacy each year.
b. Increase usage of the effective practices and resources website.

Objective B: Support replicable projects demonstrating exemplary integration of technology.

Actions:

1. Fund, assist, and monitor promising technology integration projects to ensure success.
2. Evaluate funded technology integration projects including the collection and analysis of integration scores using a selected measurement tool.
3. Disseminate successful integration methods and results from projects.

Indicators:

a. Increase the number of successful replicable projects each year.
b. Increase integration scores on selected measurement tool by 5 percent per year.

Objective C: Provide tools and encourage use to measure the degree of technology integration and technology proficiency.

Actions:

1. Determine and disseminate information about technology integration and proficiency measurement tools currently being used.
2. Provide training on selected measurement tools.
3. Collect data on measurement tool training and usage.
4. Research additional measurement tools if necessary.

Indicators:

a. Increase the availability of measurement tools to the districts each year.
b. Increase the number of districts trained in using the tools each year.
c. Increase the number of districts using the tools each year.

Goal 2: Professional Development

Enhance the capacity of professionals and paraprofessionals in technology integration and data-driven instruction through high-quality professional development.

Narrative

Technology is imperative to meeting the state teacher and administrator standards and increasing the quality of K-12 education. Teachers and other professionals should have cost-effective access to high quality, research-based information. The tools of technology will allow teachers and administrators to facilitate, monitor, and assess student learning. Teachers will provide effective instruction that integrates technology fully into the curriculum. Educators will utilize data to guide the decision-making process. In order to do this effectively, ongoing professional development is vital to keep up with the rapidly changing technology and need for updated pedagogy. The importance of professional development as a change agent is indicated often in reform or restructuring conversations.

Objective A: Encourage research-based professional development to enhance the quality of technology integration into teaching and learning in the content areas.

Actions:

1. Prepare teachers and administrators for their changing roles in the technological environment through continual local professional development.
2. Develop and disseminate training criteria that provide contextual examples of effective technology integration in the classroom.
3. Identify, compile and disseminate content specific courses that effectively integrate the use of educational technologies.
4. Encourage additional credit accumulation in technology courses in these topic areas: basic technology troubleshooting, using technology as an instructional tool, classroom technology integration, and data-driven instruction.

Indicators:

a. Increase the percentage of teachers and administrators who receive professional development in established technology emphasis areas each year.
b. Increase the availability of content specific courses with technology integration to districts each year.
c. Increase the number of opportunities for additional credit accumulation in technology courses in given emphasis areas each year.

Objective B: Promote the use of technology leaders and programs that model effective classroom technology integration.

Actions:

1. Form a cadre of available technology leaders to train on integration of technology into the curriculum.
2. Provide opportunities for training to the technology leader cadre.
3. Encourage districts to access the technology leader cadre for local mentoring, training, and courses.
4. Compile and disseminate information on recognition programs that emphasize effective use of educational technology and recognize award recipients at the state level.

Indicators:

a. Increase the number of technology leaders in the cadre each year.
b. Increase the number of trainings provided to and by the technology leader cadre each year.

Objective C: Support professional development in electronic reporting systems and standardized software aimed at using data to improve instruction.

Actions:

1. Provide training on student assessment warehouse data access.
2. Research, develop, and disseminate a professional development (PD) Model for data-driven instruction.
3. Encourage districts to provide trainings using the PD Model.
4. Work with universities to develop courses on using data to drive instruction.

Indicators:

a. Increase the number of trainings provided by EED each year.
b. Increase the number of trainings provided using the PD Model.
c. Increase the number of courses available.

Goal 3: Data-Driven Schools

Improve and personalize student learning by supporting the collection, analysis, and communication of relevant student assessment data for use by the educational community.

Narrative

NCLB accountability and the complexity and costs of technology demand that we make informed, data-driven decisions about technology, curriculum and teaching. This can only happen if we systematically gather and analyze data about technology, curriculum and teaching and their relationships to student achievement, and communicate the results to the entire educational community (community, administrators, teachers, parents and students). Technology advances that allow teachers to collect, collate, analyze, and apply assessment data to classroom and individual instructional decisions in real time will improve student achievement and meet the accountability demanded of schools. The state needs to catalyze and lead this cultural change until it is integrated into the fabric of Alaska's schools.

Objective A: Provide leadership on data-driven schools and districts.

Actions:

1. Develop a website regarding data-driven schools (DDS) as a resource for districts and schools.
2. Research, identify and disseminate promising practices to districts.
3. Host presentations on DDS to communicate best practices and foster collaboration.
4. Highlight schools that are effectively collecting, analyzing and communicating student assessment data.

Indicators:

a. Increase the number of DDS research projects that identify promising practices for Alaska.
b. Increase the number of presentations about DDS each year.
c. Increase the number of DDS success stories published each year.

Objective B: Assist districts in analyzing data to determine the relationship between curriculum, instruction, allocation of resources, and student achievement.

Actions:

1. Determine and disseminate the available data analysis (DA) tools currently being used.
2. Provide training on selected DA tools.
3. Collect data on DA tool training and usage.
4. Research additional DA tools if necessary.
5. Identify common data elements necessary for synthesis of information relevant to student learning.

Indicators:

a. Increase the availability of DA tools to districts each year.
b. Increase the number of districts trained in using DA tools each year.
c. Increase the number of districts using DA tools each year.

Objective C: Encourage secure and timely access to student learning data for state and district decision-makers, teachers, parents, and students.

Actions:

1. Continue and expand the UNITY (state data warehouse) project to allow for electronic vertical reporting between districts and the State.
2. Provide technical assistance to districts to provide for secure and appropriate access by all stakeholders.

Indicators:

a. Increase the number of districts that are accessing and transferring data to the state data warehouse.
b. Increase the number of districts that provide secure and timely access to student learning data each year.

Goal 4: Access and Infrastructure

Expand learning options for all students and schools by developing and maintaining dependable access to advanced technologies and telecommunications connectivity.

Narrative

The effective use of technology in our schools is built upon infrastructure and access to advanced technologies and connectivity. Alaska's geographic isolation and cultural diversity make it critical that technological systems and connectivity access are designed and implemented to be reliable across great distances, in an often harsh, physical setting, with attention to multi-cultural and regional equity. E-learning opportunities can provide access to a broader curriculum for students especially when schools do not have the student enrollment to support classes on their own or the staff to teach such classes.

Objective A: Encourage adequate technology infrastructure, technical support and training.

Actions:

1. Disseminate specifications on appropriate workstations including ADA (American Disabilities Act) standards for accessibility.
2. Encourage an effective replacement cycle for workstations and ratio of appropriate workstations available to all learners.
3. Provide tools and resources to districts to understand Total Cost of Ownership (TCO).
4. Advocate commensurate technical support and training with technology purchases and uses.
5. Promote acquisition of digital equipment (e.g., palm pilots, cameras, and overhead projectors) to support student learning.
6. Assist school districts in defining the role of designated school technology leaders.

Indicators:

a. Increase the statewide ratio of workstations to learners each year.
b. Increase the number of districts with an established replacement cycle each year.
c. Increase the number of districts with a designated school technology leader each year.

Objective B: Promote telecommunications access including high-speed access to advanced telecommunication services.

Actions:

1. Continue to support the districts' efforts to maximize E-rate funding.
2. Research a statewide data and videoconferencing network.
3. Investigate the potential and use of Internet 2.
4. Coordinate a statewide resource bank of highly trained network and system management professionals for districts.
5. Continue individual classrooms networking to their school office to access and share student records, email, and administrative data.
6. Continue individual school sites networking to their central administrations to access and share records, funding accountability, email, and administrative data.

Indicators:

a. Increase the percentage of individual classrooms that are networked to their school office with teacher access to e-mail and student records.
b. Increase the percentage of individual school sites that are networked to their central administrations with administrative access to e-mail, student records, and administrative data.
c. Increase the number of networking and system management professionals participating in the statewide resource bank each year.

Objective C: The state will support the electronic collection and integration of information and data systems to track student learning.

Actions:

1. Encourage the adoption of SIF (School Interoperability Framework) compliance in purchasing decisions.
2. Help form consortia of districts to meet informational technology needs.
3. Research best practices in integrating data systems and disseminate findings to schools and districts.
4. Fund, assist, and monitor promising projects to encourage districts to establish integrated data systems that are replicable and successful.
5. Evaluate and disseminate successful model projects methods and results.

Indicators:

a. Increase the number of integrated data systems research projects that identify promising practices for Alaska.
b. Increase the number of successful replicable integrated data system projects each year.

Objective D: Assist districts in accessing e-learning options for students and staff.

Actions:

1. Continue membership in the Alaska Distance Education Technology Consortium (ADETC) to collaboratively address K-20 distance education needs in Alaska.
2. Provide opportunities for administrators, teachers, and paraprofessionals to take online learning courses and modules.
3. Identify and compile online courses and modules available statewide for professional development, salary advancement, and/or recertification purposes.
4. Examine the accessibility of quality online instruction for students with special attention to advanced and specialized courses.

Indicators:

a. Increase the number of online courses and modules taken each year.

Goal 5: Community Involvement

Engage families and communities in developing relationships with schools, districts, and other educational organizations to promote interactive communication through the use of technology.

Narrative

When communities, parents, students, and educators have convenient, electronic access to student and school resource data, all stakeholders have greater accountability to one another. Better-informed communities have a higher level of resident involvement, thereby allowing all to make more knowledgeable decisions about education. Access to student data by parents and students will increase student achievement. Using technology to gather and resolve this information will increase cross-generational communication as students and parents check district websites displaying various forms and documents (often composed in various languages). Educators, who can utilize a direct electronic "pipe" to parents and students, will communicate information in a more timely and efficient way and can expect families to be more responsive and responsible to students' accomplishments and needs.

Objective A: Promote public community access to technology and the Internet.

Actions:

1. Partner with communities to explore opportunities to establish public access Internet kiosk terminals for community use as a standard element of infrastructure.
2. Research training programs for students to provide support to the community public access sites.

Indicators:

a. Increase the number of communities with public access to technology and the Internet each year.

Objective B: Support access to relevant educational information for families and communities.

Actions:

1. Establish an archive of commonly used formats that are culturally responsive and address special needs (e.g., in other languages than English and text to speech).
2. Provide state portal site, which allows districts to share their best practices and success stories.

Indicators:

a. Increase the use of formats that are culturally responsive and address special needs.

Objective C: Encourage interactive communication with families and communities.

Actions:

1. Identify and share best practices with interactive communication tools for engaging families and communities.
2. Use technology tools to increase family and community outreach events.

Indicators:

a. Increase the number of districts that provide outreach events using technology tools for families and communities each year.

Appendices

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Appendix A

Taskforce Members

During the spring of 2005, a statewide taskforce convened to develop the Alaska State Educational Technology Plan. The Taskforce was comprised of fifteen members who hold various roles within the education community. The taskforce convened for four days in person on three different occasions to develop the draft of this plan. In addition to these meetings, the taskforce members were able to collaborate online.

Ted Berry/Bill Ferguson, Lower Kuskokwim Schools
Mary Corcoran, Alaska Online
Kathy Frost, Matanuska-Susitna Borough Schools
Sue Hardin/Don Holmes, Petersburg City Schools
Lori Hoover, Juneau Borough Schools
Robin Johnson, Nome Public Schools
Vickie Kelley, Apple Computer, Inc.
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Appendix B

No Child Left Behind (NCLB) Title II, Part D Requirements

Title II, Part D of NCLB requires that each state submit a new or updated statewide long-range educational technology plan that considers the educational technology needs of the districts in the state. The application must contain the following fifteen requirements:

Strategies

This plan serves as the outline of the Alaska Department of Education and Early Development (EED) long-term strategies for reaching the Enhancing Education Through Technology (Title II, Part D) program goals over the next five years.

Goals

This plan provides five goals listed on page 3 for using advanced technology to improve student academic achievement, aligned with challenging State academic content and student academic achievement standards. Complete descriptions are on pages 4-14.

Steps to increase accessibility

Goal 4 provides steps to increase access to technology for all students and teachers. Additionally, competitive grant funds are focused on high-need districts.

Accountability measures

To determine if activities funded under Title II, Part D are effective in integrating technology into the curriculum and instruction, EED will use the indicators given in the plan (see Goal 1 Objective B Indicator 2 for competitive grants, Goal 2 Objective A Indicator 1 and Goal 2 Objective B Indicator 2).

Innovative delivery strategies

EED is a core member of the Alaska Distance Education Technology Consortium formed to address Alaska's distance education needs. Goal 4 provides strategies to address the access and infrastructure needs due to Alaska's large geographical distances.

Non-supplant assurance

The Alaska Department of Education and Early Development assures Ed Tech funds will be used to supplement not supplant, state and local resources.

Professional and curricular development

EED addresses professional and curricular development as well as technology literacy of students, teachers and principals through Goals 1 and 2.

Technical assistance

The EED Educational Technology team provides technical assistance through:

- Information resources on the department website, e-mail distribution lists, and mail.
- Personalized assistance through statewide conferences, training sessions, district visits, telephone, e-mail, web and video conferencing.

Districts who serve the highest numbers or percentages of children in poverty or with the greatest need for technical assistance are provided the first opportunities for technical assistance through trainings, as well as sponsored on specialized training sessions.

Technology resources and systems

In each of the goals of this plan, EED will provide technology resources and systems for the purpose of establishing best practices that can be widely implemented by districts, as well as other states (see Goal 1, Objective A; Goal 2, Objectives A and B; Goal 3, Objective A; Goal 4, Objective C; and Goal 5 Objectives B and C).

Strategies for financing technology

EED outlines actions in Goals 4 and 5 that involve long-term financial strategies to maintain and pursue for access to technology for all students, teachers and classrooms (see Goal 4, Objectives A, B, C and D; and Goal 5, Objective A).

Strategies for parental involvement

Goal 5 is devoted to community involvement especially engaging families. In addition, parental involvement is supported by the last objective in Goal 4 (see Goal 4, Objective C and Goal 5, Objectives A, B and C).

Competitive grant description

EED issues a Request for Applications to ensure the Ed Tech competitive grants are of sufficient size and duration, and that the projects funded by the grant are of sufficient scope and quality to carry out the purpose of the program effectively (see sample RFA at eed.state.ak.us).

Integration of technology with curricula and instruction

Integration as Goal 1 of this plan will be supported by the professional development in Goal 2 to ensure ongoing integration of technology into school curricula and instructional strategies in all schools.

Incentives

Districts will be encouraged to provide the opportunity for teachers who are technologically literate and teaching in the rural or urban areas the chance to participate in the specific plan activities referenced as incentives to remain in those areas (see Goal 2, Objective B; Goal 4, Objective A, B and D; and Goal 5 Objective C).

Support

EED will be soliciting participation of both public and private entities in the implementation and support of the plan both in the actions identified and others as appropriate during this five-year plan (see Goal 1, Objective A; Goal 2, Objectives A and C; Goal 4, Objective D; and Goal 5, Objective A).

Appendix C

Website Resources

Alaska Distance Education Technology Consortium
adetc.alaska.edu

The Educators' Blueprints for Effective Standards-Based Reform, Building Block III: Effective Use of Data
www.buildingblocks.org

ISTE (International Society for Technology in Education) Curriculum and Content Area Standards NETS for Teachers, NETS for Administrators, and NETS for Students
cnets.iste.org/teachers/
cnets.iste.org/administrators/
cnets.iste.org/students

National Education Technology Plan
www.nationaledtechplan.org/default.asp

No Child Left Behind White Papers
e-Learning Frameworks for NCLB (pdf)
Meeting the Need for High Quality Teachers: e-Learning Solutions (pdf)

North Central Regional Educational Laboratory (NCREL) D^3M: Helping Schools Distill Data
www.ncrel.org/info/nlp/lpsu00/help.htm

Observation Protocol for Technology Integration in the Classroom (OPTIC)
netc.org/assessing/home/integration.php

The Partnership for 21st Century Skills
www.21stcenturyskills.org/

Profiling Educational Technology Integration (PETI)
www.setda-peti.org/

Quality Schools Portfolio
http://qsp.cse.ucla.edu/sub_qsp.htm

School Interoperability Framework
www.sifinfo.org

Taking TCO to the classroom
http://classroomtco.cosn.org/

Tools for School-Improvement Planning, Using Data
www.annenberginstitute.org/tools/using_data/

Using Data to Drive School Improvement
www.my-ecoach.com/online/webresourcelist.php?rlid=713

Appendix D

Glossary

Connectivity – A program or device's ability to link with other programs and devices. For example, a program that can import data from a wide variety of other programs and can export data in many different formats is said to have good connectivity. On the other hand, computers that have difficulty linking into a network (many laptop computers, for example) have poor connectivity.

Distance Learning – The integration of technology in educational courses where students may view and participate in lectures from various locations . . . .Various forms of computer-based communication (e-mail, newsgroups, videoconferencing, electronic forms are used to facilitate class discussions, faculty "office hours," and communication among students and between faculty and students.

E-Learning – An approach to facilitate and enhance learning by means of personal computers, CD-ROMs, Digital Television, Mobile Devices and the Internet. This may include email, discussion forums, and collaborative software. E-learning may also be used to support distance learning through the use of WANs (Wide area networks), and may also be considered to be a form of flexible learning where just-in-time learning is possible. Courses can be tailored to specific needs and asynchronous learning is possible. Where learning occurs exclusively online, this is called online education. When learning is distributed to mobile devices such as cell phones or PDAs, it is called M-learning.

E-Rate – A telecommunications discount program for schools and libraries begun as part of the Telecommunications Act of 1996. Telecommunications services, Internet access, and internal connections are eligible for 20-90 % discounts based on the free and reduced-price lunch rate of students within a school—or schools within a library district.

Infrastructure – A network of interconnected computers and communication systems. Possible elements include wiring, fiber optics, video and/or cellular broadcast signals.

Technology Integration – The incorporation of technology into schools' daily routines. Integration is occurring if teachers are trained in a full range of technology uses and in the determination of their appropriate roles and applications; teachers and students routinely turn to technology when needed; and teachers and students are empowered, encouraged, and provided with the necessary equipment, connectivity, and curriculum support to use the technology as an educational tool.

Videoconferencing – An audio and video link between two or more remote locations with live, moving image transmission and display. Two-way video conferencing allows both locations to see and hear the people and presentation materials at other locations, although not necessarily in continuous presence mode. I-TV is the term usually used to signify videoconferencing in an educational setting. Videoconferencing most often refers to the business application of the technology, e.g., video meetings. Increasingly, the terms are used interchangeably. Videoconferencing is a discussion made possible by electronic communications between two or more people in different locations. Participants view each other on screens; real-time sound and video is transmitted between locations via the network.


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