Appropriate Technologies for Workforce Learning

A New Approach to Using Educational Technologies
for Adult Learning and Workforce Development

A Position Paper Prepared
by
Paul Jurmo, Ed.D.
with Sandra Panesso

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The Need for a New Approach to Using Educational Technologies

In the past two decades in the United States, adult basic education and workforce development programs have become accustomed to using electronic technologies to help participants advance toward educational and career goals. Practitioners use educational video- and audio-tapes, instructional and assessment software, and web sites to help lower-skilled adults develop basic skills, occupational knowledge, computer skills, certifications, and connections to relevant agencies, employers, and other sources of support and information.

While these uses of technologies have produced positive results for learners and programs, their effectiveness is often limited by a number of factors, including:

- Cost: Computer-based and on-line learning programs typically require funding (to cover user fees) which many individuals and programs lack;

- Limited accessibility: Many computer-based resources are available only at adult education and workforce development facilities. These facilities are often not open (e.g., in the evening or on weekends) when potential users are available.

- Lack of relevance: The content of many computer-based and on-line learning programs is often not relevant to users' particular occupational needs or other interests; to their literacy, language, or computer skill levels; or to their background knowledge or culture.

- A passive rather than active approach to learning: Many computer-based and on-line learning programs are structured in an "electronic workbook" format in which learners respond to multiple-choice questions to elicit pre-determined answers. Some programs are structured as "electronic lectures," in which learners simply read texts or watch videos containing information developed by others. While there can be merit in such forms of learning (e.g., when the goal is to memorize facts or increase automaticity of particular math or literacy sub-skills), these types of programs run the risk of reinforcing a passive approach to learning rather than the development of the particular basic skills and the active research,

communication, and problem-solving skills required in most jobs and educational settings.

- Lack of user-friendliness: Many computer-based or on-line learning programs require technology (e.g., high-speed computers and Internet access) that potential users lack. Or these programs can be difficult to navigate or prone to technical problems from over-use.

The good news is that innovative adult educators and workforce development practitioners have been developing alternative uses of technologies which are cost-effective, easy to access and use, and supportive of active development of multiple relevant skills. Appropriate, carefully customized uses of computer-based and on-line learning systems, Microsoft Office software, and presentation tools (e.g., cameras, web sites, wikis, video, and podcasts) have great potential to help adult learners to:

- improve the basic skills, occupational knowledge, and self-confidence they need for employment;
- become comfortable using computers to navigate the many systems they interact with (e.g., the job market, banking and consumer institutions, healthcare, legal systems, transportation, housing, news media, and others);
- use computers for self-study outside classroom settings.

Well-designed uses of computer technologies can achieve these goals in ways that are cost-effective, high-quality, and easily accessible to large populations of adult learners. The use of low-cost, easily-available technologies is similar to the concept of "appropriate technologies" which international development agencies have for decades promoted for resource-limited communities around the world. It also akin to the idea that underlies the current "green" movement: use existing resources – many of which are free for the taking -- more efficiently.

How One Program Has Made the Shift to Low-Cost, High-Quality Educational Technologies

In the noncredit adult basic education and workforce development programs that we offer at Union County College, our learners come from many backgrounds (e.g., immigrants, "dropouts," older workers, long-term unemployed, ex-offenders).   We have for the past decade used educational technologies in a number of ways to help these learners achieve their work-related and other personal goals. For example, English language learners work on their ESL skills using software in the computer lab. Job seekers get a free e-mail account and access to a free weekly on-line listing of job opportunities to help with their job search. Some public assistance recipients are given laptops which allow them to get access to on-line software to develop skills required for clerical jobs. Recently-released inmates use a computer lab that our staff set up at a nearby prisoner re-entry center.

In 2007, a small group of instructors and staff started to think differently about how to use free or low-cost electronic technologies. We began to reflect on some creative uses

of technologies that instructors had already developed and to consider some new (and not so new) models that were being developed around the U.S. For example:

- Using PowerPoint and the Internet as research and presentation tools: In 2007, one of our ESL instructors noticed that her students became very engaged in using English when they talked about their home countries. "They started to bring pictures of scenes from their countries and make bulletin boards with more information. At the same time, many of them told me they had computers at home but their children didn't let them use them!!! I decided to use these two elements – their interest in talking about their countries and their interest in learning how to use their home computers -- and teach them PowerPoint . . . . From this experience, I found PowerPoint to be a great tool to use with ESL students. It allows them to search for and download pictures, express themselves using as much of the language as they know and learn Internet search -- and it makes them speak! Then I started using other applications of Microsoft Office, and put two or three applications together . . . PowerPoint is the easiest of the programs for learners to learn because it requires only a few words to make a nice slide. But its features are very similar to the other programs (Word and Excel), so the skills learned through PowerPoint can be transferred to other uses of technology." Rather than take a separate class on "how to use PowerPoint," learners simply jumped into using the computer as part of a research project and learned how to use the computer as part of the process.

- Using creative technologies to make a student web site: Inspired by glossy publications which presented writings by adult learners but wanting to avoid the costs of printing and mailing hard-copy documents, we used MacIntosh software to create a web site (www.cewdlearners.org) where we could post student work. This included the PowerPoints described above.

- Using free web sites: In 2008, we worked with the national Learner Web demonstration project, which has developed a web-based system for helping adult learners to efficiently connect to high-quality, free on-line learning resources. Users can go to www.learnerweb.org to prepare for the GED exam, strengthen the English skills they need for the workplace, develop strategies for succeeding in college or helping their children succeed in school, and meet other personal learning goals. UCC staff were particularly interested in identifying free web sites that job seekers can use to develop career plans, work readiness skills, and understanding of career opportunities in various industries.

  Adapting Getting There, a classroom-based curriculum developed a decade ago by the Center for Literacy Studies at the University of Tennessee, we laid out the steps that a job seeker would go through to identify career options, assess her/his strengths and limitations vis-à-vis those options, set career goals, learn about worker rights, develop a resume and portfolio, learn where and how to get relevant training, and otherwise create a well-organized career plan. We then searched the Web for high-quality Web sites that our adult learners could use as part of the career planning process. (By "high quality" we meant Web sites that

were relevant to the particular task at hand [e.g., learning about a particular job or how to dress for an interview], easy to access, easy to use [i.e., easy to navigate, easy to read], and not overly commercial in nature.

This process of systematically organizing and evaluating free Web sites was a great eye-opener for us. We realized that the Web has evolved tremendously in recent years and contains many useful resources (e.g., from funny but informative YouTube videos about "customer service skills" to detailed, research-based information about available jobs on the Web sites of organizations like O*NET and the U.S. Bureau of Labor Statistics.) We also discovered that a lot of other people in our field were moving in the direction of using these free on-line resources.

We began to understand that helping our learners become comfortable using such resources had a number of benefits: These resources are available 24 hours a day at no charge. They don't require the learner to be sitting in a classroom but can be accessed from anyplace with an Internet connection. And using such resources helps learners not only become comfortable using computers but become researchers and independent learners.

- Staff development: As we discovered the potential of using these kinds of low-cost, dynamic educational technologies, we wanted to share these tools with our fellow instructors and staff. We conducted a monthly series of staff workshops in which participants were challenged to develop lesson plans which incorporated the use of low-cost educational technologies. We also asked the instructors – some of whom were themselves not comfortable using computers – to present summaries of their lesson plans in PowerPoint presentations. After a few sessions, all of the instructors were having fun creating PowerPoints with colorful graphics, special effects, clip art, links to on-line videos, and other features.

- Curriculum development: In August 2009, we held a special weeklong institute in which instructors developed "Curriculum Tool Kits" for ESL and GED instructors. The kits contained guidelines for effective instruction (drawing on Equipped for the Future standards and other sources) and sample lesson plans, all of which used educational technologies in the ways described above.

In Spring and Summer 2009, we incorporated these uses of educational technologies into pilot curricula for an "ESL for Healthcare Workers" and career planning and work readiness courses for workers in the transportation/logistics/ distribution (TLD) industry. In all these curricula, learners are encouraged to use the Internet to explore career options and report research findings using PowerPoint presentations. In the TLD curricula, they also learn how to use the Internet to research prices for airfares and truck parts, thereby immersing themselves in authentic tasks that resemble those they might face both in a work situation and in their roles as consumers.

Because of her success in using educational technologies, the pioneering ESL instructor described above under "Using PowerPoint and the Internet as research and presentation tools" was given successively tougher assignments. These included piloting career

planning and health literacy activities (using PowerPoint, web browsing, and excerpts of films like "Super Size Me") in our prisoner re-entry center and running a career planning class for our "welfare-"recipient clients (who are often seen as having negative self-images and lack of motivation). She writes:

> *This approach has also been successful with (our "welfare") students. They used to be unmotivated and even aggressive in my class. Through this method of using technologies, PowerPoint especially, they become active and can do what really interests them. This month, for example, we had a great retention rate. Out of 20 (welfare-recipient) students who started with us, ten completed the program. This is very rare. (Previously) we only had one succeed out of many more who started the program. Again, (this is a result of our) adaptation of <u>Getting There</u> (career planning curriculum) and technology. The "All About Me" (as they have name it) activity that is the introduction to the class is from <u>Getting There</u> but done in PowerPoint. Students can insert their favorite songs into their PowerPoint presentation. This has been a great hit! We have also introduced the use of Excel with Financial Literacy, and this has also been well received by the ("welfare") students . . . who are a very tough crowd :)*

Investment Needed

We are pleased by what we've learned and developed in the past two years, but we struggle to continue this "shift" to using appropriate educational technologies in EFF-style curricula. These program improvements are slowed by insecure funding which makes it very difficult to keep programs alive and maintain continuity of staff. This new approach to work-related learning is also hampered by a bureaucratic tendency to keep plodding ahead with what is familiar and comfortable. We will require strong leadership if we are to continue to build effective models.

We recommend that public and private funders make the following investments:

> <u>Pilot programs</u>:   Funders should invest in pilot projects that allow program staff to develop expertise, create curricula and other tools, and then pilot the use of those tools in ways that help learners develop basic skills, technical knowledge, self confidence and an interest in learning, and computer skills. Our most productive projects in the past year have come when funders (both private foundations and public sector demonstration grants) have given us flexibility and when our staff have invested their energy and imagination to create something new.

> <u>Professional development</u>: Funders need to support the development of the adult basic skills field in general and more effective uses of educational technologies in particular. This is a field which provides few career paths to attract and sustain dedicated professionals. Decent, professional-level salaries with benefits, training opportunities, mentoring relationships – all of these are needed to allow

adult educators to try out new ideas, learn from each other, and build high-quality models.

Documentation, dissemination and continuous improvement of effective practices: As in any profession, adult educators need opportunities to document, disseminate, and continuously improve our practice. The Internet now provides great opportunities for such sharing and dissemination – as seen in the great discussions and resource collections of the National Institute for Literacy's LINCS, and in on-line journals such as Focus on Basics and The Change Agent. We should consider resurrecting the valuable adult education resource collections of the ERIC Clearinghouse on Adult, Career, and Vocational Education and other now-closed repositories, as well.

As policy makers and researchers re-think the role of adult basic education in workforce development, they should strongly consider the benefits of creative uses of low-cost technologies in integrated workforce learning systems. In turn, policy makers and funders also need to recognize that significant new investment is needed to build adult basic education as a legitimate profession. Well-equipped adult educators have much to offer in a national effort to rebuild our economy into one in which high-performing workers engage in self-directed learning and are comfortable using information technologies.

Paul Jurmo, Ed.D. is Dean of the Division of Economic and Workforce Development at Union County College in New Jersey. Sandra Panesso is Lead Instructor for Educational Technologies at UCC's Center for Economic and Workforce Development.