

Progress is published by:
Virginia Adult Learning Resource Center
Virginia Commonwealth University
3600 West Broad Street, Suite 112
Richmond, VA 23230-4930
www.valrc.org

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A Few Words on *Progress*

In her article in this issue of *Progress*, Nadara Kingery cites the *Webster's Dictionary* definition of literate—"the ability to read and write." She then goes on to describe three other literacies: graphic literacy, computer and technological literacies, and data literacy. Other contributors to this issue discuss multicultural, health, scientific, information, economic and financial, and visual literacies. This array of literacies adds such depth and breadth to Webster's definition that it can be difficult to grasp exactly what literacy is.

While finding a new and more comprehensive definition of literacy may be challenging, identifying ways of incorporating diverse literacies into instruction is even more daunting. Our writers, however, have accepted the challenge and have gamely discussed various literacies and their implications as well as offering practical suggestions for instruction.

Clearly, reading and writing undergird the broader definitions of literacy, but higher order thinking skills are important foundational elements as well. Federico Salas-Isnardi with the Texas Center for the Advancement of Literacy and Learning connects multiple literacies with 21st century skills to demonstrate what adult learners need to know to be employable now and into the future. Jeffrey Elmore's article gives helpful examples of how to incorporate 21st century skills into numeracy instruction to better prepare students for the 2014 GED® test, while Heather Lamb and Maria Lawson-Davenport discuss how to integrate multicultural literacy into classroom instruction. Kate Singleton describes the need for better health-related instruction in adult education and introduces the revised *Virginia Adult ESOL Health Literacy Toolkit*. S. Joy Casad, a science educator at Virginia Commonwealth University, presents a well-argued case for more interactive and learner-centered science instruction—an approach that supports instruction both in GED® subject areas and for transitions.

Whatever your thoughts about multiple literacies, the articles in this issue of *Progress* will give you food for thought and, we hope, inspire you to try some new approaches to help your students gain the skills and competencies they need.



Calendar

**April
11**

EL/Civics Symposium
Richmond, VA

**April
12 - June 6**

VALRC Online Courses
Spring Session

**June
2 - 5**

Health Literacy
Summer Institute
Freeport, ME

10 - 14

Health Literacy Educational
Leadership Institute
Boston, MA

**July
10 - 12**

VAILL (Virginia Institute
for Lifelong Learning)
Radford, VA

**August
7 - 9**

LESLLA (Low-educated
Second Language and
Literacy Acquisition –
for Adults Conference
San Francisco, CA

**November
5 - 8**

AAACE (American
Association for Adult
& Continuing Education)
Annual Conference
Lexington, KY

Three Other Literacies

by Nadara Kingery

The *Webster's Dictionary* definition for the word "literate" is "the ability to read and write." Generally, adult education practitioners consider individuals reading at an eighth grade reading level, the level at which the newspaper is written, to be literate. This article will focus on three other literacies: graphic, technological, and data literacy.

Graphic literacy, the ability to gain information from a map, chart, table, or drawing, is one of my favorite subjects to teach. If I drew a Mercedes emblem on the board, every student in the room would recognize it. However, we have to teach our students to locate Florida on a map. While maps contain valuable information for planning trips and outings, they are also very important to our history and science lessons. Students need to be taught how to look at a map or two and be able to ascertain why we do not grow pineapples in Southside Virginia or understand the doctrine of Manifest Destiny of the 1800s. It is no longer enough to be able to read a newspaper: you need to be able to read the charts and diagrams that go with an article. To be knowledgeable consumers, we need to understand various types of graphics from nutrition labels on soup cans to schematic charts of stoves or refrigerators. Even my electric bill contains a bar graph of monthly usage. Graphics skills taught in class help students make appropriate choices in life and on the multiple choice questions on the GED® test. The student who has a good understanding of graphics has a better chance of being successful on the GED® math, science, and social studies tests.

Computer and technological literacies are becoming more and more important every day. Our goal as educators is to provide students with the needed skills to control the computer and its applications with comfort and efficiency, to find information, to prepare presentations, and to use graphics. To be considered technologically literate, students should be able to edit documents and manage files and folders. These skills allow the user to navigate around the real world. Today, job and college applications are done on the computer. People pay bills and complete other banking activities online. I must mention "social media." This is how people communicate these days. While some school districts totally



block out any websites that are associated with this type of media or the use of videos, many such Internet resources are designed to reach out to students and educators. Many jobs and careers require specific computer literacies. Students may even be required to study for their GED® test online, and the new GED® test will be entirely computerized. Students who cannot control a mouse, use a keyboard, or find hotspots will be at a severe disadvantage in 2014.

Data literacy is the ability to read a set of data and to make decisions based on that data. Large and small corporations use their data to make decisions on cut backs and expansions every day. In today's economic atmosphere, adult educators may be asked to do more with less. Being able to read the data is one skill. Analyzing and actually using the data is another ball game. Facing possible cuts, we must be able to read and interpret our own data in order to make strategic plans and use our resources wisely. This takes expert analysis and bold planning. Furthermore, we must be able to interpret our students' data to properly place them in the appropriate classes. With the new test on the way, our students need to be able to look at their own data to make important decisions about testing and test preparation.

In conclusion, the ability to read and write is just as important as ever. In the specialized job world and the world of communication, a GED® candidate needs more. Being able to read charts and graphs is a skill needed to pass the GED® test and for everyday use. Computer literacy will help our students function in today's world, while data literacy can guide our students and teachers in making important decisions. ■

Nadara Kingery is an instructor with West Piedmont Regional Adult Education.

Re-imagining Science Teaching as a Performative Space

by S. Joy Casad

“Oh, science,” my friend says to me, and I catch her eyes rolling ever-so-slightly up into her head, “I never was good at that.” Her words echo the sentiment of many people in my life: my sister-in-law, and various friends over the years, even one of my sons. Having been turned on to science rather early in life, only recently did I begin to understand this viewpoint.

She is responding to the all-too-common notion that science consists of static units of knowledge that are collectively bound and labeled by erudite assertions of objectivity. Her sentiment reflects the discomfort we all feel when we picture Old Professor Plum glowering while fellow students thumb their noses at us for getting even one of those facts wrong, and our own conflicted feelings that none of those facts actually *matter* in real life. The stuff of our lives is far too intricate and interesting for science to compete. But science is more than an aseptic collection of facts, a cryptic assortment of rules, or even a focused process in which certain people enjoy the comfort of knowledge. In our data-driven society, science can easily become the whole of our lives, and for this reason we must fearlessly confront it as integral to the landscape.

Ask someone to draw a picture of a scientist. Most people will draw an old, white man, partially bald, possibly with glasses and a beaker. He looks at the same time both jovial and creepy. Perhaps they are responding to a stereotype, as many educators would presume; I tend to think that they are creating an even more scathing metaphor for science education and curriculum.

A new image of science should redefine it as a special kind of performance ... which invites the actors to dialogue in ... interpretation and prediction, redirection and design.

We as educators should take warning. Perhaps it is time to reconceptualize the definition of science – transporting it from a leather-bound field of knowledge passed down in wordy volumes into the mobilized present, linked intimately to context, serendipity, and urgency.

Science has historically been determined by context and was usually either carried out with a sense of great urgency (as during the space race¹ or the Manhattan Project²) or the result of highly controversial activism (for example, the work of Margaret Sanger and John Rock in developing the “pill”³): both politically driven circumstances. It has been a passion for some⁴ and a privilege for others;⁵ its history has been saddled with ethical violations and breaches of confidence.⁶ Science has revealed to us the limitations and impossibilities of the human condition and perplexed us with paradoxes and problems at times both intangible and immeasurable. These experiences have shaped and changed the face of science. The fact that scientific problems originate from seemingly concrete scenarios – observed through the senses through iterative interaction with the perceived world – makes solving them even more perplexing.

Therefore, a new image of science should redefine it as a special kind of performance, a performative action which invites the actors to dialogue in a blended network of interpretation and prediction, redirection and design. The

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AMERICAN EXPERIENCE

THE Pill

THE FILM & MORE
SPECIAL FEATURES
TIMELINE
GALLERY
PEOPLE & EVENTS
TEACHER'S GUIDE

People & Events: Katharine Dexter McCormick (1875-1967)

In the 1950s, when the United States government, medical institutions and the pharmaceutical industry wanted nothing to do with contraceptive research, funding for the development of the Pill came from a very unlikely source -- a single benefactor. Katharine McCormick provided almost every single dollar necessary to develop the oral contraceptive.

Not a Typical Lady
For a woman once described as being "rich as Croesus," philanthropic acts were nothing unusual. However, McCormick's willingness to fund such a controversial project, at a time when 30 states still had laws on the books restricting the sale and use of contraceptives, was a bold move. But McCormick was not a typical society matron.

An Unusual Education
Born into a prominent Chicago family in 1875, McCormick's roots went straight back to the Mayflower. Unlike many women of her class, McCormick was encouraged by her father to pursue an education. In 1904, she was awarded a bachelor's degree in biology from the Massachusetts Institute of Technology.

Tragedy Strikes
Despite her education and interests, McCormick did what was expected of a woman of her class. After graduation, she married Stanley McCormick, the wealthy heir to the International Harvester Company fortune. Their storybook marriage, however, was soon crippled by tragedy. Two years into the marriage, her dashing young husband developed schizophrenia and was soon lost to dementia. It was widely believed that schizophrenia was hereditary. McCormick, loath to pass on the terrible disease to her offspring, vowed never to have children.

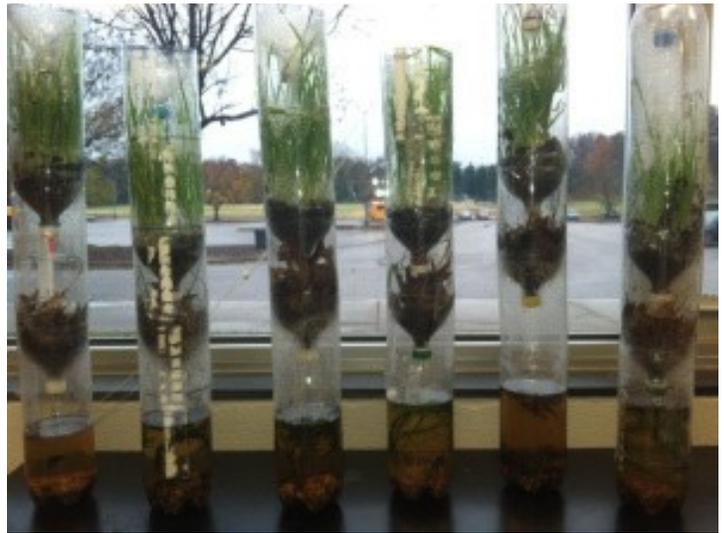
Voting Rights for Women
Katharine turned her attention to philanthropy and activism. An early feminist, she was deeply committed to winning

The development of oral contraceptives is one example of how science has been intimately linked to social history.

assumption that we are moving toward an ultimate truth or reality is no longer applicable in science education. This viewpoint has been replaced with an appreciation for the more nuanced interactions of agentive characters weaving their perceptions both individually and collectively. We have been around long enough to see conclusive “evidence based” science be completely nullified by later findings, we have witnessed the politicization of the science curriculum for personal gain, and we have arrived in an era where we will be skeptical of the facts and processes of science. But we can still perform it, more fully now that we realize that it is at once subjective and logical, concomitantly political and systematic.

The static nomenclature idea of science represents a serious misconception that is prevalent among educators. The term *science* in educational settings is defined narrowly to encompass the natural sciences, primarily, those artificially divided into physics, chemistry, and biology. As with most categories, the truth about science is far messier than titles would have you believe. For example, it is fundamentally impossible to understand chemistry without learning physics alongside it (this is why we wind up with courses like “physical chemistry”) and it is impossible to understand biology fully without also learning chemistry and physics; knowledge of any field is so tightly wound up in the knowledge of all three that they become a trinity: inseparable. This is partly because they were historically performed dynamically through communication and experimentation to create the theoretical content, which has been since artificially divorced into three categories, possibly to simplify the act of teaching. This also reflects my previous assertion that *science* has been misidentified as a collective body of knowledge rather than as a performative act.

Alongside misrepresenting separate “fields” of science, considering only the natural sciences also limits the possibilities of the full



Ecocolumns (from the blog [Teaching Real Science](#))

science experience. For example, anthropology, communications, and linguistics are all sciences, but with different paradigmatic assumptions. There are many others, which are outside the scope of this article, but more inclusive definitions reflect the performative nature of science, carried out using various approaches based on specific assumptions about the nature of reality and knowledge. Therefore, your classes can be engaging in science within multiple settings without being restricted to the traditional contention that science consists only of physics, chemistry, and biology.

Science, then, is a way of being in the world. It is not the only way of being in the world. It necessarily includes acts of creation and dialogue. Science has *performativity*. It is an embodied action which brings about the fulfillment of a scientific prediction (in special cases referred to as a hypothesis). Inasmuch as a science inquiry is explorative in nature, it becomes a performance between actor and environment which is composed through dialogue between material, symbol, and human, mediated by the senses. If we look at science as a performance, we are forced to re-imagine its power in shaping futures (for example, through innovations and technologies) and in confirming or confronting misconceptions and prior assumptions.

So, here is my advice for anyone who wants to *perform* science with their classes. Turn your back on sensory deprivation by passing those worksheets and vocabulary lists through the shredder. Vocabulary words are, after all, merely symbols of concepts that only make sense in context, and filling out worksheets in

Turn your back on sensory deprivation by shredding those worksheets and vocabulary lists. Turn your students’ attention to science in the news.



Coming this Spring: The Virginia Adult ESOL Health Literacy Toolkit

by Kate Singleton

Imagine finding yourself in one of the following situations:

- One of your beginning learners shares with you that they have a serious chronic health problem that they need medicine for, but they don't know how to get health care in the U.S.
- Your learners ask you what the Affordable Care Act means for immigrants.
- Your learners always ask to cover the health unit, but you are not sure how well the usual content is meeting their needs, especially as many report that they can't find affordable health care.
- At a staff meeting a colleague speculates that, in these times of dwindling funding and resources and persistent learner health care needs, your program might benefit from a partnership with a local health-care-related organization. She wonders how to go about making such a partnership happen.

All of these situations relate in some way to **health literacy**. Health literacy is most commonly defined in the U.S. (with frequent disagreement due to its provider-centric perspective) as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" ([National Network of Libraries of Medicine](#)).

Research shows that many ELLs are at high risk for low health literacy.

There is much debate over what collection of skills is actually needed for sufficient health literacy and whether the onus for improving health literacy should be on the individual seeking health information as this definition implies, on the system tasked with providing that information, or on both. However health literacy is defined, ESOL educators can be certain that the challenges their learners face as persons with limited English proficiency trying to access, navigate, and get their needs met in U.S. health

care are enormous. Research shows that many ELLs are at high risk for low health literacy and the negative health outcomes associated with it because they fall into one or more of the following risk groups: low educational attainment, low income, non-native speaker of English, and racial/ethnic minority.

How might you as an ESOL educator respond to each of the situations presented at the opening of this article? The issues involved are complex – often, educators feel like they have a hard enough time figuring out U.S. health care sufficiently to meet the needs of their own families, let alone those of their learners. Attempting to address any one ESOL health literacy issue can take a lot of time and effort. Fortunately, the Virginia Adult Learning Resource Center will soon publish an online, freely accessible resource designed to help you navigate these and other tricky ESOL health literacy issues more efficiently.

The *Virginia Adult ESOL Health Literacy Toolkit* is written by Kate Singleton, MSW, LCSW, who brings to the resource her experience as an adult ESOL educator, health care social worker, and health literacy specialist. Singleton is the author of *Picture Stories for Adult ESL Health Literacy* and the Resource Center's 2001 *Virginia Adult Education Health Literacy Toolkit*. She has presented extensively to adult education, health care, and social work audiences on health literacy needs of limited English proficiency (LEP) populations in the U.S.

Here is a sampling of the toolkit's content:

- **Section 1, Introduction to ESOL Health Literacy**, explains health literacy basics, then applies them to the realities of adult ESOL in the article "What is ESOL Health Literacy, and Why do I Need to Know About It?". The section also presents in-depth ELL health literacy case studies, resources on culture and health, health literacy stakeholders, information on mental health and ESOL, and information on the special health literacy needs of seven demographic groups found among ESOL learners.

Continued on page 9...

Winter/Spring 2013 **PROGRESS**

Richmond Symposium Focuses on EL/Civics

by Nancy Faux

With the debate over immigration reform at the forefront of current political discussions, it is critical to consider our role and the importance of teaching EL/Civics and English to our adult learners. Although Congress members disagree on some aspects of the proposed legislation, according to a [recent online article on Yahoo! News](#), both sides agree that the 11 million illegal immigrants here in the U.S. need to learn English. Before these newcomers can earn citizenship, they must learn enough English to pass a naturalization test, better known as the citizenship test. This "test" is given during the naturalization interview and includes sections on both civics and the English language.

The civics portion of the test is given orally. The candidate for citizenship must answer at least six of ten questions to pass it. These questions are taken from a list of 100 civics questions pertaining to history, government, and "integrated civics" (geography, national symbols, and holidays). The English language portions require demonstrating ability in all four language skills: reading, writing, speaking, and listening. For the reading test, one of three sentences must be correctly read out loud. The

writing test consists of correctly writing one of three sentences that are dictated by the interviewing officer.

Considering the immense task ahead of us in helping the 11 million illegal immigrants towards integration and joining the mainstream workforce and community, it is imperative that we reach the highest number of learners with the highest quality of instruction. One way of doing this is to incorporate civics lessons with English language instruction. According to the federal Office of Vocational and Adult Education:

Civics programs emphasize contextualized instruction on the rights and responsibilities of citizenship, naturalization procedures, civic participation, and United States history and government in order to help students acquire the skills and knowledge to become active and informed parents, workers, and community members.

This combination of teaching English literacy and civics education introduces students to civics-related content while giving them opportunities to apply that knowledge in their daily lives using their newly acquired language skills. Therefore it is vital to include EL/Civics topics in regular ESOL classes. Some of these are: principles of American democracy, the U.S. system of government, how to become involved in local government, voting and elections, U.S. geography, national symbols and anthem, recent American history, and history of immigration to the U.S. as well as health literacy, the American workplace, and citizenship (naturalization).

These last two are the subjects of two modules on the EL/Civics Gateways. (By late spring, another module on health literacy will be available.) These modules were created to help teachers plan and implement lessons incorporating EL/Civics topics into the regular ESOL classroom. Just by registering on the free site, teachers have access to background readings, research, classroom lessons, video demonstrations of classroom activities, information, and links to other resources. Recently, a group of teachers at the Literacy Council of Northern Virginia participated in a study circle using the module for ELLs in the *Continued on page 11 ...*

English Language Learners (ELLs) in the Workplace



This course is for teachers to be able to:

- Understand the challenges that ELLs face to be self-advocates in the workplace
- Explain the nuances and importance of personal interaction in the workplace
- Prepare learners with the necessary social and linguistic tools they need to play an active and successful role in the workplace.

From a module of EL/Civics Gateways for Teachers

10 Tech Tips for Teachers

by Steve Quann and Leah Peterson

History teachers understand that the lessons they assign teach more than just history; their students are also developing their reading and writing skills. In the same way, we believe that digital literacy should be addressed by more than just the computer teacher. After all, successfully using technology doesn't just mean knowing how to operate a computer or cell phone; it involves communicating, creating, sharing, and evaluating information (see **ISTE's NETS for Students**). It is for these reasons that we advocate that teachers integrate technology into their classroom activities, whether it be in project-based learning or one-shot lessons. To do that well, we think that there are a few points worth considering, some of which are simply good pedagogy applied to technology integration:

Consider your audience. Assess their present computer skills using the Goldilocks standard: "not too hot, not too cold." It might be really interesting for some students to learn how to create something in Adobe Flash, but depending on your students, that would probably be too "hot" (hard) for many, so you might have to settle with MS PowerPoint. Don't forget that the technology you use choose is the *tool* for teaching and learning a particular subject area.

Find out what your learners are interested in. Look beyond topics like sports or health and find out also what skill areas, such as grammar, they would like to work on or what specific goals they may have.

Identify your objectives. Technology has a way of taking over and becoming the end in itself. Pay close attention to how the selected technology will achieve your learning objectives.

Select the appropriate technology. In theory, it would be nice if we set our objectives and then picked the right technology. But often this is not how things work. Many times teachers see a tool and THEN see the potential it could have in class. I think this is a natural process – just make sure to check your objectives and be honest about whether this is just a cool tool or

TECH TIPS FOR TEACHERS



CREATING GEOMETRIC SHAPES AS A LEARNING ACTIVITY

03/14/2013

0 Comments



Tech skills: click, drag and drop

I have used PowerPoint to teach about geometric shapes. Although you can also use Word, I find it easier to create shapes and move them around on the screen with PowerPoint. There are a variety of activities that can help your students learn the names of the shapes while at the same time learning how to make them. If they are ELLs practice prepositions and imperatives. See the following [screencast](#) for a step-by-step walk through the lesson.

Lesson ideas:

1. Review before the lesson the following: Names of geometric shapes and if they are ELLs their pronunciation. If appropriate, try [this website](#) for a quick review of some simple shapes. If needed, review with students simple commands and prepositions such as next to, beside, under, etc. Make sure students have some experience or practice on clicking on something and dragging and dropping. They could try [this](#) as practice.
2. Ideally if you are in a lab you can show students how they can create shapes along with you. If not,

This blog is intended for adult education teachers and tutors looking for straight-forward help on integrating technology into instruction. We hope that you find some inspiration here to try something new!

WHO WE ARE

This blog is written by Steve Quann and Leah Peterson at World Education.

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a cool tool that can engage students in learning about what you are teaching.

Try to use technology that your students already know. If they use an application like Facebook or Edmodo daily, you can take advantage of that for your lesson without having to teach how to use the tool first.

Think about prerequisite skills needed. If your students have never used MS Word before, to start inserting an image and typing about it might be taking on too much in one lesson. Take it one step at a time.

Start small. Whether it is for your comfort level or that of your students, be careful not to introduce too much new content and too many new computer skills at the same time.

Model. Show the end product and the steps to get there. Group the steps so that you don't show more than five at a time without stopping to give students an opportunity to try them. Then, particularly with more difficult tasks, walk the students through the process and do it together first. Then they can try it on their own.

Scaffold. Give resources to help aid learners in the use of technology or the lesson content by

providing, for example, step by step instructions in paper form or links to YouTube how-to's. And don't forget to walk around the room. You will be surprised how many students will ask questions once you come into their work space.

Use the same pedagogy. Don't sacrifice good teaching technique for an interesting new gadget. Make sure to use the same pedagogy you were taught, for example, following [Gagne's nine events of instruction](#).

Gagne's 9 Events of Instruction

1. Gain attention.
2. Inform learners of objectives.
3. Stimulate recall of prior learning.
4. Present the content.
5. Provide "learning guidance."
6. Elicit performance (practice).
7. Provide feedback.
8. Assess performance.
9. Enhance retention and transfer.

Technology can bring exciting new learning opportunities to your students but should be used with the same thoughtful consideration as with the rest of your lesson planning. If you're new to integrating technology into your classroom, check out our blog **Tech Tips for Teachers**, where each week we present a new idea for a lesson to try out using basic technology tools.



Steve Quann is Senior Advisor for Technology in Education at World Education, Inc. He taught English language learners for many years and co-authored books on integrating technology with English language learning. Leah Peterson is a Dissemination Coordinator. She produces blogs, newsletters, and other communications to highlight the work of the U.S. Division at World Education.

Coming this Spring: The Virginia Adult ESOL Health Literacy Toolkit (continued from page 6)

■ **Section 2, Using the U.S. Health Care System**, presents simple explanations of health care terms, affordable care resources in Virginia and tips for how to access them, tips for troubleshooting insurance problems; an article on LEP individuals and health care reform, and an article on how to handle large medical debt in Virginia.

■ **Section 3, Teaching ESOL Health Literacy**, identifies what ELLs absolutely need to know to be prepared for U.S. health care, explores health literacy curriculum development, discusses how to bring health lessons to life, and uses a video-enhanced storyboard to demonstrate how to teach complex health care topics at low levels. This section includes an interview with a prominent researcher of ESOL health literacy instructional issues. Section 3 also offers teaching materials for important teacher-requested topics such as alcohol use, mental health, and diabetes, as well as learner handouts on communicating effectively with health care providers, accessing health care, and more.

■ **Section 4, ESOL Health Literacy Partnerships**, discusses the benefits of health literacy partnerships to ESOL programs and what ESOL programs can offer in partnerships. Five examples of fruitful partnerships are presented. Lists of potential funders for projects and partnerships, as well as regional health literacy consortia, are provided.

■ **Section 5, Resources**, is an extensive list of web resources on a wide variety of issues to support ESOL health literacy instruction.

■ **Section 6, Links for Learners**, is a place for learners to quickly locate ESOL-learner-friendly tip sheets and other handouts on accessing and communicating in the U.S. health care system. ■

Kate Singleton, MSW, LCSW, is a health literacy consultant and specialist. She has worked as an adult ESOL teacher and a health care social worker.

Incorporating Multicultural Literacy in the Classroom

by Heather Lamb and Maria Lawson-Davenport

As teachers of adult learners, it is easy to become so bogged down with the demands of instruction and planning that we forget the holistic purpose of teaching—to help shape and mold well-educated citizens for our world. One area that is often not addressed in adult education is the area of multicultural literacy. American essayist John Burroughs said, “Culture means the perfect and equal development of man on all sides.” Engaging our students is more than preparing them with the reading, writing, and math skills that will move them to the next phase in their lives. It also entails helping them become culturally proficient in a global society.

Creating an atmosphere that increases opportunities for students and teachers to become multiculturally literate leads to a more accepting and open-minded society. Knowledge is power, and a broader understanding of multicultural literacy equates to a greater level of tolerance that provides for heightened awareness and better decision-making. Our great melting pot must prepare the students of today by helping them answer their own questions and by assisting them in their efforts to understand and be understood via multicultural literacy.

What does this look like in a classroom setting? It may be as simple as learning to say every student’s name correctly or as involved as hosting an open panel with students from diverse cultures and allowing them to share their educational and cultural experiences. Teachers can encourage multicultural literacy through a few simple steps:

- Guide and assist students with assessing their own culture by helping them see the value in their personal stories.

- Show them that you value diversity by providing opportunities for students and teachers to share their cultures and collaborate on how they are similar and different.
- Assign reading selections that allow students to delve into the customs and traditions of other cultures.
- Provide consistent examples of appreciation and respect for students’ cultures. Don’t be afraid to discuss perceptions and values that may not be familiar to all.
- Provide opportunities for learning conversations, discussions about how students can learn from each other and understand each other.
- Don’t be afraid to deconstruct and reconstruct cultural knowledge, break down stereotypes, and allow students the chance to reframe their cultural understandings.

Teachers must be willing to step out of their comfort zone and lead the way through open discussions and lessons that reflect a willingness to engage in open dialogue about cultural issues. We, as educators, must not be afraid to talk to students about issues of racism, sexism, poverty, or heterosexism because these issues affect their lives daily and greatly influence their ability to learn and succeed in society. Incorporating activities that combine academic skills and concepts with the customs and traditions of various cultures provides a cross-curriculum effort to encourage cultural proficiency and multicultural literacy. We must embrace the “new normal” and recognize that cultural differences do not divide us, but provide us with a richer and more unique learning experience and world. ■

Heather Lamb is the ABE coordinator for the Virginia Beach City Schools Adult Learning Center in Virginia Beach. Maria Lawson-Davenport is an ABE instructor for the Virginia Beach City Schools Adult Learning Center.

We, as educators, must not be afraid to talk to students about issues that affect their lives daily and greatly influence their ability to learn and succeed in society.

Richmond Symposium Focuses on EL/Civics

(continued from page 7)

Workplace as a base for developing a bank of lesson plans that soon will be made available on the site.

When considering the integration of civics lessons into a regular ESOL class, teachers need not wait until the learners have achieved an advanced, or even intermediate, level of English proficiency in order to practice skills that they will need to become full partners in American life. For example, just by creating a weekly food budget, learners can practice making decisions and allocating resources; or, by doing group work, learners can share responsibilities and accomplish tasks as a team – invaluable skills for the workforce and civic engagement.

In order to help teachers and program managers learn more about teaching EL/Civics, the Virginia Adult Learning Resource Center has invited all regional planning districts to send representatives to the EL/Civics Symposium in April. A preliminary agenda is included below. Of note is the presentation of results from a recent survey (Regional Data Profiles of the Foreign-Born Population) conducted by the

Survey and Evaluation Research Laboratory at Virginia Commonwealth University. Also, a representative from the United States Citizenship and Immigration Services (USCIS) will deliver a keynote speech.

Each region (or program receiving EL/Civics grant funding) is encouraged to send at least one representative to the symposium. The maximum number for each region will be three. For programs located more than 50 miles from Richmond, up to \$148 is available for travel reimbursement. Please note: Attendees needing hotel accommodations will need to make their own arrangements.

We hope to see you in Richmond! 🇺🇸

Nancy Faux is ESOL Specialist at the Virginia Adult Learning Resource Center.

Preliminary Agenda

9:00 – Registration

9:30 – Presentations

- Regional Data Profiles of the Foreign-born Population, *Jennifer Reid, Survey and Evaluation Research Lab, VCU*
- EL/Civics Leadership Project *Bette Sneed, VADOE Office of Adult Education and Literacy*

11:00 – Implications of Data and Findings

12:00 – Lunch and USCIS Keynote Speech

1:00 – Breakout Sessions

- Workplace
- Citizenship
- Health Literacy

3:00 – Discussion Groups

3:45 – Closing



Re-imaging Science Teaching as a Performative Space

(continued from page 5)

science is similar to being benched for your entire basketball career or spending your life as an understudy in someone else's opera. Besides, you are going to need some filler for your eco-columns and shredded paper works well. Instead of conforming to obsolete methods of science teaching, you are about to become a co-author of a play, in which the plot and outcome have not yet been written.

Turn your students' attention to science in the news – good intermediate level sources are the science pages at the BBC⁷ (available in multiple languages for your non-native students) or ScienceDaily online.⁸ Have your students decide together which article(s) or what sources are relevant *to them*. Your role is less of a teacher and more of a coach facilitating a dialogue – what are the interests of your students? Why are they interested? This step takes patience, confidence and sensitivity. Then, ask students to identify concepts and ideas (here is your vocabulary list) that they need to explore in order to more fully understand the article. Do they need to understand weather patterns? Global climate change? Population dynamics? Sources of pollution? Genetics? Viral structure? Allow them to collectively decide and together create a learning pathway for exploration. You will be an important part of this discourse, not as a decision maker, but by making suggestions

for resources, for research, for further readings. You may need to allocate responsibility to certain students and creatively stage certain parts of the performance. In acting, this would be analogous to “blocking,” where you decide the location of

Send your students home with a digital camera (or cell phone) to document “a day in the life.” Multiple science topics are lurking ... in these observations.

each major dialogue, where each actor stands in relation to each other, the timing of each scene. Blocking is a negotiated discourse, where many of the details are left up to the actors. So it is with science.

At this point, you may be able to create a vision of where the performance might be going. Think about movement – where can your students go to explore this topic? Do they need to know more about their neighborhood? Their city? Do they need to talk to someone? Collect data? Create maps? What types of data would be adequate? It does not have to be numerical – many scientists use qualitative data (i.e., interviews or focus groups) in order to uncover perceptions of an issue. Rely on the networks that your students already have in place to carry out *systematic* data collection. Help them visualize their own local knowledge and social capital as being important in this process. Can they interview or survey extended family members? Do they need to access local census bureau data⁹? Do they need to collect water, soil, or tests of air quality in their neighborhoods? For each set of proposed or collected data, have students identify the limitations of the data – in what ways could they be misleading or misinterpreted? What can't we find out from this study? Then, push them to think of ways to address the limitations, even if data collection is not currently possible.

As an alternative to newsworthy science topics, send your students home with a digital camera (or have them use their cell phones) to document a “day in the life.” Ask them to be mindful of the mundane, the day to day

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27 March 2013 Last updated at 14:32 ET

US quake linked to oil wastewater

Scientists link drilling-operation wastewater injection to a magnitude-5.7 earthquake that struck the US state of Oklahoma in 2011.

Fracking earth tremor risk 'low'
Fracking contamination downplayed

Pesticides 'damage bee' brains

Commonly used pesticides are damaging the brains of honey bees and affecting their ability to learn, two studies suggest.

EU delays action on pesticides ban EU targets pesticide to save bees

DNA test reveals cancer risk markers

More than 80 genetic markers that can increase the risk of developing breast, prostate or ovarian cancer have been found in the largest study of its kind.

activities that they enact on autopilot without questioning. What are they eating for breakfast? In what ways is water being used throughout the day? What types of transportation do they use in their daily lives? Multiple science topics are lurking in each of these observations. When they return with their images, engage in a dialogue where the entire group seeks out themes for further inquiry. Encourage students to ask questions and pose problems that are not easily explained or answered. How do recycling habits differ in different neighborhoods or households? How does proximity to fresh markets promote access to a healthier lifestyle? In what ways is energy used and misused? Students will need to be respectful and open to each other, in light of potentially diverse lifestyles; this performance provides opportunity for cross cultural dialogue.

Finally, I strongly warn against drawing any conclusions. Instead, end your science project by having students create more complex questions. Allow them the discomfort of understanding that there is always more to be learned, explored, and imagined. Individual reflection is an important part of this process. Have your students journal what they did, why they did it, and what they learned. Have them identify questions which they would want to ask next. Finally, what did their performance mean to them? This gives you an opportunity to work

Your role is less of a teacher and more of a coach – what are the interests of your students?

through communication skills, both written and oral. How will your students communicate the importance of their inquiry to each other?

Throughout the process of performing the science inquiry, you will utilize all of your skills as an adult educator: your facilitation skills, planning, discourse, etc. You will also be able to align the projects with multiple benchmarks related to science, literacy, mathematics, data analysis, and social science. Your students will develop integrative understanding of linkages between science and society, science literacy and processes, and communication. As you become more comfortable with science teaching, you can utilize arts and technology as well as literature and community-based educational projects. Follow up your professional development in this area by seeking out guidebooks or courses on place-based learning, problem based learning, or community-based science education. ■

S. Joy Casad is a graduate student and assistant with Virginia Commonwealth University's Noyce Initiative (educating secondary science teachers for high needs schools) and Virginia Institute for Science Teaching and Achievement (VISTA).

Endnotes and Further Resources

There are multiple excellent sources available to explore the topics in this article, including books, documentaries and papers. I have sought those which are easily accessible and economical; these appear in the notes below. They should be treated as beginning explorations, not as final, authoritative information:

- 1) [The Moment in Time](#) Manhattan Project documentary from Top Documentary Films:
- 2) [The Pill](#): Timeline from PBS American Experience

- 3) "[Study Still Provokes Disbelief, Sadness](#)" from NPR:
- 4) [BBC Science](#) is available in multiple languages and is online.
- 5) ScienceDaily website
- 6) The [United States Census Bureau](#) has numerous interactive tools to be used for education and research; they also provide training through webinars.

Building Numeracy and 21st Century Skills

by Jeffrey Elmore

As we go deeper into our conversation about college and career readiness, contextualized and integrated instruction, the closeout of the 2002 series GED® test, and the coming 2014 GED® test, we are presented with new opportunities to discuss how numeracy fits into the adult education curriculum. We know that students in adult ed programs at all levels have difficulty transferring discrete math skills into proficiency with word problems on assessments such as the GED® test or TABE. Up to now, much of the math-related professional development focused on how numeracy helps us to bridge this gap using hands-on manipulatives to bring workbook-based activities to life in a classroom setting. This approach has proven effective in helping us prepare our students to pass the 2002 GED® test (and to learn the math ourselves!), but in the 21st century discussion, we are challenged to educate our students to do more than just pass a test. Along with instruction in basic content areas, the new curricula must include professional and 21st century skills such as communication, etiquette, collaboration, and critical thinking, and it must do so in an environment that promotes digital literacy. How can our understanding of numeracy play a role as we seek to bring all of these concepts together?

Graphics literacy continues to be an obstacle for most students in adult ed. It's an issue not only in math, but also in social studies, science, and workplace education. Students have difficulty extrapolating math problems given information in tables, charts, graphs, and illustrations. Finding solutions to those problems is exacerbated when

students' mental math and estimation skills are low. These multi-layered knowledge and skill deficits can create a 21st century teaching opportunity for us. By using tools such as the Common Core State Standards, we can define specific areas to build lessons around. A quick Internet search of a particular area often yields the charts, graphs, or illustrations that we need to build a lesson's content. With about the same

Given that communication, collaboration, and cooperative work are traits 21st century employers seek, it makes sense that we should be asking students to work in groups.

amount of effort that an instructor would spend on a lesson designed around a single content area workbook activity, a lesson that integrates content from science and math, fosters numeracy development, and reinforces digital literacy can be developed. For example, a lesson might begin with an online article discussing the carbon footprints created by a variety of energy sources, accompanied by charts illustrating the differences. Students could be asked to describe how the charts support the points made in the article and possibly find strengths or weaknesses in arguments for particular energy sources. For more adventurous instructors, the flipped classroom model could be used, challenging students to create content-area-based math/numeracy problems using graphics found through online inquiries.

Another continuous challenge in the adult ed classroom that can be addressed through 21st century skills and numeracy instruction is our multi-level population. It's rare to find an adult ed classroom where all of the students are at the same level and share the same needs. The commonality in most adult ed classrooms is simply one of scheduling – they are all in the same class because that's



Find the Common Core standards online at: www.corestandards.org



Find the 2014 Assessment Targets and other valuable information for educators online at: www.gedtesting-service.com

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Your Results

Your Behavior Breakdown

Category	Percentage
Home Energy	0.0%
Driving & Flying	0.0%
Recycling & Waste	22.5%
Food & Diet	77.5%

U.S. Average Behavior Breakdown

Category	Percentage
Home Energy	38.8%
Driving & Flying	43.5%
Recycling & Waste	4.4%
Food & Diet	15.3%

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World Average (3 people) **17** Tons of CO₂ eq/year

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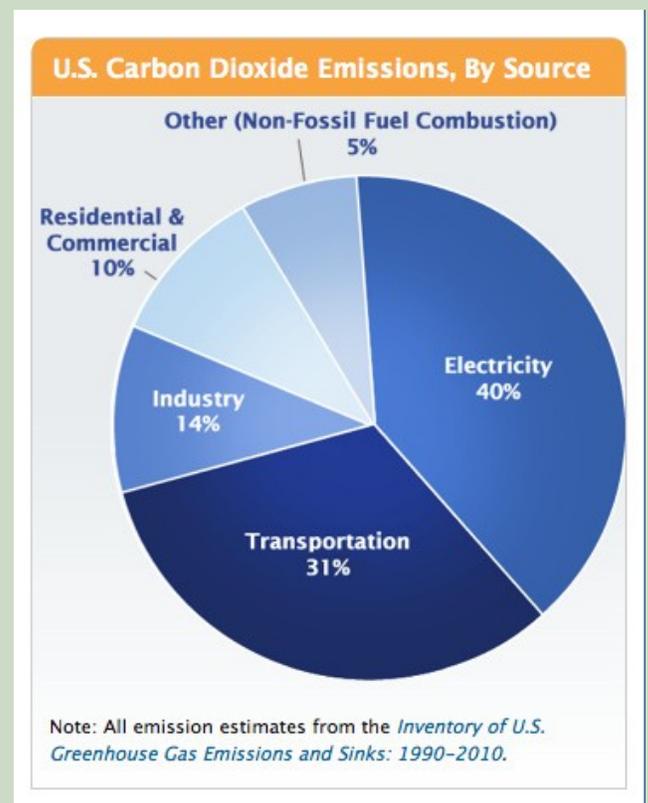
A quick Internet search ... often yields the charts, graphs, or illustrations that we need.

Examples include the carbon footprint calculator from The Nature Conservancy website (left) and extensive resources available from the United States Environmental Protection Agency (EPA; below).

the time that fits their schedules. The diverse needs present in such situations often lead the instructor to shy away from group-based activities. However, if we look deep enough in any group, it should not be difficult to find common content areas (particularly in social studies and science) in which all of the students share a need for improved knowledge and skills. Given that communication, collaboration, and cooperative work are traits 21st century employers seek, it makes sense that we should be asking students to work in groups and deliver projects based in content areas from the Assessment Targets for the 2014 GED® test or the Common Core State Standards. Asking students to engage in numeracy-developing tasks such as generating data sets and statistics that result in analysis, evaluation, and presentation using digital media should be part of any project.

As instructors, we face significant new challenges teaching 21st century skills while continuing to address persistent learning needs, but hopefully these challenges will offer us better opportunities to create educational activities for adults that are both meaningful and enjoyable. ■

Jeffrey Elmore is Training Coordination Specialist at the Virginia Adult Learning Resource Center.



Adult Education in the 21st Century: Literacy Redefined

(continued from front page)

(Executive Office of the President, 2009). The problem we face in many states is that workers lack those skills. In 2011, the National Skills Coalition reported that while over 51% of all jobs in the Southern states required skills beyond high-school, only 43% of the workers possess the skills needed to succeed (National Skills Coalition, 2011).

Skills for Success in Postsecondary Education in the 21st Century

As of 2012, most states in the country have adopted the Common Core State Standards, which are a framework of the skills our children need to prepare them to move into college and the workforce. The core standards present the knowledge and skills students need in mathematics and in the English language to develop literacy in history and social studies, science, and technical subjects. In 2008, the State of Texas took a further step, with the release of the *Texas College and Career Readiness Standards* (TCCS) detailing the skills needed not just to be prepared to enter college but to succeed in freshman level courses. The

What becomes apparent as one considers the skills needed to succeed in the workplace of the 21st century is that, to a great extent, the skills are the same as those required to succeed in college.

TCCRS identify standards and performance benchmarks for success in entry level courses in postsecondary institutions in English, social sciences, college math, and sciences (Texas Higher Education Coordinating Board, 2008). [Editor's note: [Virginia's College & Career Ready Performance Expectations](#) can be accessed online. These reports and other college readiness standards coincide in their identification of the skills students must have to succeed in college: strong English language and grammar skills; an ability to read, write, and do research across the curriculum; math skills; and science skills. In addition,

students must exhibit higher order thinking skills, construct well-reasoned arguments, solve problems, take risks, and possess intellectual curiosity or lifelong learning skills.

What becomes apparent as one considers the skills needed to succeed in the workplace of the 21st century is that, to a great extent, the skills are the same as those required to succeed in college. As the nation's competitiveness becomes more dependent on an educated workforce and more jobs require some level of postsecondary education, being prepared for college means being prepared for the workplace and vice versa. To adult education programs concerned about transitioning students to the next level, this means that any transition program helping students prepare for postsecondary training or academic careers is at the same time helping students transition into the workplace of the 21st century, as long as the curriculum is built solidly around 21st century skills.

Literacy in the 21st Century

The 2012 strategic plan of the Virginia Office of Adult Education and Literacy quite accurately identifies a major problem one faces in defining literacy from a programmatic or policy perspective: literacy is not, the report indicates, a single level of verbal skills but rather a continuum. Defining literacy is no simple task and cannot be tackled by simply teaching "people the basics of how to read and write" (OAEL 2012, p. 6). As recently as 1991, the National Literacy Act defined literacy as "an individual's ability to read, write, and speak in English and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals and to develop one's knowledge and potential." Today, that definition is inadequate to understand the complexity of what literacy means in the 21st century; any definition focused strictly on the ability to read and write leaves us unprepared to tackle the demands of work and competitiveness in today's world.

Thirty years of research on the skills needed by the American workforce, starting with the influential 1983 report *A Nation at Risk*, have introduced suggestions as to the

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skills that students should have when they graduate from school; numerous reports have expanded the focus on reading, writing, and mathematics to include science and technology. A definition of literacy in the 21st century must include a host of new and important literacies:

- **Technological literacy:** the ability to understand technologies and select the technology appropriate for the task
- **Multicultural literacy:** the ability to understand different ways of “seeing the world” across different cultures and to integrate and promote understanding of different groups
- **Scientific literacy:** the ability to understand and describe natural phenomena or science issues affecting the community/nation and to read with understanding articles about science in popular media
- **Health literacy:** the ability to obtain, process, and understand basic health information and services needed to make appropriate health decisions
- **Information literacy:** the ability to recognize the need for information and the skills to locate, evaluate, and apply it to one’s environment, employment, or learning task
- **Economic and financial literacy:** the ability to make financial decisions appropriate for one’s family and personal situation in different stages of life, and the ability to understand how financial decisions can impact the individual or the community
- **Visual literacy:** the ability to interpret, evaluate, and convey information made available through images

If one considers these diverse literacies, it becomes apparent that, at a minimum, literacy in the 21st century is the result of a multidisciplinary education encompassing a lot more than English and math skills. Adult educators must respond to this repeated call to action. Whether we adopt the Common Core State Standards or adapt career and college standards, we in the field of adult education need to understand that, whether students have a goal to attain some level of higher education or transition to employment, they need 21st century skills. Today’s economy demands a

highly educated workforce and many jobs require some level of postsecondary education; focusing on the basics alone is not an option. As the *Workforce Readiness Initiative* report (2007) states, **“Competency is no longer the ticket to success in the workforce; it is the price of admission.”** Our students need those 21st century literacies to have a chance to come through the employment front door. ■

Federico Salas-Isnardi is Adult Literacy Specialist/Coordinator for the Texas Center for the Advancement of Literacy and Learning (TCALL).

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Reminder

These courses are available **free** to adult literacy educators, tutors, and volunteers serving Virginia's learners in programs funded through VADOE OAEL and/or the VLF. See **our online flyer** and the VALRC website, **www.valrc.org**, for more information.

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