



Knowledge Builder

Volume 1, Issue 4

Winter 2006

Inside this issue:

1

How Perception Affects Learning: Going Beyond a Multi-Sensory Instructional Approach
By Connie Bumbaugh

5

Web Publishing: Helping Teachers use Technology as an Instructional Tool
By Jeff Carter

7

Unlocking the Sound Picture Code: The Phono-Graphix Reading Method
By Ben Merrion

About D.C. LEARNs: The D.C. Literacy Education, Advocacy and Resource Network, Inc. (D.C. LEARNs) is a coalition of literacy providers and stakeholders in the District of Columbia. We are a not-for-profit organization. Our mission is to build the capacity and effectiveness of adult, family and children's literacy services in Washington, DC; mobilize resources to support literacy in the District of Columbia; advocate for effective public policy that benefits District residents at the lowest levels of literacy and the organizations that provide services to them.

How Perception Affects Learning: Going Beyond a Multi-Sensory Instructional Approach

By Connie Bumbaugh

What is perception?

Perception is an awareness of one's environment resulting from the considerable stream of information that we receive from our senses. Unfortunately, when most people think of perception, they often think only about the sense of sight and neglect to consider the other senses as valuable sources of information. Early development of sensory systems will affect the way people experience their world through sight, sound, taste, smell, and touch and therefore, perception is critical to learning. Individuals do not see, hear, taste, smell, or feel things the same way as others so they often have a different understanding of that concept and will prefer a different method for receiving information.

Research has shown that when infants are only exposed to one language, they will process a limited set of phonemes or sounds and by age one, will be unable to distinguish new sounds (Ratey, 2001). By contrast, infants who are exposed to different languages will have an easier time learning another language. While it is still possible to learn a second language later in life, it will take more repetition and practice to become fluent. Inevitably, the individual will not sound like a native speaker because the language circuits will not create new connections.

The visual system has a longer window for development, three years (Conlan, 1999). It needs to be stimulated by light in order to develop correctly and if one eye is not receiving the proper amount of stimulation, the stronger eye will take over and create pathways using the weaker eye's neurons. Even if the problem is corrected, the eye will be unable to rebuild all of the appropriate circuits. However, in some cases with significant training and practice, other connections can be formed to compensate for certain deficits (Ratey, 2001).

Smell is one of the least understood of all the senses but it has a powerful effect because it is most closely connected to the memory centers of the brain (Ratey, 2001).

A Word From the Editor!

As I began to gather ideas for this issue, my vision was clear. I wanted the content to highlight techniques and strategies that are tried and true. I am proud to say that what follows is 'hands-on' in the truest sense of the word.

In the fourth article of her five-part series on learning disabilities, Connie Bumbaugh illustrates how *perception* is critical to learning, and what to do in order to accommodate students with different perceptual needs. She highlights basic strategies instructors can implement to support perceptual processing challenges.

Over the last several years, implementing technology into adult education classes has become more and more common. Whether you have embraced it whole-heartedly, or are still feeling your way around, Jeff Carter's article on using web publishing as an instructional tool, will help you to engage learners using a project-based learning activity.

Finally, Ben Merrion describes how he has successfully been using the Phono-Graphix reading method since 1998. He has adapted this method for his own use, and shows how you can do the same to help struggling readers.

Happy reading!



Jennifer Cavelet

Editor

The Knowledge Builder is the quarterly journal of D.C. LEARNs, written by and for adult, family, and children's literacy professionals. It highlights best practices, current research, teaching and program management strategies, and lessons from the field. We are dedicated to voicing the experiences and ideas of individuals in the field of literacy.

©2005. All rights reserved. For permission to reprint any portion of this journal, please contact the editor at 202.331.0141 ext. 23 or jcavalet@dcllearns.org.

733 15th St, NW Suite 437
Washington, DC 20005
202.331.0141
202.331.0143 fax
www.dcllearns.org
info@dcllearns.org

Executive Director: Jeff Carter
Editor: Jennifer Cavelet

Different experiences, both good and bad, throughout life are often associated with particular smells. The smell of a wood fire from a chimney might trigger memories of boy scouting and camp fires or it might cause anxiety in another person whose home may have burned down as a boy (Ratey, 2001).

For many years now, adult educators have been advocating the use of a multi-sensory instructional approach, particularly with adults who struggle with learning, so that we can best meet the needs of all the learners in the group. This approach encourages instructors to incorporate visual, auditory, and tactile (touch) – kinesthetic (movement) activities and materials into each lesson in order to address the various learning styles or perceptual preferences of the students and to increase comprehension and retention of the material. However, what can we do when adults have perceptual processing challenges and multi-sensory instruction is just not enough?

Addressing Perceptual Processing Problems

The first step in supporting adult learners who struggle is to assess whether or not they are experiencing difficulties with the functions of vision or hearing – meaning, are their eyes and ears working properly? If the individual cannot see the words on the page or cannot hear the instructions being given, it will be very difficult for that person to participate successfully in the learning environment. To check visual and auditory function, providers can simply ask the learner candid questions about when they last had their vision and/or hearing checked by a doctor. If it has been more than a year, recommend they schedule a follow-up appointment, particularly if the learner is having difficulty seeing or hearing in class.

If visual and auditory functioning problems are ruled out but instructors still see behaviors such as squinting when reading, reversing letters when writing, or having to frequently repeat verbal instructions to students, the individual may be experiencing an auditory or visual processing problem such as Scotopic Sensitivity Syndrome or Dyslexia, for which numerous educational strategies exist.

Scotopic Sensitivity Syndrome

Scotopic Sensitivity Syndrome (SSS) is a common visual perceptual problem which can best be described as a sensitivity to light or glare. Individuals with SSS often demonstrate symptoms which mimic dyslexia as it is characterized by: squinting when reading in bright and/or fluorescent light, watery eyes, skipping letters, words or whole lines of text when reading, dizziness or headaches when reading, and the sensation that the words are moving or swirling on the page. This phenomenon was identified by Helen Irlen who discovered that individuals using colored overlays on top of white paper had an easier time reading the words and in some cases, found that the words stopped moving altogether.

There are five factors which individuals with SSS may experience on a continuum of mild to severe (Irlen, 1991):

- (1) light sensitivity;
- (2) inadequate background accommodations;
- (3) poor print resolution;
- (4) restricted span of recognition, and;
- (5) lack of sustained attention

Light sensitivity means that people tend to find artificial light (particularly fluorescent) too bright. They usually prefer reading in dim or indirect light and often have difficulty finding a comfortable position in which to read. The second condition makes it difficult for individuals to deal with high contrasts such as black print on bright white paper. In these cases, the background actually becomes more dominant than the print and competes for their attention. With poor print resolution, the images may vibrate, shift, pulse, shimmer, or even disappear on the page and this becomes worse as the print size gets smaller and closer together. Restricted span of recognition means that individuals cannot read long lines of text easily and lack the capability to move from line to line. They struggle when words are hyphenated at the end of one line and re-start on the next and do much better when text is printed in shorter columns. The final factor is the inability to sustain attention. When an individual has SSS, it takes a tremendous amount of energy to perceive and process the words correctly so, the longer they read, the more difficult it becomes.

Because SSS is not a visual functioning problem, it is not identified through routine eye examinations. However, instructors can help individuals who might have SSS by looking for the common behavioral indicators (squinting, headaches, watery eyes, fidgeting, tracking problems, etc.). When these behaviors are observed, instructors should implement these simple accommodations:

- Change the light source from florescent to incandescent, natural, or indirect light
- Use pastel colored paper (instead of bright white) for handouts and worksheets - white paper reflects too much light and therefore there is too much glare
- Use a larger font and double-space text to make it easier for learners to keep track of their place on the page
- Allow the learner to wear a visor or a ball cap when reading (reduces glare from overhead lighting)
- Break reading tasks into shorter segments
- Allow the learner to use a ruler or blank sheet of paper as a guide to keep his or her place on the page when reading (also reduces visual distractions)

If the problems persist despite the use of these accommodations, LVA-NCA can screen individuals for Scotopic Sensitivity Syndrome and recommend specific colored overlays for individuals depending upon their specific sensitivities and preferences. Individuals who use the overlays report that they can read faster and more easily, lose their place less frequently, get fewer headaches, and are less tired when they read. Overlays can then be purchased at a very reasonable cost (about \$4-5 per sheet) at the Irlen Institute website (http://www.irlen.com/index_training.html) along with other assistive materials. If these overlays are successful, individuals can also visit an Irlen Diagnostic Center to be tested and fitted for personalized colored lenses. There is a center in Reston, Virginia.

Dyslexia

Neurological in its origin, Dyslexia is another common processing problem wherein individuals experience difficulty with language – specifically with visually processing written words or more often, in distinguishing the sounds of speech (Jordan, 2002). Current studies suggest that more than 80% of those individuals diagnosed with learning disabilities have dyslexia. There are two types of dyslexia, visual and auditory, and a number of other related disorders such as Dysgraphia (difficulty with handwriting), Dyscalculia (difficulty with math), Dyspraxia (difficulty with motor skills & coordination), and Dysphasia (difficulty with speaking). Visual dyslexia is characterized by frequently seeing and/or writing the letters or whole words upside-down or reversed. The more common form, auditory dyslexia, is observed when learners misinterpret what they hear and struggle to convert what they hear into writing. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction (IDA 2002). Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.

Individuals with dyslexia typically struggle with organizing written and spoken language, memorizing numbers or facts, doing math operations, learning letters and their sounds, and have poor spelling, handwriting, organization, and time management skills. On the positive side, many individuals who have dyslexia are gifted in the areas of art, computer science, math, drama, music, physics, sports, design, electronics, and marketing.

Not all learners who demonstrate these characteristics are dyslexic but the only way to confirm a diagnosis is through formal testing. This testing must be done by a professional and these resources are limited and very expensive. The evaluation includes an assessment of intellectual ability, information

processing, psycho-linguistic processing, and academic skills. Currently, the Department of Rehabilitation Services does offer comprehensive testing for individuals with disabilities who are seeking employment but private testing is very expensive. Although some non-professional tests, such as PowerPath, can identify information processing difficulties, they cannot formally diagnose dyslexia. Fortunately, the classroom accommodations and teaching strategies will be the same.

If providers suspect that one or more learners in their program is challenged by dyslexia (or other learning disabilities), they should routinely employ strategies and accommodations that will help those individuals to succeed. These strategies will not only help those struggling learners but will often boost the success rates of the entire group. To help learners compensate for dyslexia, instructors should allow and encourage them to use a variety of strategies in the classroom or learning environment.

- Teach using a multi-sensory approach – include activities that are simultaneously visual, auditory, and tactile (touch)-kinesthetic (movement).
- Present information in an organized, systematic, and explicit manner – instruction should have a logical sequence, with step-by-step procedures and time for practice and feedback.
- Allow students to design more creative or artistic assignments, as students with dyslexia are often very creative and have a strong visual memory.
- Encourage learners to touch the page as they read or use a ruler or blank sheet of paper to help them keep their place on the page.
- Allow learners to verbalize sounds or act out stories as they read.
- Using a keyboard to write (instead of requiring pencil and paper) may reduce written errors.
- Reduce the need for copying from the board – instead, give handouts or allow learners to use workbooks.
- Allow the learner to record lessons so they can be replayed, paused, and restarted later – listening to books-on-tape is a favorite pastime of many dyslexics who find reading to be challenging.
- Teach organization and time management skills.

Teaching phonemic awareness to learners who struggle with auditory dyslexia has also been shown to be very effective and there are many commercially available programs to choose from. A few of these highly structured, sound based programs include:

- Wilson System (<http://www.wilsonlanguage.com>) One-to-One Tutoring offered at the Washington Literacy Council (202) 387-2222
- Orton-Gillingham (www.orton-gillingham.com) Multi-sensory phonetics instruction for children
- Barton Reading and Spelling System (<http://www.bartonreading.com>) One-to-One Tutoring system for children, teens, & adults struggling with dyslexia and other learning disabilities
- Lindamood-Bell (<http://www.lblp.com/>) Evaluations and instruction offered at their Learning Center in NW Washington, DC (202) 237-7695
- Fast ForWord® (<http://www.scilearn.com/>) Computer-based phonics learning game

Emotions & Perception

Occasionally, perception is not a specific problem of processing challenges in the brain but rather how past and present experience influence current thinking about learning. The humanist perspective of learning, suggests that instructors should draw upon an adult learner's experience and use that prior knowledge as a learning resource (Merriam & Caffarella, 1999). Valuing a learner's experience will not only build rapport but will enhance the learner's perception that their experiences have meaning. Miller (1967, in Merriam & Caffarella, 1999) suggests that adults from lower socioeconomic classes typically participate in learning activities for job-related and basic skills reasons and a preponderance of literacy students fall into this category. Furthermore, adults have a need to know how new learning will apply to their daily lives so educational materials can also be selected to meet the specific needs and interests of adult learners. They should be meaningful, relevant, and immediately applicable to their lives and interesting to them to help the learner understand their relevance and be able to transfer new skills to situations outside of the classroom.

Teaching Learners with Perceptual Challenges

What we need to understand is that we all perceive the world differently and that should be used to our advantage rather than seen as a barrier. Individuals who struggle with academic tasks due to perceptual difficulties are often gifted in other areas like science, art, and athletics. Encourage learners to use those gifts and help them to design creative assignments that will demonstrate their knowledge. The best thing that we can do for our learners is to be aware of the conditions that exist which make it difficult to learn, know what signs to look for, and to provide learners with strategies to overcome or work

with those challenges. Remember, some of the world's most creative people had learning disabilities – Thomas Edison, Alexander Graham Bell, Albert Einstein, Walt Disney, & Leonardo da Vinci – and look what they accomplished!

Additional Resources

- Learning Disabilities Association - <http://www.ldanatl.org/>
- International Dyslexia Association - <http://www.interdys.org/>
- Learning Disabilities Online - <http://www.ldonline.org/>
- Irlen Institute - http://www.irlen.com/index_training.html
- Davis Dyslexia Association International – www.dyslexia.com

Bibliography

Conlan, R. (1999). *States of mind: New discoveries about how our brains make us who we are*. John Wiley & Sons: New York.

Davis, R. (2003). *The gift of learning: Proven new methods for correcting ADD, Math & Handwriting problems*. The Berkeley Publishing Group: New York.

Davis, R. (1994). *The gift of dyslexia: Why some of the smartest people can't read and how they can learn*. Ability Workshop Press: Burlingame, CA.

Irlen, H. (1991). *Reading by the colors: Overcoming dyslexia and other reading disabilities through the Irlen method*. The Berkeley Publishing Group: New York.

Jordan, D. (2002). *Overcoming dyslexia in children, adolescents, and adults*. (3rd Ed.) Pro-Ed: Austin, TX.

Payne, N. (1994). *Building learning power for children & adults who have special learning needs: A collection of instructional strategies & adjustments*. Payne & Associates: Olympia, WA.

Ratey, J. (2001). *A user's guide to the brain: Perception, attention, and the four theaters of the brain*. Pantheon Books: New York.

Weisel, L. (2003) *PowerPath to basic learning: User's Guide*. Columbus, OH: The TLP Group.

About the Author

Connie Bumbaugh is the Executive Director of Literacy Volunteers of the National Capital Area (LVA-NCA) and is an advocate for adults with special learning needs. She provides LD screenings for adult learners and conducts training for educators on how to effectively support these learners in the classroom. Connie received her Master's degree in Adult Learning from Virginia Tech and her BA in Psychology from Rutgers University.

Web Publishing: Helping Teachers Use Technology as an Instructional Tool

By Jeff Carter

Over the last decade, the presence of computers in adult basic education settings has become commonplace. Some programs are under increasing pressure—from policymakers, their program administrators, and their students—to make use of this technology. State and Federal departments of education, in particular, have become enamored of computer and Internet technology, perhaps as a natural outgrowth of their interest in data collection (which usually involves increasingly complex technological systems) or perhaps because it represents, to many of them, a potential opportunity to deliver instruction to greater numbers of students with greater efficiency.

Ginsburg (1998) has suggested four basic ways in which technology is used in adult learning and instruction:

- **Technology as Curriculum:** direct, hands-on work with computers that is focused on acquiring technology skills;
- **Technology as Delivery Mechanism:** computerized learning systems, sometimes individualized, that provide direct instruction and practice;
- **Technology as Complement to Instruction:** using software to practice skills, such as simulations or so-called “drill and practice” programs; and
- **Technology as Instructional Tool:** technology is seamlessly integrated into learning and is used just as it's used in everyday home and office life, and technology skills are accrued as part of other educational goals.

As a trainer of adult education teachers, it has been my observation that computers are most often used in adult education classrooms as either a delivery mechanism or as a complement to instruction (sometimes at the initiation of students).

The advantages to these two approaches, according to Ginsburg, include: (for the delivery mechanism approach) the potential ease of ongoing assessment (assuming assessment tools are built into the software), and (for the complement to instruction approach) the fact that the software is a resource that the teacher won't have to create themselves. The weaknesses in these approaches, again according to Ginsburg, include: (for the delivery mechanism approach) little integration with a student's existing knowledge and experience, and (for

the complement to instruction approach) costs, quality assurance issues, and the difficulty involved in integrating it well.

As a trainer of teachers, I found the weaknesses to these two approaches daunting. I am particularly troubled by the application of technology in ways that are antithetical to good adult education practice, which stresses the integration of the learners' existing knowledge and experience. (Knowles, 1980; Merriam, 1999.)

Of the four approaches cited by Ginsburg, many of us in the field favor the last approach: the use of technology as an instructional tool. When done well, it offers more opportunities for engaging students with technology in more relevant, real-life, problem-solving activities, which in turn will make the literacy lesson more engaging.

Teachers familiar with project-based learning will find this approach familiar, since Ginsberg's instructional tool approach and project-based learning share many common characteristics. Proponents of project-based learning contend that it has particular promise in adult basic education because the emphasis on real-life problem solving and teamwork skills supports certain key characteristics of adult learning. (Cromley, 2000.)

For many adult basic education teachers and students around the country, Web site design and publishing have provided an excellent opportunity to engage in a project-based learning activity that weaves technology (the publishing of a Web site) with basic skills (reading, writing, teamwork, organizational skills, etc.). Some of the sites I've seen include: a collection of educational resources rated and ranked by students; collections of personal biographies and photos; a Web site devoted to the history and/or culture of the local community; a Web site focusing on economic development opportunities in the local community; text and photo diaries of local attractions or community locations; and a collection of interviews with local people about their jobs. (Web publishing as a classroom activity has the potential to grow in the coming years with the advent of weblogs, or blogs, which make self-publishing easier than ever before.)

Over the years, I have been fortunate to facilitate a number of training sessions dedicated to Web publishing as a learning activity. I've tried to help teachers come up with ideas that merge the planning, organization, and design of sites with reading, writing, and organizational skill development. Many Web site planning tasks (such as mapping roles to tasks or developing a schedule) can be good experiential learning activities on general office work.

Site Maps and Storyboards

Designing a **site map** is just one example of a step in the process that in and of itself offers a number of creative learning opportunities—and one that both teachers and students really appear to enjoy.

What is a site map? A site map is basically a diagram that shows the relationship between all of the individual Web pages on your site. It provides the blueprint for your project. Most sites are hierarchal in terms of organization, although they don't have to be.

Building a site map is an excellent opportunity for anyone to practice writing and organizational skills. A hierarchal site map resembles a family tree or an organizational flow chart. Site designers must organize their ideas so that the structure of the site makes sense before actually making the Web pages themselves. At the top of the map is the home page; lines leading to other pages below the home page represent links. (See **"Sample site map diagram."**)

There are many ways to develop site maps. Some people prefer to draw it out on paper; others use what I call the "sticky-note" method, using individual sticky notes to represent pages; and others use a chalkboard, or whiteboard.

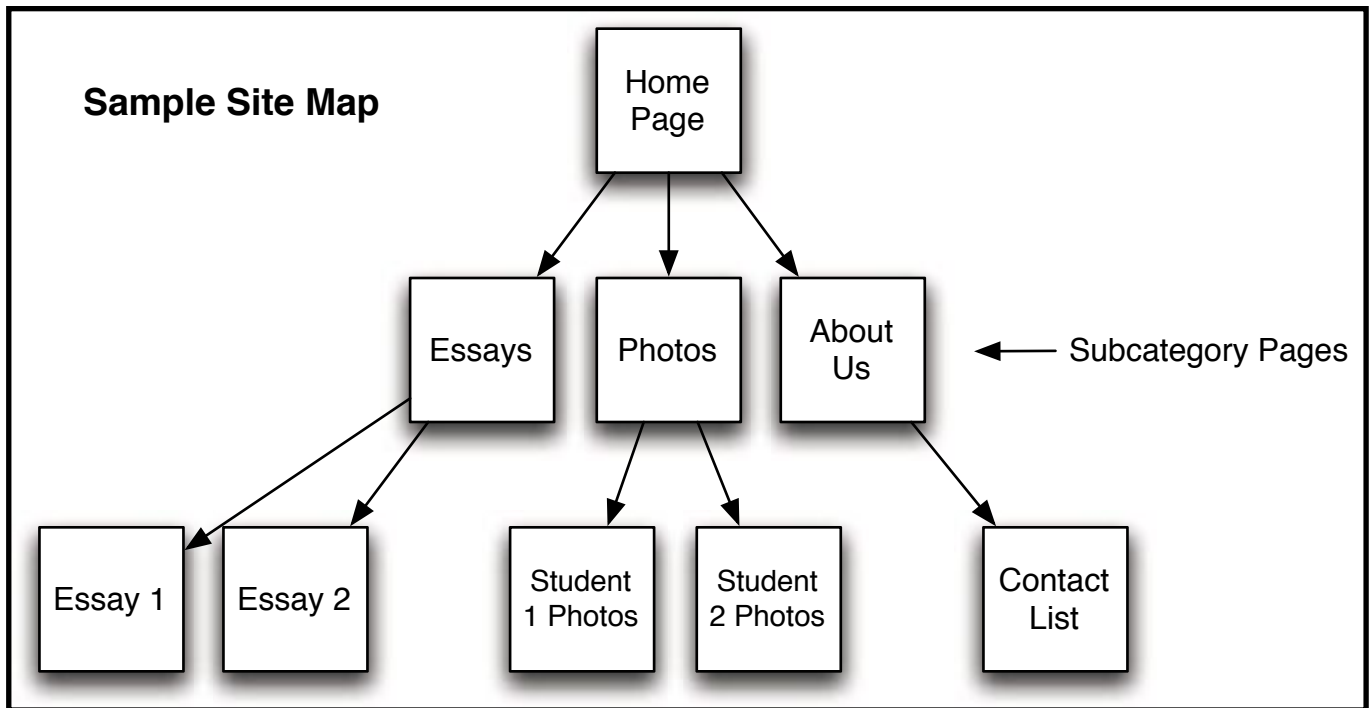
In fact, I've found that the more you encourage inventiveness in creating the site maps, the more engaging the process is. As a trainer, my practice has been to divide participants into groups. Usually I'll begin by helping them come up with the main categories of information using a simple organization and navigation activity (see sidebar). Then I'll place a random collection of objects on each group's table—paper, felt, scissors, crayons, string, labels, sticky notes, file cards—and ask them to design a site map using whatever tools they see as most useful. I encourage them to be as creative as possible. In doing so, I'm hoping to model a process that they can use with their own students. **A photograph of one of these creations accompanies this article.**

Even when the time comes to design the actual web pages, I recommend that first drafts be done on paper. Drawing out your design ideas makes it easier to try out and edit ideas, and it can be a fun activity too, especially for those students who are not comfortable with computers. This process is sometimes referred to as **storyboarding**—much like how film directors draw storyboards of key scenes before they shoot a movie. After your group has agreed on a design based on the storyboards, then you can plan how you will create these designs on the computer.

In this way, the use of computers is left aside until the point where it serves the most useful purpose: making the actual Web pages, entering the text, and/or making and editing the graphics that will go on the site.

Conclusion

While there are benefits to all of the different uses of technology, I think it's important that we try to use the machines in a creative context wherever possible. If computers are used only as instructional delivery devices or as complements to instruction, students may leave programs with a very limited under-



Sample site map diagram

standing of how these machines can be used—and are used in the workplace. As illustrated above, using computers in instruction does not require that computers themselves be the focal point of that instruction. It would be a mistake, I think, if we do not offer students experience with technology that encourages them to see these machines as one of several supporting tools for self-expression and creativity both in their personal lives and in the workplace.

References

- Carter, Jeff, and Steve Quann. *Under Construction: Building Web Sites as a Project-based Learning Activity for ABE/ESOL Classes*. Boston, MA: World Education, 2003.
- Cromley, Jennifer. "Learning with Computers: The Theory Behind the Practice." *Focus on Basics* December, 2000: 6-11.
- Donnelly, Maura. "Building a Web Site in an ABE Class." *Focus on Basics* December, 2000: 20-24.
- Gaer, Susan. "Less Teaching and More Learning." *Focus on Basics* December, 1998: 9-12.
- Ginsburg, L. (1998). "Integrating technology into adult education," in *Technology, Basic Skills, and Adult Education: Getting Ready and Moving Forward*, Information Series no. 372, edited by C. Hohey. Columbus: ERIC Clearinghouse on Adult, Career, and Vocational Education

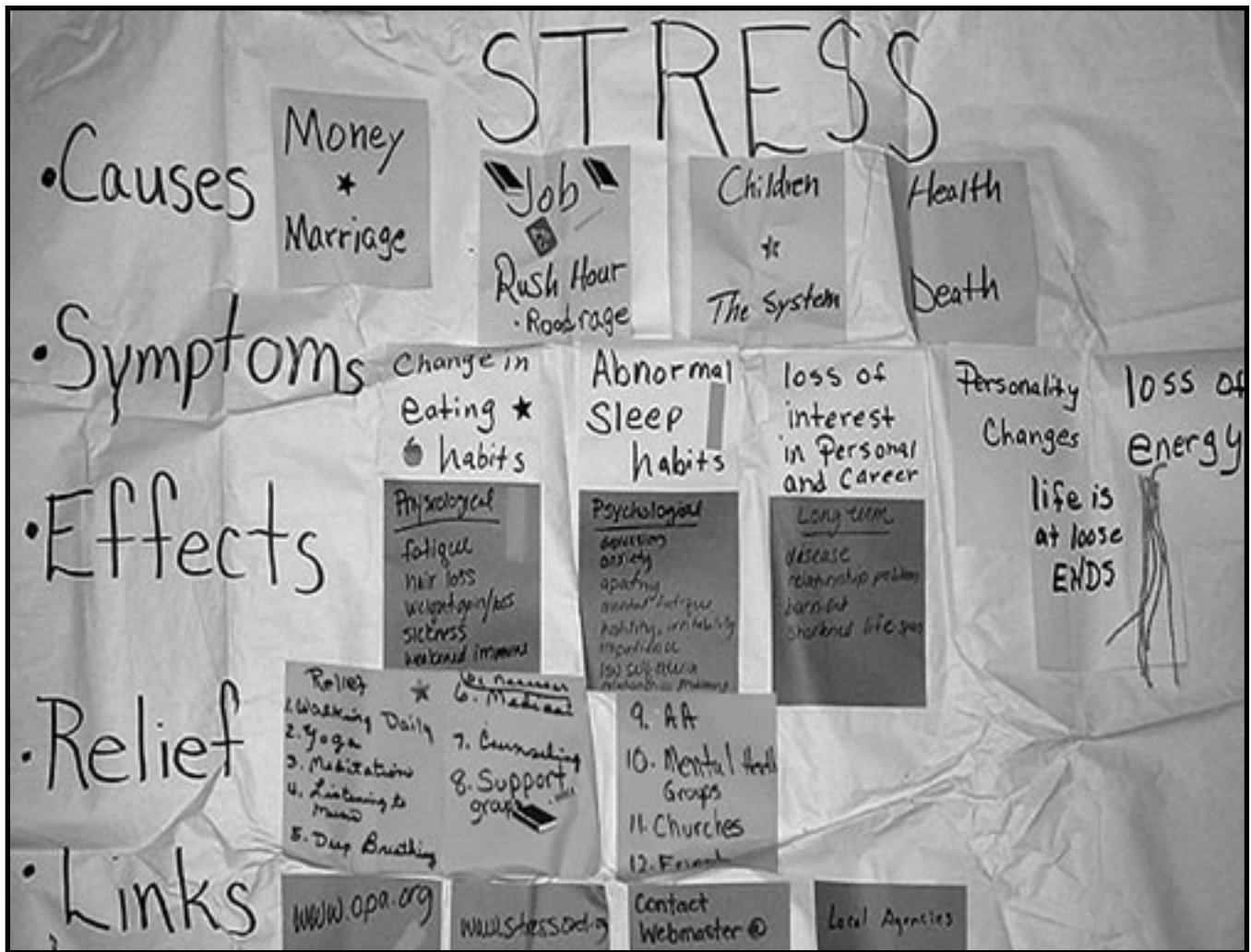
Knowles, M.S. (1980). *The Modern Practice of Adult Education: From Pedagogy to Andragogy* (2nd Edition). New York, NY: Cambridge Books.

Merriam, S & Caffarella, R. S. (1999). *Learning in Adulthood*. San Francisco, CA: Jossey-Bass.

Wrigley, Heide S. "Knowledge in Action: The Promise of Project-Based Learning." *Focus on Basics* December, 1998: 13-18.

About the Author

Jeff Carter is the Executive Director of D.C. LEARNs. He is also the co-author of *Under Construction: Building Web Sites as a Project-based Learning Activity for ABE/ESOL Classes*, a book designed to provide adult literacy and ESOL staff developers and teachers with some simple, user-friendly advice on building Web sites as a classroom activity; and *Technology in Today's ABE Classroom: A Look at the Technology Practices and Preferences of Adult Basic Education Teachers*.



A site map project from a recent training

Sidebar: 'Categories' Activity

Materials Needed: Yellow sticky-note pads, whiteboard or chalkboard

Ask each member of the project team to write down the kinds of information they expect to see included on the website on sticky notes.

For example, if it is going to be an introduction to the local community, examples might include:

- Descriptions of important or famous locations;
- Shopping tips;
- Interviews with business owners;
- Interviews with residents;
- Maps; etc.

Gather all of the notes and remove any duplicates. Now ask the group to arrange the remaining notes into broader categories (such as "People," or "Places to Go")

on a large whiteboard. These initial groupings can then be reviewed and revised until the group agrees. The final agreed-upon categories will likely represent the major or "top level" categories of the Web site. For example, the group may decide to group all of the ideas students have for interviews with local residents under the category "People."

Teachers who have responded favorably to this activity note that:

- There is not necessarily one way to group everything, so there are no "wrong" answers;
- It helps develop skills in group decision-making; and
- It helps develop hierarchal organizational skills, which may apply to other kinds of writing exercises and problem-solving activities.

The Phono-Graphix Reading Method: Remedial Reading for Struggling Learners

Reading Reflex: A Complete Reading Method in One Book

By **Ben Merrion**

Phono-Graphix is a reading method designed to teach beginning readers how to read, and to help struggling readers increase their reading levels. The book, *Reading Reflex: The Foolproof Phono-Graphix Method for Teaching Your Child to Read*, by Carmen and Geoffrey McGuinness, is unique in that it is the only remedial reading program available in one relatively inexpensive book. Although it is designed for parents to teach kids to read, the methodology and techniques can also be used with adults. I have used this method since 1998, and found that sometimes it was the only method that seemed to work with my students.

When I first started tutoring adult students who needed help with basic literacy skills, I had to face the fact that even though I was an English major, I really didn't know that much about the English language. Particularly, I couldn't explain patterns of letters or how to figure out words. If my students had problems when reading unfamiliar words or if they misread words, I would just give them the correct word, and hope that they would remember it the next time they saw it. The more I worked with adult learners, however, the more I discovered that this process wasn't working.

At one point, I had a fifty-year old student who had relied on his parents to do everyday tasks for most of his life, and now needed to help them. He needed to take an exam to get his driver's license and also wanted to be able to go shopping by himself. He had difficulty remembering as little as five basic, meaningful words from one lesson to the next and seemed to be a pretty difficult case. It was this student, and others, that motivated me to research different methods of teaching reading. I also began learning about how reading was taught to children. I tried many techniques, including word memorization through drilled repetition, using context to figure out words, and trying to explain English language letter patterns. But my students just weren't making the kind of progress that they needed to reach their goals.

When I read *Reading Reflex* in 1998, it seemed to me that I could use the Phono-Graphix method with my adult learners, since they seemed to be having the same kinds of reading problems as some children. The methods for word identification could be easily understood by most students, but what I really liked, was that it offered specific, practical, and easy to implement suggestions to correct many word-sounding errors.

Four Main Concepts of the English Code

Among reading teachers, the term "decoding" is used to describe the process beginning or struggling readers use when they try to figure out a word. English is written in a code that must be deciphered in order to be understood. Phono-Graphix explicitly teaches four main concepts that learners must understand in order to read this code. They are described in detail below.

First Concept: Letters are pictures of sounds; Second Concept: The pictures can be one or more letters

The first concept is that a letter or a group of letters can stand for a sound. This visual representation is called a *sound picture*, which is a letter or a group of letters that represents a sound and describes how the English code is written. In linguistic terms, a sound picture is a grapheme. When a grapheme is made up of two letters, it is called a digraph. For example, the word "bat" has three sounds /b/, /a/ and /t/ and therefore, three sound pictures: , <a> and <t>. Now, that doesn't sound revolutionary, except when it comes to longer words. With the word "boat," most phonics programs would use the 'two letters walking and talking' rule, which says that when a student sees two vowels together, as in the word "boat," the <o> says its name and the second letter is silent. Some students understand this, but it can be confusing to others, and can take up time, especially when correcting student errors. Phono-Graphix however, keeps the same simple sound-picture logic: there are three sounds in "boat": /b/, /oe/ and /t/, and therefore three sound pictures: , <oa>, and <t>. Rather than teach students these abstract terms, using the term 'sound picture' can be very helpful and concrete. To further help the student understand these concepts, words are "coded" so that sound pictures which contain more than one letter are close together and bolded: **b oa t, eigh t, b ea ch**.

Third Concept: There is variation in the English code

The next concept that Phono-Graphix teaches is that there is more than one way to represent sounds; for example, the sound /ae/ (as in "rain") can be spelled using the following letters and combinations of letters: <a>, <ae>, <ai>, <eigh> <ay>. In this method, in one lesson, students learn all the different ways a sound is represented, as opposed to teach-

ing just one way in each lesson. Though this may seem like a lot to handle all at once, it actually speeds the pace of remediation. The point of Phono-Graphix is to teach the basics of the English code quickly, so that they can be practiced in the actual process of reading. The developers believe, and I have experienced firsthand, that learners learn best, not through isolated word drills, but by practicing their skills in a meaningful, relevant context.

Fourth Concept: There is overlap in the English code

One more fact about the English code that makes it complex is that a sound picture can represent more than one sound: the <ow> sound picture can represent the sound /oe/ in “show,” but it can also represent the sound /ow/ in “brown.” This is what *Reading Reflex* authors call overlap. (How we would handle a mistake made with this sound picture is discussed below under error corrections). One of the activities used to teach this concept is to have the student read a list of words with a particular sound picture that represents two separate sounds. The student first tries one sound that the picture can represent, then the second sound. They then separate the words into two lists, each list containing words of similar sounds.

The Skills Needed to Decode

Along with grasping the four basic concepts, learners must also develop three skills to sound out words: blending, segmenting and phoneme manipulation. *Blending* is pushing sounds together in words, and *segmenting* is separating out sounds in words. So when a learner comes to the word “bat,” separately saying the individual sounds in that word would be segmenting those sounds, and pushing those separate sounds together to get the whole word would be blending. *Phoneme manipulation* is moving sounds in and out of words, so when a learner reads “brown” as “broen” (because the <ow> sound picture can stand for two sounds), the student would have to be able to take the wrong sound out and put the right sound into the word. If not taught this skill, some learners, even when corrected, may just say the same wrong word again.

Reading Reflex offers activities and guided lesson plans that simultaneously teach the concepts and skills learners need within the context of words. Studies have shown that when these phonological processing skills are taught in a relevant context, learners make more significant gains than those students who have done exercises with only sounds, and not letters and words (Clark & Uhry 1985). The lessons in the book are designed to be flexible, so I usually plan each session by having a student learn the different sound-pictures of a particular sound, practice the three skills to help them read words with those sounds, and then read a story that has words that contain those sounds.

Error Corrections

What I like most about Phono-Graphix is that for most learner mistakes, there are specific suggestions for the instructor explaining what to say and do to help students learn from what they did wrong. For example, if a student says “broen” (using the sound /oe/ as in “low”) when reading the word “brown,” we would want to give the student the information that they need in order to correct themselves, while still relying on the skills they have learned to sound words out. The specific correction for this mistake would be to point to the sound picture <ow> and say, “You are right, this can be /oe/, but this can also be /ow/” (the ending sound in “cow”) – while pointing to the <ow> sound picture, we would say, “Say /ow/ here.” This acknowledges the student’s effort while also pointing out what they need to realize about the English code – (in this instance) that a sound picture can stand for more than one sound.

Using error corrections helps students become more independent readers. For example, in giving these corrections, the instructor helps make the student more aware of what they are doing, so that he/she will eventually be able to self-correct. Studies have shown that efficient learners learn best through meta-cognitive strategies, such as self-awareness of the thinking process, discussion of how strategies are taught, and assessing how these strategies work (Cromley, 2000; Meichenbaum & Biemiller 1998). Using error corrections with Phono-Graphix activities gives students direct feedback, and shows them how using their coding knowledge helps them become better readers.

Using Reading Reflex With Adult Learners

As previously mentioned, *Reading Reflex* is designed for a parent teaching a child, and not necessarily for adult literacy teachers. However, much of the book can be used without a lot of adaptation. Some adults may think the word lists in the book are too easy, and may feel that they are not learning very much. However, I found out that this wasn’t a big problem, as long as I used tougher words that contained the sound we were working on within that lesson. Instructors are encouraged to give students reading material that might be just above their level so that they will make mistakes, learn from them, and make noticeable progress.

Another issue that arises when using *Reading Reflex* with adults is that many of the stories are written for children. They sometimes contain monosyllabic words and often lack real substance. Before using Phono-Graphix, I tried teaching phonics to adult learners using a sound to symbol approach, usually in the form of phonics instruction (Fry, 2000; Laubach Literacy Action, 1994). The problem was, I didn’t know how to “teach the basics” without making adults feel they were doing “kids stuff.” A suggestion posted on www.readamerica.net, a website that

supports people using *Reading Reflex*, is to use a technique called “buddy reading.” With this technique, instructors don’t have to use the stories in the book; they can use reading material oriented towards the learners’ goals. Students read the words that they know, which may include particular sounds that were focused on in the lesson. Words that are very difficult for the student can be read by the instructor. I have used this technique often, because I want my students to become experienced reading relevant material as quickly as they can.

The Phono-Graphix method has aided me in better assisting my adult learners, and in understanding how truly difficult the reading process can be. When my students can’t determine a word, I can now ask them, “What is the first sound in the word?” and use the techniques described in *Reading Reflex* to help them figure it out. This method also offered me a way to teach sound-to-symbol relationships in a structured way, which is what some students need in order to improve their grade levels. With what I learned from using this book, I was eventually able to help my adult learner read in order to take his driver’s test and go shopping. It took about a year and a half of him working diligently, and me constantly going back to the book to learn the techniques, but we were both satisfied with the outcome. I found that while learning to read is a process that requires patience, stamina, and persistence, many adult learners who previously thought they would be unable to read, have been successful in doing so.

References

- Clark, D.B. & Uhry, J.K. (1995). *Dyslexia: Theory & Practice of Remedial Instruction*. (2nd Ed.) York Press: Baltimore.
- Cromley, J. (2000). *Learning to Think, Learning to Learn: What the Science of Thinking and Learning Has To Offer Adult Education*. National Institute for Literacy: Washington DC.
- Fry, E. (2000). *Contemporary’s How to Teach Reading to Adults*. Contemporary Books: Lincolnwood, Illinois.
- Laubach Literacy Action. (1994). *Teaching Adults: A Literacy Resource Book*. New Readers Press: Syracuse.
- McGuinness, C. & McGuinness G. (1998). *Reading Reflex: The Foolproof Phono-Graphix Method for Teaching Your Child to Read*. Free Press: New York.
- Meichenbaum, D. & Biemiller, A. (1998). *Nurturing Independent Learners: Helping Students Take Charge of their Learning*. Brookline Books: Newton, Massachusetts.
- Read America website: www.readamerica.net

About the Author

Ben Merrion is an Education Specialist in the Adult Literacy Resource Center at the DC Public Library. He became certified in the Phono-Graphix reading method in 1998 and has worked with adult learners at various literacy levels for over eight years. Although not a certified trainer, he is able to give free workshops on the Phono-Graphix method to non-profit organizations.

Call for papers

We welcome your submissions for publication on an ongoing basis. In order for an article to be considered for the forthcoming issue, it must be submitted **no later than** the 15th of the month prior to the month of publication. **The deadline for the next issue is March 13th.** To submit an article to be reviewed for publication and for other editorial questions or comments, please contact Jennifer Cavalet at jcavalet@dclearns.org or 202.331.0141 x23.

Article guidelines

- All articles should be between 1,200 and 2,000 words.
- Submissions should be typed double-spaced, in Times New Roman, including quotations and at least 5 references.
- Follow the Publication Manual of the American Psychological Association (APA), Fifth Edition for reference style guidelines. Present important information in the text and do not use footnotes or extensive endnotes.
- Include a biography of the author (50 words maximum).
- Please include a cover sheet with the author's name, address, phone number and email address.
- Compensation is in the amount of \$200 for each article that is published and follows the above guidelines.

How to obtain copies

Receipt of the *Knowledge Builder* is a benefit of D.C. LEARNs membership. If you would like to purchase copies of this publication, please subscribe at the rate of \$20/four issues by sending your payment to: D.C. LEARNs, Attn: Knowledge Builder, 1612 K Street NW, Suite 300, Washington, DC 20006

How to become a member

To become a member of D.C. LEARNs please fax a completed application, which can be found at www.dclearns.org to 202.331.0143 or contact Jessica Young at jyoung@dclearns.org.



D.C. LEARNs Inc.

1612 K Street, NW

Suite 300

Washington, DC 20006

www.dclearns.org