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CALIFORNIA  
ADULT EDUCATION  
TECHNOLOGY PLAN 2001 - 2004

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Prepared by the  
Outreach and Technical  
Assistance Network (OTAN)

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APPENDIX – Matrix of Priorities, Outcomes, and Action Items

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# ABSTRACT

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While technology is heralded as the solution to a growing number of issues involving access to quality adult education services by a diverse and expanding population, there is much to be done in creating an environment that enables adult learners to succeed. An adult education technology plan created with the knowledge and input of the statewide adult education community will facilitate the dialogue and activity needed to foster this environment. The *California Adult Education Technology Plan* addresses issues of:

- **Infrastructure** – including both the resources required to successfully implement technology in classroom and home environments and access to those resources.
- **Uses for Technology** – defining the range of applications for which technology has a rightful place, including instructional technology, assessment, and student information systems.
- **Approaches to Creating Learning Environments** – including distance and distributed learning, professional development, and communication.

Nine major plan priorities are identified:

1. Define a baseline of technology **resources** available to adult education instructors and learners, regardless of program area, that facilitates teaching and learning regardless of location.
2. Create a technology rich environment in adult education in which learning can take place anytime, anywhere, and is oriented toward the goals and capabilities of the learner (**access**).
3. Quality technology-based **instructional resources** will be available and accessible to meet the varied needs of adult learners and providers.
4. Have a set of technology-based **assessment** tools available across a range of adult education programs that addresses issues of placement and progress in achieving learning goals.
5. Have a **student information system** across a range of adult education programs that addresses issues of tracking, reporting, and academic progress, is accessible to administrators and learners, and is efficient to maintain.
6. Technology will support learning activities and resources at any time, any place, any pace, and will emphasize person-to-person interaction (**distance learning**).
7. Incorporate **distributed learning** strategies into adult education programs.
8. Adult educators will have the necessary skills and time to integrate technology into instructional and management activities (**professional development**).
9. Adult education providers and learners will use information technologies to collaborate, exchange information, and explore new learning environments (**communication**).

The impact of technology on adult education instruction and learner options will be addressed. Outcomes and action items involving programs, policies, partnerships, and funding will be developed to enable the diverse members of the California adult education community to work together to achieve these priorities and to establish new priorities well into the 21<sup>st</sup> century.

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# CALIFORNIA ADULT EDUCATION TECHNOLOGY PLAN, 2001–2004

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By all indications, technology has become an integral part of solutions proposed to meet the needs of California's adult education population. In such wide reaching documents as the *California State Plan 1999-2004*, prepared by the California Department of Education, Adult Education Office, the *Annual Narrative Performance Report, 1998-99*, prepared by the Comprehensive Adult Assessment System (CASAS, 1999), and the report *From the Margins to the Mainstream: An Action Agenda for Literacy*", developed as an outgrowth of The National Literacy Summit 2000, technology is heralded as the key to enabling the adult education community to serve a diverse and growing population. But what does that mean on a practical level? What commitments will have to be made by federal and state government to enable adult educators to treat technology as an integral part of their approach to building programs, delivering instruction, and accounting for changes in the adults they serve? What actions will have to be taken by adult education providers to enable technology-enhanced services to be delivered? How will changes be manifested at the program or policy levels? What funding levels are needed to support this initiative and what will become funding sources? Can the adult education community transform itself in this process or will new partnerships be needed to meet agency goals? The goal of the *California Adult Education Technology Plan* is to describe a vision for the role of technology in serving the adult education community and to define the practical steps that have to be taken to make that vision a reality.

The Outreach and Technical Assistance Network (OTAN) has served as the primary agency leading the dialogue on the role of technology in California adult education. However, the process of eliciting input and feedback is critical if the plan is to succeed. The implications of having a statewide technology plan are too broad to allow a single agency to define the options and propose solutions. Recognizing this fact, OTAN has established a highly inclusive process that has involved eliciting feedback from field practitioners, vendors, administrators of the State Leadership Projects created by the California Department of Education, and CDE officials. And, just as technology is constantly changing and responding to both technological breakthroughs and changing market demands, this plan must be responsive to changes in both field driven needs and in the technological and political landscapes.

## I. The Adult Education Landscape

The *California State Plan 1999-2004* defines a series of challenges facing the adult education community:

- The population base of California is currently 34 million and is projected to be 39.6 million by year 2020. The number of individuals needing adult education services is expected to be a significant percentage of the population. Immigration is a major source of the population growth. The rate of growth in high school dropouts shows no sign of slowing. The accelerated demand for retraining among today's workers shows no sign of decreasing. The *CASAS Annual Narrative Performance Report 1998-99* estimates that 1.79 million students were served in 411 federally funded ABE 321/326 programs in California, with school district adult schools providing educational services to 82.3% of the population.

- The populations served by the adult education community are diverse. The key population groups that comprise the service base for adult education are disadvantaged adults, adult immigrants, homeless adults, individuals with disabilities, incarcerated adults, and single parents and displaced homemakers. The literacy levels and life goals of these groups are highly disparate as well. A “one size fits all” approach to adult education will not meet the needs of individuals with different experiences, capabilities, opportunities, and constraints.
- The federally defined priorities for adult education span a range of requirements including: Literacy at NALS Level 1; Workplace Literacy at NALS Levels 1 and 2; School-Based Literacy at NALS Level 2; Family Literacy; and Adult Secondary Education at NALS Level 3 and above. Federal funding is tied to the state’s and individual agencies’ abilities to achieve measurable improvement in each of these areas.
- The field of adult education is comprised of a number of programs, each designed to meet the extensive needs of a specific population, including English as a Second Language, ESL-Citizenship, Adult Basic Education, and Adult Secondary Education. Curriculum in each of these areas addresses “hard” skills in reading, writing, and numeracy, as well as more intangible skills in building self-esteem, team building, becoming a better parent, or enhancing job readiness.

In each of these areas, technology is assumed to have a major role to play in both making educational services available to these broad population categories and transforming the nature of instruction and learning to enable the adult education population to achieve more.

In reviewing the programs and services offered by the adult education and literacy provider community, there are significant challenges in providing quality services. The California Department of Education, Office of Adult Education estimates that “California has over 20,000 administrators, teachers, volunteer tutors, and support staff serving the educational needs of over one million adult learners annually. Over 80% of the adult education and literacy personnel are hourly or part time. Many work for more than one agency and a high level of transience exist among these staff. ... Over half of the (adult education) providers offering literacy programs are small in size and have only part time or volunteer staff, including a part-time administrator who typically plays a variety of roles within the local agency. Many of these providers are in remote locations.” (source, *Primary Request for Proposals for Adult Education and Literacy Staff Development*).

The requirements of the *Workforce Investment Act* have created additional challenges for the adult population in California and the education community that serves it. “Work first” requirements and accountability requirements that encompass not only the services delivered by the agency but also the employment record of individual learners once they leave the program create additional pressures on educational programs and assessment systems.

The financial resources provided to adult education programs are a fraction of the resources provided to the K-12 community or to the post-secondary education community in California. While programs and partnerships within the K-20 community are gaining momentum, the adult education community is left outside of the discussion. The ramifications of this lack of access to critical statewide planning initiatives relating to education is particularly critical when considering the issues involved in family literacy.

Into this vibrant, high pressure mix of needs, programs, and services comes the promise of technology. Throughout the legislation, program requirements, needs assessments, budgets, and

planning documents prepared by and for the adult education and literacy community is the theme that technology is a critical part of the answer to providing quality services and producing long lasting results. But converting the promise of technology into a tool that can assist the adult education community in meeting its goals requires defining the range of ways that technology is expected to impact adult education and employment opportunities. Such expectations include the following:

- A major goal of the *Workforce Investment Act* is to provide high paying, stable jobs to the unemployed and underemployed. Technology-related jobs represent a highly desirable career path.
- Obtaining a solid base of technology skills enhances employability across a range of careers. With a major goal of *WIA* to improve the long-term job prospects and life style of the underemployed and unemployed, technology skills represent a critical foundation for long-term employment prospects.
- Technology is cited as a critical life skill that enhances how people live as well as work. Technology is built into the everyday tasks associated with running a home or operating a vehicle.
- Technology is cited as a bridge skill that will enable parents and children to share common information and plans.
- Technology is a resource to adult education agencies that must meet the challenges of providing educational services to geographically dispersed populations.
- Technology is a critical factor in enabling agencies to plan for increasing populations without a comparable increase in financial or programmatic resources.
- Technology is seen as a solution to mounting administrative requirements for measurement and accountability.
- Technology is seen as a means for reaching diverse populations with varying learning styles.
- Technology allows access to information, skills, and resources that would otherwise be unavailable.
- Technology can enable services to be delivered to populations who lack mobility, including incarcerated adults or single parents.

## **II. Expectations about the Role of Technology in Adult Education**

The impact of technology in adult education is reflected in both federal and statewide planning and assessment documents. The *CASAS Annual Narrative Performance Report 1998-99* presents a “state of the provider” perspective on issues that impact adult education services, accomplishments, challenges, and goals. The analysis cites trends in the perceived importance and impact of technology in adult education in each of three reporting periods (1995-96, 1996-97, 1997-98). At the agency level, technology is seen as impacting funding priorities, staff development and recruitment, and facilities. The availability of technology is seen to impact student response to programs and has a direct impact on how instruction is designed and delivered. Technology is seen as enhancing alternative educational services and changing service delivery. Technology is seen as impacting educational assessment and student services delivery. New priorities are being established to continue these trends and activities, including the call for:

- Funding and technical assistance to support expansion, updating, and effective use of computer and multimedia labs.

- Funding and technical assistance to support development, implementation, and evaluation of distance learning programs and other alternative educational services.
- Professional development for staff at all levels, in a variety of formats and learning modalities, accessible at a variety of times and locations with a focus on:
  - Effective use of technology for the delivery of instruction
  - Effective use of an accountability MIS in small, medium, and large programs
  - Accessing and using online networking, technical assistance, and professional development resources
  - Identifying, evaluating, and using online instructional resources. (p.52)

At the state level, the *California State Plan 1999-2004* has integrated use of technology into the criteria used to fund 231/236 agencies, including the requirements that:

- Local providers will make effective use of technology, including computers, in the delivery of adult education and literacy services. CDE will request eligible applicants to describe how technology, including the use of computers, is used to enhance instructional strategies in approved programs. Among the most competitive agencies will be those that incorporate basic computer literacy instruction within each of the major program components, along with computer assisted and distance learning programs. (section 6.5)
- Local providers will maintain a high-quality management information system (MIS) that has the capacity to report client outcomes and to monitor program performance against state performance measures. (section 6.5)

For each of the target populations supported by adult education programs, the *California State Plan 1999-2004* cites technology-based instructional priorities as well. Representative of those priorities are those established for disadvantaged adults, adult immigrants, and incarcerated adults:

- Computer literacy will be provided as a strategy for building bridges between the poor and the larger community. (section 8.1)
- The continued use of the *Crossroads Café* instructional videos, developed for distance learning and family literacy, will be a major educational tool for ESL students learning English. (section 8.2)
- CDE will encourage adult education providers to integrate technology into the classroom to meet the unique needs of the students ... Closed circuit television systems and educational video programming are increasingly used as instructional technology. (section 8.3)

OTAN, California Distance Learning Project, and Cyberstep—technology-based staff development programs—are cited as primary resources to the adult education community and assigned critical responsibility for working with adult educators to integrate technology into instruction. (section 12)

At the Federal level, the National Institute for Literacy recently released its report from The National Literacy Summit 2000, titled “From the Margins to the Mainstream: An Action Agenda for Literacy”. Several suggested action plans call for integrating technology into the fabric of adult education, including proposals to:

- Ensure that all legislation related to distance learning, Internet access, and educational technology includes provisions for the adult education, language, and literacy system, such as offering programs discounted Internet service rates. (Outcome A, Action 4)

- Provide incentives for every publicly funded program in the system to have a student-to-computer ratio of no more than 3 to 1. (Outcome A, Action 5)
- Offer federal and state tax incentives to employers that invest in the development of employees' basic skills by funding English language and other forms of basic skills training, providing information technology training and GED preparation, or purchasing computers and Internet access for online training. (Outcome A, Action 8)
- Commit a minimum of 15 percent of state and federal adult education funds for professional development activities. (Outcome A, Action 9)

The Summit also calls for priorities to be developed to ensure access to quality services, including the outcomes:

- Adult education, language, and literacy instruction can be accessed anywhere and at any time.
- A strong research and development capacity, focused on teaching and learning, develops knowledge and tools that are responsive to the needs of the field.

The action plans proposed to operationalize these outcomes involve implementation of technology based services to the broad base of adult learners, working in multiple disciplines, accessed in a range of venues; further calls for staff development; and proposals to develop innovative learning environments, instructional delivery mechanisms, and Internet based multimedia content for adult learners (p.8/9).

### **III. Current Resources**

In both 1995 and 1998, the California Adult Education Technology Survey was distributed by OTAN. Responses to the survey indicate significant interest in these issues, with 61% of 428 agencies responding to the survey in 1998. Using the recent survey as the more accurate indicator of the issues relating to the use of technology in adult education, critical findings are:

- The use of computers in adult education is high and is increasing. A total of 18,825 computers were reported in use.
- There is considerable variability in the use of computers for instruction among different programs. Agencies offering ABE instruction were far more likely to employ computers in instruction, and were far more likely to utilize integrated learning systems (34% of agencies reported using ILS) than were programs for ESL, Pre-GED/GED, high school, and vocational instruction. It is unclear whether that difference is due to a lack of software (particularly integrated learning systems) that support these programs or due to agency decisions about the purchase or use of software.
- Schools were connected to the Internet. Eighty-one percent of agencies responding to the survey reported Internet connections.
- Other technologies (besides computers) are also reported to be in widespread use, but the technologies tend to be less "future oriented" (87% reporting use of an audio cassette recorder as compared with 27% reporting use of a digital camera and 6% reporting use of a satellite dish).
- Professional development is a major issue for agencies. Seventy-seven percent of agencies responded that they would be interested in workshops to teach teachers how to use and

integrate the Internet. Over 87% of agencies indicated a high degree of interest in technology training on:

- How to integrate technology into instruction;
  - Information on hardware and software;
  - Internet training; and
  - Training on how to use hardware.
- Agencies have incorporated thinking about technology into their planning cycles. Sixty-seven percent of agencies reported a technology planning document in comparison with 17% in 1995.

Other survey findings indicate areas that must be addressed if technology is to be successfully integrated into the instructional services offered to the adult population:

- There are considerable differences between the types of agencies that offer Internet services. Ninety-three percent of library programs offer Internet services as compared with 70% of community-based organizations (CBOs).
- Forty-seven percent of agencies indicate that Internet access is provided by use of modems. Given the increasing sophistication of Internet-based solutions, the low transmission rates associated with modems will impact how the Internet can be integrated into instruction.
- The Internet is more likely to be available to administrators than to either teachers or students. While 223 agencies indicated that the Internet is used by administrators, only 110 indicated that the Internet is used by students for instruction and 154 indicated that it was used by teachers for classroom preparation.
- Looking at the rate of participation in projects that are designed to support integration of distance learning activities into instruction, 74% of the agencies responding indicated they did not participate in 5% Performance and Innovation projects or any other distance learning project.

The survey results clearly indicate that, while there is considerable progress in the use of technology in adult education, there is a long way to go before technology can be considered an integral part of the toolset available to both instructors and learners.

Within this context, how can a statewide technology plan be developed that addresses expectations as well as genuine need?

#### **IV. Vision**

In 1999, a vision statement for the role of technology in adult education was developed.

*“California adult education will address the changes to society brought on by technology that is inherent to the lifelong learning process.”*

A series of themes was enunciated that addressed the range of ways in which technology could lead to a better California adult education program. White papers were developed for each of these themes outlining programmatic impacts and suggesting broad priorities in each area. Public input was sought on these white papers and responses have been incorporated into the discussion. These vision statements represent different dimensions around which the priorities and outcomes of the *California*

*Adult Education Technology Plan* will be defined. The vision statements can be grouped into three general areas.

- **Infrastructure Issues**
  - Resources: Adult learners will have immediate access to current technologies, high speed networks, and support resources to enhance technology use.
  - Access: Each adult learner will have access to “easy to use” instructional technology at convenient locations.
  
- **Uses for Technology**
  - Instructional Resources: Quality technology-based instructional resources will be available to meet the varied needs of adult learners and providers. Information about those resources and their effective use will be easily accessible.
  - Assessment: Learner assessment will be based on appropriate learner goals and will offer useful and understandable output for learners through the effective use of technology.
  - Student Information Systems: Information systems will transparently relate to one another across programs and will offer useful and understandable output for learners and providers.
  
- **Approaches to Creating Learning Environments**
  - Distance Learning: The use of current technologies will support learning activities and resources at any time, any place, any pace, and will emphasize person-to-person interaction.
  - Professional Development: Adult education providers will have the necessary skills and time to integrate technology into instruction and management processes. An incentive based tiered approach will stimulate these activities.
  - Communication: Adult education providers and learners will use information technologies to collaborate, exchange information, and explore new learning environments.

A final area in which to establish a vision and set priorities and outcomes is **evaluation**—establishing a common framework for defining the successful integration of technology into the adult education environment. This framework may encompass what is defined as student learning outcomes, changes in program structure and delivery, efficient use of budget resources, or creation of new educational alternatives.

## **IV.A. Infrastructure Issues**

### **IV.A.1. Resources**

Two fundamental areas that attract immediate attention in technology planning involve the availability and quality of resources and access to those resources. The vision for resources is that learners will have:

- Resources based on programmatic need;
- High speed access to the Internet;
- School-wide networking based on current technology;
- Access by adult learners and staff to network resources from their homes; and
- Adult education providers will enter into partnerships with high tech companies.

The common theme among these ideas is that, if the goal of adult education is to enable learning to occur “anytime, anyplace,” then the resources have to be available to facilitate that philosophy. Survey results indicate that an increasing number of agencies have computers and Internet access available. However, resources are not uniformly available over different types of programs, the type of Internet access available does not always support learning activities, and resources are not always available in the place where learning occurs. Priorities must be set that define a standard for technology resources and provide a framework that agencies can utilize in planning for programs, funding, and staff development. These standards will encompass hardware, software, networking, and professional development. Those priorities must address facilitating learning outside of the classroom, particularly as relates to the integration of technology into life skills learning and family literacy. These issues have to be addressed on an ongoing basis. Technology is a constantly evolving educational resource and no “one time only” program can expect to provide the support that adult education agencies will need to address what is better thought of as an educational “sea change.”

#### **IV.A.2. Access**

The issue of access takes the process of defining the baseline for technology availability further by focusing on the specific issues of where learning takes place.

- California adult schools will place technology into the hands and homes of adult learners.
- High-speed network access will be made available to all adult learner classrooms.
- Access to effective instructional technology will be available to all adult learners, in each program area.
- Internet-based education will give students the opportunity to access learning opportunities, day or night.
- Hardware available for students on an individual checkout basis and mobile technology that can go where the learners go.
- All adult learners overcome their learning fears and difficulties and approach learning as a positive, ongoing, and essential part of their life.
- Adult education funding mechanisms will be able to support learning at distributed sites throughout individual communities.

When the term “access” is used, the full range of issues that define the process of taking the promise of technology and translating it into a deliverable is raised. While the survey of California adult education agencies focused on institutional technology plans and resources, a comprehensive vision for technology has to take into account where and how learning takes place. For adult learners, education cannot be confined to an institutional setting. If technology is intended to address life skills issues and transform the educational process, then technology has to be made available where the learner is. A technology vision has to encompass access from home. It has to recognize that there is

not a level playing field among adult learners in which the individual learner is made responsible for creating a suitable learning environment—either in terms of being able to “make technology happen” or in being ready to embrace the changes that technology implies. There is no other area in which the diversity of learners is as important as in considering the ability of individual learners to incorporate technology into their individual skill sets. While displaced workers may look to technology to enable them to reestablish their work identities, adult immigrants may find technology just one more hurdle to mount as they learn about their new environments. Broader attitudinal issues have to be considered when incorporating technology into instruction.

These issues are also intimately tied to funding. Adult schools cannot be expected to carve the resources necessary to employ technology as an ongoing resource out of existing operating budgets. Adult learners cannot be expected to be responsible for recreating technology-based learning environments in their homes.

## **IV.B. Uses for Technology**

It can be difficult to separate out the call for resources and access from the planned uses of technology to support adult education. It will not be possible to gauge the need for resources or access without fully understanding the range and sources of demands on those resources. And, to be realistic, the need for technology extends beyond instruction to include core administrative responsibilities for assessment and student information. Technology planning has to take account of the resources needed to fully develop the potential in those systems.

### **IV.B.1. Instructional Resources**

Defining a vision for instructional resources to support adult education is a massive task. Since one promise of technology is to “open up” the potential for creating instructional tools that are appropriate to the subject, appropriate to the learner, and take advantage of the technology, the possibilities for development are open ended. In fact, the use of the term “technology” encompasses a variety of approaches to education. Educational programs can extend access through multiple technologies to achieve the same education goal. As one example, teaching about the Constitution in an ESL-Civics class can utilize technology to benefit students in a number of ways:

- hearing someone read the Constitution over an audio-cassette system;
- seeing a dramatic production about the framing of the Constitution through the PBS system;
- purchasing a CD-ROM from a textbook publisher that hypertexts the Constitution to create links between the document and ensuing court decisions;
- accessing the Constitution directly from online sources.

However, there are themes that can be used to define a vision for instructional resources independent of specific technology:

- Software will be available to meet varying levels of learners on an interactive basis for all subjects taught in adult education.
- Integrated learning systems (ILS) specifically for adult learners will be developed.
- Interactive Web sites appropriate for adult learners will be available.
- A bank of instructional resources will be easily accessible to instructional staff and learners.

- Exemplary lessons for integration of technology will be available on the OTAN Web Site.
- Model lessons demonstrating best practices in implementing software will be available.
- Teachers will guide students to use technology information to analyze, synthesize, create, and present information.
- Streaming audio and video will be available in every adult education classroom.

These vision statements illustrate various aspects of the challenges involved in bringing instructional technology into the classroom. First, the technology must exist—whether it is software, integrated learning system, Web site, CD-ROM, videotape, or audio recording. Second, teachers must be knowledgeable about the resources, confident about access, and comfortable integrating it into instruction and working with learners using technology. The use of instructional technology implies a teaching approach that promotes “guide on the side” rather than “sage on the stage”—emphasizing the role of the teacher in the process of learning rather than as content master. These are issues that are current throughout education. They are particularly relevant in adult education, where many instructors are part-time and their educational training may be limited. Third, the resources must exist to enable the instructor to be able to incorporate the technology that is appropriate to the lesson rather than the technology that is available in the classroom.

#### **IV.B.2. Assessment**

The issue of assessment addresses both the areas of initial student placement and of measuring growth and goal attainment for the individual student. In a time when policymakers, funding sources, and learners themselves are evaluating their investment in education, it is time that technology play a role in facilitating and enhancing the assessment process. Systems are needed that meet the accountability requirements of funding sources and policymakers, are a tool for instructors and administrators who are responsible for measuring progress and modifying instructional services and strategies to meet the needs of learners, and enable learners to take control of their own educational experience. Specific considerations in addressing the variety of issues involving assessment are:

- Developing online assessment tools and measures that will both facilitate placement and provide a blueprint for instructors and learners to craft an individualized learning plan.
- It is critical that technology not interfere with the ability of learners to display their knowledge. Recognizing that there are different levels of comfort among individual learners, assessment tools have to be crafted that do not lead to “testing effects” among learners.
- Assessment tools are needed that are relevant to a variety of programs. Just as instructional resources have to be responsive to the requirements of individual programs, assessment tools have to be valuable in each program area.
- Tools are needed that “level the playing field” of instructional delivery. Comparable, not identical, measures should be developed for learning that takes place in the classroom versus online.
- A clearinghouse for available assessment tools should be available online. These tools should be cross-referenced by technology and subject, just as instructional resources need to be cross-referenced.
- Technology-based assessment should be used to facilitate the tasks associated with tracking student progress and outcomes. Technology should be able to relieve some of the burden in operationalizing new accountability standards and reporting requirements. Processes should

be undertaken on the system level to ensure that progress towards model standards can be measured and understood.

- Technology should enable learners both to understand their own progress toward achieving educational goals and to present tangible evidence of their progress to others. Web based portfolios are a critical tool in providing this capability.
- Technology should facilitate the ability of educators and learners to present assessment data that is meaningful to employers and to post-secondary institutions, enabling learners to continue with their personal goals and plans.
- A process should be undertaken that examines the assets that technology brings to the instructional assessment process and creates tools for the learner that enhance the learning process. Examples might be the ability to lead a student to online tutorials or review materials based on a particular scoring pattern in online assessment. The ability to modularize review and assessment processes should be considered another strength, allowing the instructor to focus the student on finite areas that need further attention.
- Technology-based accountability systems will also enable funding sources and policymakers access to data that can help them make information-based decisions on program efficacy and support requirements. Instead of expending efforts on gathering data, adult educators and policymakers can spend time analyzing results and determining how to modify programs and policies to achieve desired results.

#### **IV.B.3. Student Information Systems**

Closely tied to issues of assessment and accountability are issues of tracking and understanding student data. The adult education population presents significant challenges to educators responsible for designing and delivering programs and services. Learners may qualify in more than one program area. Adults have the option of being mobile—moving from program to program—and have the option of moving in and out of the adult educational system. The cost to the adult education program to track and maintain records on this population is high. The degree of disruption to the individual learner, who must recreate his or her educational record in a variety of settings, is high as well.

Technology has a critical role to play in this area in a number of ways:

- It facilitates common definition of critical terms for describing student information and assessing student progress.
- It can play a critical role in facilitating communication of records within and between schools and programs. Instead of having the learner carry records, records can be transmitted and the data integrated.
- It streamlines data entry, accountability, and record keeping responsibilities both internally and to state and federal funding sources and policymakers.

The vision for a technology-based student information system encompasses the need for:

- Common data definition and systems.
- Access by administrators, instructors, and learners to achieve individual and system goals.
- Integration of student information systems with assessment systems to enable a full record of the learner to be available—to the learner, educator, employer, or policymaker.

## **IV.C. Approaches to Creating Learning Environments**

Critical to consider in developing a viable technology plan for the adult education community in California is involving the role of distance learning and distributed learning in defining how and where learning can take place, and in recognizing the role of professional development and understanding the importance of communication in maintaining forward progress in the field of adult education.

### **IV.C.1. Distance Learning**

The use of current technologies will support learning activities and resources at any time, at any pace, and will increasingly mirror the instructional environment in which instructors and learners communicate directly. The opportunities created by distance learning enhance the educational possibilities for a variety of populations, including:

- Geographically dispersed populations that are unable to reach educational sites.
- Populations with limited mobility, such as single parents or incarcerated adults.
- Working adults who are not able to attend traditionally scheduled classes.
- Professionals (including educators) who have to “fit in” professional development activities into workdays that are already full.

The vision for distance learning has to include defining the educational possibilities that constitute distance learning as well as making resources accessible to populations in need.

- Technology affords the possibility of creating significant learner-to-learner interactions that build the sense of educational community and improve student outcomes. Such modalities as e-mail and chat, Internet access for research and information, as well as traditional software packages can recreate the educational environment found in the traditional classroom. In fact, these same resources can enhance the traditional classroom setting by making new communications patterns viable and introducing new sources of information and research techniques to all learners.
- Designing the distance learning class involves renewing the instructor’s commitment to understanding how learning takes place and matching techniques and information sources to both the individual learner and the type of instruction taking place. Professional development activities are needed to optimize the potential of distance learning.
- Recognizing the types of populations who would benefit from distance learning options is the foundation for the technology planning that is necessary to get the right resources to the right learners to enable distance learning possibilities to be realized.
- The technology basis for distance learning has to be fully explored. If distance learning activities can take place through the Internet, through videotape, or through live television, how can adult educators map existing instructional resources to the technology that learners have available?
- The funding basis for distance learning has to be fully explored. How can a long term perspective be applied to enable increasing levels of resources and access to those populations, even as the potential for distance learning modalities undergoes change?

The concept of “distributed learning” has emerged to describe the myriad ways that technology can enhance instruction. Rather than consider technology as related primarily to distance learning

approaches, distributed learning envisions a continuum of learning activities in which technology supports instruction as educationally appropriate.

#### **IV.C.2. Professional Development**

There is no area more important in developing a successful technology plan for the adult education community in California than professional development. The potential that technology holds for improving instruction, assessment, and accountability cannot be realized if instructors cannot learn about new resources or have the opportunity to integrate technology into instruction. Success in integrating technology into instruction will be influenced by the instructor's attitudes and "comfort level" with the concept of distributed learning. The issue of professional development is complicated by the diversity of technology available, the potential for incompatibility with an educational technology solution that is right for the situation but that does not work in the environment, the changing nature of technology-based educational solutions, and the lack of institutionalized support.

Additionally, the need for professional development changes as the individual educator becomes more sophisticated and desires more control over how technology is deployed in the classroom. It is not uncommon for an individual instructor to go through stages in how he or she considers deploying technology for instructional purposes. Initially, the individual educator may desire "prefab" solutions—packaged software, dedicated Web sites that define and control options. As the educator becomes more sophisticated, he or she may want to use authoring tools to create software or develop Web sites or advanced Internet search skills to maximize control over how technology is deployed. In a third stage, the same educator may want to take advantage of existing packages and programs, inventing only what is truly unique to an educational experience. How can professional development opportunities be developed that capture both the changes in technology and the diverse levels of interest, knowledge, and motivation of individual instructors?

The recognition that the promise of technology to improve education will not be realized unless the professional development of teachers is incorporated into the process has been recognized in other educational arenas. Financial support for professional development is being incorporated into technology initiatives. Such K-12 educational technology programs as the Digital High School, AP Challenge Grant, or Bill 2882, which dispenses \$175 million in funding to high schools to obtain and implement technology, all contain provisions for the professional development of teachers. While there has not been a dedicated funding stream for implementing technology in adult education, these types of programs should be seen as a model for how financial support can be built into issues of resource development and access.

The vision for professional development needs to address the wide range of considerations that go into creating a successful program:

- The definition of basic competencies that should be displayed by all adult educators in order for the instructor to control how technology is best incorporated into specific lesson plans. Employing a tiered structure for technology competency also allows recognition of the different ways that instructors can successfully take advantage of technology they create themselves or incorporate based on the work of others.
- Creating program models for professional development that enable adult educators to offer resources to instructors without incurring additional development costs. Whenever possible these programs should incorporate distance learning techniques to broaden program reach and model the behavior that is desired in the classroom.

- Incorporate professional development initiatives and support into the programs and policies of adult education in a manner comparable to the legislation that addresses the needs of the K-12 community.

#### **IV.C.3. Communication**

A final element in defining approaches to creating learning environments using technology involves the issue of communication. A minimal expectation in the adult education community should be to use information technologies to collaborate, exchange information, and explore new learning environments. This expectation would be valid for:

- Direct instruction and communication among learners, utilizing the concept of the “learning community.”
- Professional development between adult educators regardless of physical location.
- Extending the range of interaction from local venues to regional, state, and national levels. The availability of technology levels the playing field in terms of who has access to information and to the forums in which new ideas and concepts are explored. No longer is it necessary for educators to travel to a specific site in order to have input into the discussions that impact their professional options.

This basic change in communications patterns should be relevant to all programs, involve direct instruction as well as program and professional development, and should be available to everyone in the adult education community.

#### **IV.D. Evaluation**

While evaluation has not been an explicit part of the discussion in developing a technology plan for the adult education community in California, accountability issues have been a critical part of the discussion in program development and funding initiatives. It is important to address the process for evaluating the impact and efficiency of technology on adult education. Does the adult education community have the expectation that learner outcomes will be significantly different as the result of exposure to technology? Will that be manifested through higher test scores or course and program completion rates? Proposed measures of the impact of technology on adult education may include:

- Higher employment rates in technology jobs. Given the strong relationship between adult education and employment goals, it would be expected that adult education programs focused on technology training would yield higher employment rates in that field.
- Higher employment rates in the types of jobs that incorporate technology skills. Even if not explicitly “technical,” many jobs require a level of technological exposure and sophistication that can be learned in a technology rich adult education program.
- Increased mastery over elements of daily life that involve technology, including the ability to conduct personal transactions over the Internet or write a letter using word processing software.
- Increases in common understanding between generations, as parents and children are exposed to a broader range of information and skills.
- Increases in knowledge that would be expected from exposure to information and resources that lay outside the personal experience of the individual.

- Increased program participation by segments of the population who were not able to attend traditional programs, either because of geographic isolation or life situations.
- Higher educational goals by students who become more confident in their ability to master information and structure their learning environment.

These impacts are de facto outcomes of exposure to technology. A question that can still be asked is whether increased program completion rates and higher grades should be an expected outcome of a technology-infused educational program. On one basis, this may be the case. Technology offers the promise of introducing individuals to materials using different modalities and allowing for individuality in the timing and pace of instruction. It is valid to examine the circumstances under which these features of technology would lead to different educational outcomes for individual learners. However, it would be a mistake to simply compare the outcomes of individuals in programs incorporating technology with more traditional methods of teaching. To draw that conclusion might imply that there is no longer a critical role for excellent instruction in adult education. That conclusion is neither warranted nor desirable. Instead, it may be more constructive to set goals for the impact of technology in adult education that focus on the de facto benefits and the “leveling of the playing field” that exposure to a common base of instructional materials and approaches implies.

## **V. Priorities, Outcomes, and Action Items**

If the *California Adult Education Technology Plan* is to become a roadmap for educators, state officials, and others involved in providing services to the adult education population, then it must be grounded in reality. Our focus must shift from “visioning” desirable end states to setting forth outcomes that can be supported and achieved. Priorities and outcomes will be set out for each of the visioning areas discussed in the *California Adult Education Technology Plan*. Realizing those priorities and outcomes will involve development of action items that involve programs, policies, funding, and partnerships. The following outcomes are organized by level of difficulty (low, medium, high) and level of priority (10 - highest, 1 - lowest).

## **V.A. Resources (Infrastructure Issues)**

**PRIORITY:** Create a baseline of technology resources available to adult education instructors and learners, regardless of program area, that facilitate teaching and learning regardless of location.

### **OUTCOMES:**

#### **Low Difficulty**

##### **Priority Level 9**

1. Integrate technology planning into statewide planning process for adult education initiatives.
  - *Action Item:* As part of statewide planning process, technology impacts of new programs and services will be assessed and technology initiatives factored into the funding and program goals.

##### **Priority Level 8**

2. Define and publish optimal technology configuration(s) for adult education programs, including network connections, hardware, and multimedia devices. Ensure that issues of capacity, growth, and compatibility are addressed.
3. Identify technology resources that are relevant to all program areas and types of users.

#### **Medium Difficulty**

##### **Priority Level 8**

4. Ensure that all adult education facilities are able to participate in technology implementation efforts.
  - *Action Item:* Create bank of technology plans relevant to adult education facilities.
  - *Action Item:* Create/define technology planning resources (a la CTAP).

##### **Priority Level 6**

5. Seek to implement partnership programs that are technology rich and that have “spill over” effects to other programs.
  - *Action Item:* Create partnerships with Cisco or Oracle to create technology academies.

#### **High Difficulty**

##### **Priority Level 8**

6. Create dedicated funding source for technology expenditures that recognizes the ongoing nature of technology commitments.
  - *Action Item:* Ensure that adult education is represented in technology planning/funding discussions (DHS, Calrens2, Commission on Technology...).
  - *Action Item:* Create a dedicated funding stream for technology purchases.
  - *Action Item:* Increase adult education apportionment by a technology fee (in operational money, every year).
  - *Action Item:* Work with governmental agencies in specific program areas to identify technology-based initiatives for specific populations, such as WIA, disabled, ESL, family literacy.

## **V.B. Access (Infrastructure Issues)**

**PRIORITY:** Create a technology rich environment in adult education in which learning can take place, anytime, anywhere, and is oriented toward the goals and capabilities of the learner.

### **OUTCOMES:**

#### **Medium Difficulty**

##### **Priority Level 9**

1. Define core competencies in computer literacy to promote acquisition of technology-related skills and address attitudinal issues about technology.
2. Define technology environments for both institution and learner
  - *Action Item:* Check out computers, mobile labs, and wireless technology in the classroom.

##### **Priority Level 7**

3. Define standards for development of instructional software to ensure access by native and non-native speakers and individuals with disabilities.

#### **High Difficulty**

##### **Priority Level 7**

4. Create instructional resources that are accessible to native and non-native speakers and individuals with disabilities.

##### **Priority Level 6**

5. Make instructional resources available in multiple technologies, including Web-based, computer-based, and video-based.
  - *Action Item:* Sponsor programs that convert instructional resources into multiple modalities.

##### **Priority Level 5**

6. Make software resources available to instructors and learners regardless of location.
  - *Action Item:* Optimize software licenses to ensure that software is licensed for both on-site and off-site use.

##### **Priority Level 3**

7. Provide technology-based educational opportunities to support the “work first” requirement in the *Workforce Investment Act*.

##### **Priority Level 2**

8. Provide access to software and work files regardless of location.
  - *Action Item:* Enable adult education facilities to implement remote access to software and files.

## **V.C. Instructional Resources (Uses for Technology)**

**PRIORITY:** Quality technology-based instructional resources will be available and accessible to meet the varied needs of adult learners and providers.

### **OUTCOMES:**

#### **Medium Difficulty**

##### **Priority Level 8**

1. Develop understanding of range of technology-based resources and how each impacts differences in learning styles and capabilities within individual learners.

##### **Priority Level 7**

2. Identify or create instructional resources to meet the needs of learners in all program areas.
  - *Action Item:* Create clearinghouse of instructional resources by technology and by subject/lesson—lesson plans, Web site resources, software.
  - *Action Item:* Work with vendors to expand ILS to include materials relevant to all adult education programs.
  - *Action Item:* Work with adult education textbook publishers to create CD-ROM supplements or Web-based exercises.
  - *Action Item:* Sponsor summer institute to create lesson plans and Web sites to be used for instruction.
  - *Action Item:* Create “technology fellowships” in which adult educators are paid to develop technology-based instructional resources that are made available to a wide range of agencies.

#### **High Difficulty**

##### **Priority Level 8**

3. Develop instructional resources to support work-based curriculum in vocational programs.
  - *Action Item:* Develop relationships with industry professionals to determine what the technology requirements are for specific career goals and create technology supported curriculum to meet employer requirements.
  - *Action Item:* Create internships in technology supported professions to bridge the gap between school and work.

## **V.D. Assessment (Uses for Technology)**

**PRIORITY:** Have set of technology-based assessment tools available across a range of adult education programs that addresses issues of placement and progress in achieving learning goals.

### **OUTCOMES:**

#### **Medium Difficulty**

##### **Priority Level 10**

1. Integrate technology competencies into model standards in all programs.

#### **High Difficulty**

##### **Priority Level 10**

2. Define computer literacy as a core curriculum element in all programs.

##### **Priority Level 8**

3. Create assessment tools that facilitate development of individualized learning plans by students.

##### **Priority Level 7**

4. Ensure that assessment tools can be utilized by the student as an electronic portfolio for presentation in post-secondary education or employment environments.

##### **Priority Level 6**

5. Create online tutorials to reinforce learning and integrate with instructional assessment tools.

##### **Priority Level 5**

6. Locate or create set of assessment tools for placement and progress review that is useable by both instructor and learner.
  - *Action Item:* Create partnerships with vendors to create placement and assessment systems for full range of adult education programs.
  - *Action Item:* Create category of “Best Practices” or “Programs of Excellence.”

### **V.E. Student Information Systems (Uses for Technology)**

**PRIORITY:** Have a student information system available across a range of adult education programs that addresses issues of tracking, reporting, and academic progress that is accessible to administrators, instructors, and learners and efficient to maintain.

**OUTCOMES:**

**High Difficulty**

**Priority Level 8**

1. Locate or create student information system to support adult education programs and services.
  - *Action Item:* Develop consortium among adult education agencies to define core elements of a Web-based student information system.
  - *Action Item:* Create a state initiative (a la CSIS) to define a common base of reporting requirements and data elements and definitions.
  - *Action Item:* Develop partnership with vendors of Web-based systems to develop student information systems reflective of the data and program requirements of adult education programs.

### **V.F. Distance Learning (Approaches to Creating Learning Environments)**

**PRIORITY:** Technology will support learning activities and resources at any time, any place, any pace, and will emphasize person-to-person interaction.

**OUTCOMES:**

**Low Difficulty**

**Priority Level 7**

1. Locate Web authoring tools that can be used to support distance learning.
  - *Action Item:* Use State Leadership Projects to define practices and tools that can become de facto standards in distance learning development.
  - *Action Item:* Define templates for Web sites to support adult education programs.

**High Difficulty**

**Priority Level 9**

2. Ensure that funding streams are in place to support distance learning as an alternative instructional modality.
  - *Action Item:* Increase the 5% Project to 10%.
  - *Action Item:* Increase the number of agencies who take advantage of the 5% program.
3. Create the opportunities for distance learning to be a primary method of professional development (in both technology and non-technology related areas).

- *Action Item:* Have State Leadership Projects create technology-based instruction offered through distance learning as an integral part of professional development activities.

**Priority Level 8**

4. Ensure that adult education instruction is available through distance learning modalities.
  - *Action Item:* Create distance learning summer institutes in which instructors can convert courses to distance learning formats.
  - *Action Item:* Catalog distance learning course conversions for delivery by multiple agencies.
  - *Action Item:* Define distance learning options in model standards.
  - *Action Item:* Sponsor programs that convert classroom instruction into multiple distance learning modalities.

**PRIORITY:** Incorporate distributed learning strategies into adult education programs.

**OUTCOMES:**

**High Difficulty**

**Priority Level 8**

1. Create awareness of the relevance of distributed learning models for reinforcing and enhancing adult education programs.
  - *Action Item:* Sponsor summer institute for adult educators in which technology resources are incorporated as a critical strategy for enhancing instruction through a range of techniques and entry points.
  - *Action Item:* Create “Programs of Excellence” category for distributed learning models.
  - *Action Item:* Create professional development programs involving distributed learning models.

**V.G. Professional Development (Approaches to Creating Learning Environments)**

**PRIORITY:** Adult educators will have the necessary skills and time to integrate technology into instructional and management activities.

**OUTCOMES:**

**Medium Difficulty**

**Priority Level 9**

1. Create a basis for technology competence through building resource base of professional development activities.
  - *Action Item:* Locate professional development programs, activities, or resources that are organized by subject and by technology.
  - *Action Item:* Define “Programs of Excellence” and “Promising Practices” that focus on incorporating technology into instruction.

**Priority Level 8**

2. Create a basis for technology competency among instructors through hiring and credentialing processes.
  - *Action Item:* Define tiers of competencies that an adult educator can accomplish in incorporating technology into instruction.
  - *Action Item:* Develop job descriptions that require technology competence as a core requirement.

**High Difficulty**

**Priority Level 9**

3. Provide the opportunities and venues for professional development in the field of technology.
  - *Action Item:* Create summer institutes for creating technology-enriched courses.
  - *Action Item:* Provide a stipend to instructors who mentor others in the area of technology implementation.
  - *Action Item:* Create “technology fellowships” in which adult educators are paid to develop technology-based instructional resources that are made available to a wide range of agencies.
  - *Action Item:* Ensure that technology-based training is available at all adult education conferences and professional activities.
  - *Action Item:* Define job classification of instructional technician to work with adult education instructors to create technology-based classroom materials.
4. Ensure that funding is available to support technology-based professional development.
  - *Action Item:* Build technology training component into any funding proposal that supports technology resources in adult education.
5. Ensure that professional development activities are available on an “any time, any place, any pace” basis.
  - *Action Item:* Require professional development programs to create online or multimedia versions of classroom instruction.

**V.H. Communication (Approaches to Creating Learning Environments)**

**PRIORITY:** Adult education providers and students will use information technologies to collaborate, exchange information, and explore new learning environments.

**OUTCOMES:**

**High Difficulty**

**Priority Level 4**

1. Encourage a distributed learning approach to adult education in which technology-based tools are used as appropriate in all classes (both classroom-based and distance learning) based on the nature of the material being taught and on instructional goals.

**Priority Level 3**

2. Create a distance learning component to adult education conferences.
  - *Action Item:* Have e-mail and Web-based communication devices available at all conferences.
  - *Action Item:* Create technology-based discussion groups to continue dialogues that begin at professional conferences and meetings.

**V.I. Evaluation**

**PRIORITY:** Community-based outcomes for the impact of technology on adult education instruction will be defined that address the range of expected changes in learner behavior and opportunities that result from participation in technologically based instruction.

**OUTCOMES:**

**High Difficulty**

**Priority Level 8**

1. Standards for measuring the impact of technology on adult learners will be defined.
  - *Action Item:* Create measures that address the employability, life skills, and knowledge levels of adult learners who have been exposed to specific technology-based instruction and skills.
2. Apply measures of educational attainment to the experiences of adult learners who participate in technologically based instruction.
  - *Action Item:* Create projects in which the impact of exposure to specific technology is correlated to learning in the adult education setting.

## APPENDIX – Matrix of Priorities, Outcomes, and Action Items

### Resources (Infrastructure Issues)

**PRIORITY:** Create a baseline of technology resources available to adult education instructors and learners, regardless of program area, that facilitate teaching and learning regardless of location.

Priority Level Outcomes Action Items	Action Area				Responsible Party			
	Program	Policy	Funding	Partnership	CDE	Other State Agency	Adult Ed Facility	Policy & Issues Workgroup/State Lead. Projects
<b>LOW DIFFICULTY</b>								
<b>9</b> 1. Integrate technology planning into new program planning								
a. Assess technology impacts of proposed new programs and set funding goals	X		X		X			
<b>8</b> 2. Define and publish optimal technology configuration		X						X
<b>8</b> 3. Identify technology resources across program areas		X						X

### MEDIUM DIFFICULTY

<b>8</b> 4. Facilitate agency participation in technology planning								
a. Create bank of technology plans	X						X	X
b. Identify technology planning resources	X				X			X
<b>6</b> 5. Institute Partnership Programs								
a. Create partnership with Cisco or Oracle academies				X			X	

### HIGH DIFFICULTY

<b>8</b> 6. Create dedicated funding sources for technology								
a. Ensure that adult education is represented in educational technology initiatives			X		X			
b. Create a dedicated funding stream for technology		X	X		X			
c. Increase apportionment by technology fee		X	X		X			
d. Identify technology-based initiatives in other adult education programs	X					X		

**Access (Infrastructure Issues)**

**PRIORITY:** Create a technology rich environment in adult education in which learning can take place, anytime, anywhere, and is oriented toward the goals and capabilities of the learner.

MEDIUM DIFFICULTY	Action Area				Responsible Party			
	Program	Policy	Funding	Partnership	CDE	Other State Agency	Adult Ed Facility	Policy & Issues Workgroup/State Lead. Projects
Priority Level								
Outcomes								
Action Items								
9	1. Define core computer competencies	X			X			X
9	2. Define technology environments for both institution and learner							
	a. Check out computers, mobile labs, wireless technology	X						X
7	3. Define standards for instructional software for native and non-native speakers and persons with disabilities		X		X			X

**HIGH DIFFICULTY**

7	4. Create instructional resources for native and non-native speakers and persons with disabilities			X	X			X
6	5. Make instructional resources available in multiple technologies							
	a. Sponsor programs that convert instructional resources into multiple modalities	X			X			
5	6. Make software available to instructors and learners regardless of location							
	a. Optimize software licenses to allow both onsite and offsite use.	X						X
3	7. Provide technology-based educational opportunities to support the "work first" requirement in WIA	X			X	X		
2	8. Provide access to software and work files regardless of location							
	a. Implement remote access	X						X

**Instructional Resources (Uses for Technology)**

**PRIORITY:** Quality technology-based instructional resources will be available and accessible to meet the varied needs of adult learners and providers.

MEDIUM DIFFICULTY	Priority Level Outcomes Action Items	Action Area				Responsible Party			
		Program	Policy	Funding	Partnership	CDE	Other State Agency	Adult Ed Facility	Policy & Issues Workgroup/State Lead. Projects
<b>8</b>	1. Correlate technology-based resources and adult learning styles	X							X
<b>7</b>	2. Identify or create instructional resources to meet the needs of learners in all program areas.								
	a. Create clearinghouse of technology resources by technology and subject	X							X
	b. Work with vendors to create integrated learning systems for adult education program areas				X			X	
	c. Work with adult education text publishers to create CD-ROM supplements	X			X	X		X	
	d. Sponsor summer institutes to create lesson plans and Web sites	X				X		X	X

**HIGH DIFFICULTY**

<b>8</b>	3. Develop instructional resources to support work-based curriculum in vocational programs.								
	a. Work with industry professionals to identify technology skills needed to succeed in specific occupations				X			X	
	b. Create internships to bridge gap between school and work				X			X	

**Assessment (Uses for Technology)**

**PRIORITY:** Have set of technology-based assessment tools available across a range of adult education programs that addresses issues of placement and progress in achieving learning goals.

MEDIUM DIFFICULTY	Action Area				Responsible Party			
	Program	Policy	Funding	Partnership	CDE	Other State Agency	Adult Ed Facility	Policy & Issues Workgroup/State Lead. Projects
	Priority Level	Outcomes	Action Items					
10		X			X			
1. Integrate technology competencies into model standards								

**HIGH DIFFICULTY**

10		X			X			
2. Define computer literacy as a core curriculum element								
8	X			X			X	
3. Create individualized learning plans								
7	X			X			X	
4. Create electronic portfolio for postsecondary or employment applications								
6	X			X			X	
5. Create online tutorials to reinforce learning								
5								
6. Locate or create set of assessment tools for placement and progress review that are useable by both instructor and learner								
				X	X			
a. Create partnerships with vendors								
	X						X	X
b. Create category of "Best Practices" or "Programs of Excellence"								

**Student Information Systems (Uses for Technology)**

**PRIORITY:** Have a student information system available across a range of adult education programs that addresses issues of tracking, reporting, and academic progress that is accessible to administrators, instructors, and learners and efficient to maintain.

HIGH DIFFICULTY	Action Area				Responsible Party			
	Program	Policy	Funding	Partnership	CDE	Other State Agency	Adult Ed Facility	Policy & Issues Workgroup/State Lead. Projects
	Priority Level	Outcomes	Action Items					
8								
1. Locate or create SIS to support adult education programs and services.								
				X			X	
a. Develop a consortium to define core elements of a Web-based SIS								
	X				X			
b. Create a state initiative to define common base of reporting requirements and data elements								
				X			X	
c. Develop partnership with vendors of We- based systems to create adult education SIS								

**Distance Learning (Approaches to Creating Learning Environments)**

**PRIORITY:** Technology will support learning activities and resources at any time, any place, any pace, and will emphasize person-to-person interaction.

Priority Level Outcomes Action Items	Action Area				Responsible Party			
	Program	Policy	Funding	Partnership	CDE	Other State Agency	Adult Ed Facility	Policy & Issues Workgroup/State Lead. Projects
	<b>LOW DIFFICULTY</b>							
<b>7</b> 1. Locate Web authoring tools that can be used to support distance learning								
a. Use SLP to define practices and tools that become de facto standards in distance learning	X							X
b. Define templates for Web sites to support adult education programs.	X							X

**HIGH DIFFICULTY**

<b>9</b> 2. Ensure that funding streams are in place to support distance learning								
a. Increase 5% project to 10%			X		X			
b. Increase number of agencies participating in 5% project	X				X		X	
<b>9</b> 3. Create opportunities for distance learning to be primary method of staff development								
a. Have State Leadership projects create technology-based instruction offered through distance learning	X							X
<b>8</b> 4. Ensure adult education instruction is available through distance learning								
a. Create dl summer institute where instructors can convert courses to distance learning formats	X				X		X	X
b. Catalog distance learning course conversions for common use	X						X	X
c. Define distance learning options in model standards	X				X			
d. Sponsor programs that convert classroom instruction into multiple distance learning modalities.	X				X			X

**PRIORITY:** Incorporate distributed learning strategies into adult education programs.

**HIGH DIFFICULTY**

<b>8</b> 1. Create awareness of the relevance of distributed learning models for reinforcing and enhancing adult education programs.								
a. Sponsor summer institute on distributed learning	X				X		X	
b. Create "Programs of Excellence"	X				X			
c. Create professional development programs involving distributed learning models	X				X			X

**Professional Development (Approaches to Creating Learning Environments)**

**PRIORITY:** Adult educators will have the necessary skills and time to integrate technology into instructional and management activities.

MEDIUM DIFFICULTY	Action Area				Responsible Party			
	Program	Policy	Funding	Partnership	CDE	Other State Agency	Adult Ed Facility	Policy & Issues Workgroup/State Lead. Projects
	Priority Level	Outcomes	Action Items					
<b>9</b>	1. Create a basis for technology competence through building resource base of professional development activities							
	a. Identify professional development programs, activities, or resources organized by subject and technology	X						X
	b. Define "Programs of Excellence" and "Promising Practices"	X			X			X
<b>8</b>	2. Create a basis for technology competency among instructors through the hiring and credentialing process							
	a. Create tiers of competencies for instructors		X				X	
	b. Create job descriptions that incorporate technology skills		X				X	

**HIGH DIFFICULTY**

<b>9</b>	3. Provide the opportunities and venues for professional development in the field of educational technology							
	a. Create summer institutes	X			X		X	
	b. Provide stipend to instructors who mentor in technology		X		X		X	
	c. Ensure availability of technology training at professional conferences and meetings	X					X	X
	d. Define job classification of instructional technician to work with adult educators		X				X	
<b>9</b>	4. Ensure that funding is available to support technology-based professional development							
	a. Build technology training component into any funding proposal that supports technology		X		X			
<b>9</b>	5. Ensure that professional development activities are available "any time", "any place", "any pace"							
	a. Require professional development programs to create online or multimedia versions	X			X			

**Communication (Approaches to Creating Learning Environments)**

**PRIORITY:** Adult education providers and students will use information technologies to collaborate, exchange information, and explore new learning environments.

HIGH DIFFICULTY	Action Area				Responsible Party			
	Program	Policy	Funding	Partnership	CDE	Other State Agency	Adult Ed Facility	Policy & Issues Workgroup/State Lead. Projects
Priority Level								
Outcomes								
Action Items								
<b>4</b> 1. Encourage a distributed learning approach in which technology-based tools are used as appropriate based on educational goals.		X			X		X	X
<b>3</b> 2. Create a distance learning component to adult education conferences								
a. Have e-mail and Web-based communication devices available at all conferences		X			X			X
b. Create technology-based discussion groups to continue dialogues that begin at conferences		X			X		X	X

**Evaluation**

**PRIORITY:** Community-based outcomes for the impact of technology on adult education instruction will be defined that address the range of expected changes in learner behavior and opportunities that result from participation in technologically based instruction.

HIGH DIFFICULTY	Action Area				Responsible Party			
	Program	Policy	Funding	Partnership	CDE	Other State Agency	Adult Ed Facility	Policy & Issues Workgroup/State Lead. Projects
Priority Level								
Outcomes								
Action Items								
<b>8</b> 1. Standards for measuring the impact of technology on adult learners will be defined								
a. Create measures that address the employability, life skills, and knowledge levels of adult learners who have been exposed to specific technology-based instruction and skills		X			X		X	X
<b>8</b> 2. Apply measures of educational attainment to the experiences of adult learners who participate in technologically based instruction								
a. Create projects in which the impact of exposure to specific technology is correlated to learning in the adult education setting	X				X		X	X