Technology Use in California Workforce Investment Act (WIA) Title II Funded Adult Education Programs

Directors, administrators, instructors, and other educators emphasize the current and potential role of technology to add value to California WIA Title II Adult Education Programs. This research brief addresses the use of technology in these programs. California WIA Title II Adult Education is delivered via seven provider types: Adult Schools, Community Colleges, California Offices of Education, Jails, State Agencies, Community Based Organizations, and Library Literacy Programs. Technology use is divided into five interrelated categories. These categories address how technology is implemented to enhance instruction, address learner persistence, promote professional development, assist in data collection and learner assessment, and provide additional resources such as those developed and implemented by the California Department of Education (CDE) and the WIA Title II funded State Leadership Projects.

Data sources for this research brief include the 2005-06 WIA Title II Survey, which was received from 96 percent of the funded agencies, the 2005-06 Instructional Questionnaire, which was received from 12,011 adult education classes, and several focus groups consisting of adult educators. Both of the survey instruments solicited responses directly related to technology use. In addition, data is provided from the other State Leadership Projects including Outreach and Technical Assistance Network (OTAN), California Adult Literacy Professional Development Project (CALPRO), and California Distance Learning Project (CDLP).

Table 1
Instructor Use of Computer and Other Technology Strategies

(N = 12,011)	Often	Sometimes	Not at All	No Response
	%	%	%	%
Provide Web Access for Learner Use as an Instructional Resource	18.9	23.9	53.6	3.6
Use Computer Lab as Supplement to Classroom Instruction	27.5	22.8	45.8	3.9
Use E-mail as an Instructional Tool	5.0	12.4	78.2	4.4
Use Audio Cassettes or CDs as an Instructional Tool	33.3	33.1	29.7	3.9
Use Digital Video Cameras for Learner Project (s)	2.9	10.4	82.5	4.2
Use Power Point for Learner Delivered Presentations	2.5	8.2	84.9	4.4
Use Power Point for Teacher Delivered Instruction	4.2	11.1	79.8	4.9
Use Videos Or DVDs as an Instructional Tool	27.2	37.5	31.2	4.1
Use Distance Learning Strategies	14.3	16.1	65.3	4.3
Use Computer Software as an Instructional Tool	25.8	25.0	45.0	4.2

▸ **Instruction**

Classroom Level Data

The WIA Title II Instructional Questionnaire provided information about which strategies instructors used in their classrooms. Approximately 83 percent of instructors reported that they integrated technology, such as computer, video, and audio into their classroom. Instructors specifically indicated that 54 percent of classes had access to computers. Of those classes having access to computers, 79 percent reported access to the Internet.

The questionnaire also asked instructors to provide more specific information regarding how they used technology in their classrooms. Results show that many instructors are using what are considered more traditional forms of technology such as cassettes or CDs (66 percent) or videos and DVDs (65 percent), as well as computer software (51 percent). Detailed instructor use of computers and other technology strategies that were integrated into instruction appear in Table 1.

Agency Level Data

Agency admistrative staff level responses regarding the use of technology (see tables 2 and 3) were not always in agreement with how instructors reported they used technology. For example, although 88 percent of administrative staff responded that their programs used computers/software as a supplement to classroom instruction (table 2), teachers (table 1) reported using computer software as an instructional tool "often" 25.8 percent and "sometimes" 25 percent. Further investigation is needed to clarify research results. Large agencies were the most likely to use computers/software (100 percent) followed by medium-sized agencies (95 percent) and small agencies (74 percent). Large agencies were also more likely to provide Internet and e-mail access to learners (79 percent) and to use these resources for communication between teachers and learners (63 percent) compared to small agencies (40 percent and 55 percent, respectively). In addition to computer technology, 86 percent of agencies reported the use of video to supplement classroom instruction.

Reported technology use during the 2004-05 program year and the 2005-06 program year is compared across several categories in Figure 1. Use of the Internet or e-mail for communication between instructors and students increased significantly in 2005-06.

Table 2
Implementation of Computer Technology

|	%
Use Computers/Software as a Supplement to Classroom Instruction	88.0
Provide Computer Lab for Student Use	79.3
Make Computers Available in Classroom	75.4
Provide LCD Projector in at Least One Classroom	69.2
Provide E-Mail/Internet Access for Student Use	59.4
Provide Web Access for Student Use as a Research Resource	58.0
Provide Web Access for Student Use as an Instructional Resource	58.0
Use Computers/Software to Provide Core Instructional Content	57.2
Use Internet or E-Mail for Communication Between Instructors and Students	48.9
Computers Available in Locations Other Than a Computer Lab or Classroom	26.8
Provide Wireless Access to Network and/or Internet for Student Use	24.3
Other	3.3

Source: 2005-06 WIA Title II Survey

Table 3
Implementation of Other Forms of Technology

	%
Use Video as a Supplement to Classroom Instruction	86.2
Use Audio/Cassettes/CDs as a Supplement to Classroom Instruction	82.6
Use PowerPoint Presentations to Deliver Instructional Content	47.5
Use Audio/Cassettes/CDs to Provide Core Instructional Content	42.8
Use Video to Provide Core Instructional Content	42.8
Use PowerPoint for Student Presentations or Completion of Assignments	31.9
Use Video Cameras for Student Projects	27.9
Produce CDs to Supplement Classroom Instruction	26.4
Use Interactive Whiteboards in Providing Instruction	21.4
Use Portable Keyboards for Writing Instruction	10.5
Other	5.4

Source: 2005-06 WIA Title II Survey

Figure 1
Implementation of Computer Technology Comparison 2004-05 and 2005-06
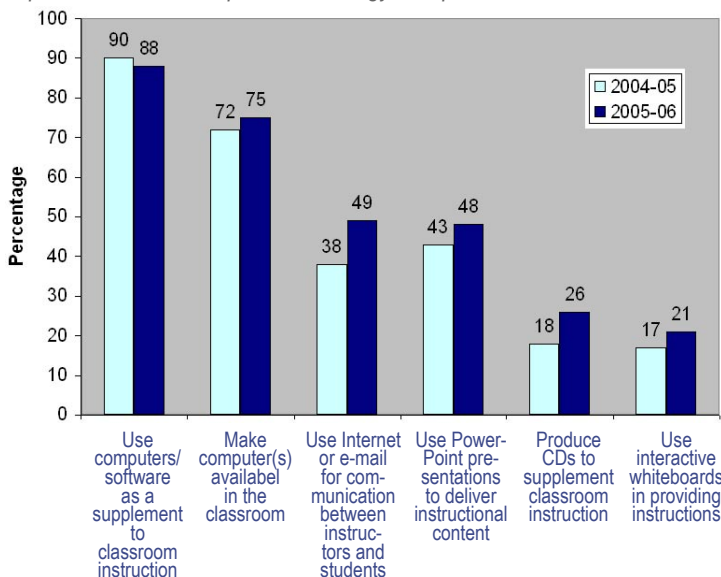
▸ **Learner Persistence**

The vast majority of agencies cited learner access to technology as having a high or some positive impact on learner persistence across all instructional programs: English as a Second Language and English Language Civics (89 percent), Adult Basic Education (87 percent), and Adult Secondary Education (89 percent).

Preliminary results of a collaborative research study using data from Comprehensive Adult Student Assessment Systems (CASAS) and CDLP indicate distance learning programs are successful in providing effective ESL learning opportunities. Further collaborations are planned between CASAS and the state leadership projects to continue to examine the effect of distance learning and technology on student gains and persistence.

At the 2006 National CASAS Summer Institute, focus groups composed of adult education professionals discussed the use of technology and the effect it had on learner persistence and goal attainment. Educators emphasized the following points:

- Most learners enjoy working on computers and value the experience and opportunity, viewing it as good "real-world" experience
- When integrated properly into lessons, technology is a powerful tool; however, if it is not used properly it may disconnect the teacher and learner
- Adults become more connected to their children by learning how to use computers
- More and improved training is needed – some teachers lack the necessary computer skills

▸ **Professional Development**

Agencies recognize technology as an important part of professional development. When surveyed, 33 percent of agencies anticipated technology use would be a high priority and 40 percent as a medium priority for administrators and coordinators in 2006-07. Similarly, 32 percent reported computer-based instructional strategies and curricula would be a high priority for instructors, and 42 percent assigned a medium priority.

The use of technology in promoting professional development can be divided into two categories:

1. Identify needs for professional development for staff to enable them to use technology effectively at the program management and classroom levels
2. The use of technology in providing/delivering professional development to administrators, instructors, and other staff.

Of those instructors who reported on-site access to computers, 54 percent reported they used computer access to create lessons plans and 66 percent used the access to develop classroom materials.

When asked about integration of other technology and its priority for instructors' professional development, 28 percent assigned a high priority and 38 percent a medium priority. OTAN also conducts an annual survey on teacher and student practices in the classroom. Results from 2005-06 report 10 percent of teachers maintained a class web page. Forty-four percent reported students did classroom writing practices on the computer.

Complete results can be found at www.otan.us

In addition:

- Four hundred individuals received hands-on training in the integration of various types of technology into instruction in 31 OTAN workshops
- More than 2,000 individuals attended 44 technology presentations at various professional events
- A professional corps of 30 technology mentors, located in urban and rural areas throughout the state, received training to facilitate effective use of technology in the classroom by mentoring 55 colleagues
- One hundred eighty agencies developed technology plans that focused on effective use of technology for program management and instructional improvement
- OTAN offered 9 online workshops for 81 participants during the 2005-06 program year
- CASAS offered 84 online trainings for 679 participants during 2006
- CALPRO offered 5 online professional development courses for 71 participants during the 2005-06 program year
- CDLP offered 3 online trainings for 15 participants and expects this number to increase in 2006-07
- OTAN provided 31 technology presentations with 1,685 participants and 18 hands-on training sessions for 232 teachers covering topics such as using PowerPoint and creating Web pages

The use of technology to deliver professional development resources to administrators, instructors, and other staff is addressed under the additional resources section below.

▸ **Data Collection and Learner Assessment**

Technological advances continue to be implemented in the area of data collection and learner assessment. Some notable ways technology is being integrated into data collection and learner assessment include:

- The expanded use of computer-based testing (CBT) and computer adaptive testing (CAT)
- The current piloting of CASAS eTests, which brings together two types of computer-delivered applications, CBT and CAT
- An increasing number of WIA Title II agencies electronically submitted quarterly and year-end data in accordance with the National Reporting System (NRS) quality standards guidelines

- Among those instructors with on-site access to computers, 34 percent reported using the computers to track learner attendance and 31 percent reported using their computer access to track learner progress
- Tracking of Students and Programs (TOPSpro) software is used to collect demographic and performance data on all learners in WIA Title II funded programs. More than 150 TOPSpro reports are available for use in analyzing learner data at the agency level.

▸ **Additional Resources**

The CDE and State Leadership Projects use technology to provide additional resources to agencies. An important part of technology use is the training support and technical assistance made available to agencies.

- Seventy-nine percent of agencies used the technology workshops, mentoring, technical assistance, Web site or Internet access, or computer assisted instruction (CAI) services made available through OTAN
- Eighty-eight percent of agencies used the technical assistance services made available by CASAS
- Thirty-two percent of agencies used information, technical assistance and resources for designing, developing, and implementing distance learning and training
- Local providers shared information on effective practices for program improvement via online Q&A boards with questions in 36 topic areas, and communicated via 34 listservs for adult education work groups with 1,335 members posting on 1,597 topics.