DOCUMENT RESUME

ED 473 495 CS 511 794

AUTHOR	Perkins, Joan, Ed.
TITLE	Core Literacies.
INSTITUTION	Pacific Resources for Education and Learning, Honolulu, HI.
SPONS AGENCY	National Science Foundation, Washington, DC.; Department of Education, Washington, DC.
ISSN	ISSN-1540-4854
PUB DATE	2003-02-00
NOTE	25p.; Published quarterly. Theme issue. Funding also provided through award numbers R203F990026, R302A000001, R319A000001, S186CO10001, S256A990007, S283A950001, and S310A980047.
CONTRACT	DUE0121749;ESI0138916;ED01CO0014;R203A970016
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PUB TYPE	Collected Works - Serials (022)
JOURNAL CIT	Pacific Educator; v2 n1 Feb 2003
EDRS PRICE	EDRS Price MF01/PC02 Plus Postage.
DESCRIPTORS	*Classroom Techniques; Elementary Secondary Education; Health Education; Instructional Effectiveness; *Literacy; Mathematics Instruction; *Reading Comprehension; *Reading Fluency; Science Instruction
IDENTIFIERS	Pacific Islands; Video Teleconferencing

ABSTRACT

This journal issue focuses on teaching various types of literacies. The journal contains the following 16 articles: "Our Heritage, Ourselves: The Importance of Maintaining Cultural Literacy in the Pacific Islands" (Masa-Aki Emesiochl); "It Works! Web-Based Reading Program Helps ELLs Make Literacy Gains" (Zoe Ann Brown); "A Bridge to Reading and Writing Literacy: Developing Oral Language Skills in Young Children" (Jan Jenner); "A Key Reading Component: Focus on Fluency Helps Develop Reading Comprehension" (Ludy van Broekhuizen); "Targeting Fluency: Forum Speakers Stress Need for Oral Reading and Feedback"; "Becoming Better Readers: Fluency Work Makes a Difference" (Susan Hanson); "Parent Corner: Simple Strategies Spell Early Reading Success" (Patricia von Oelhoffen); "Teaching the Standards: Decision Making Skills Enhance Student Health" (Sonja Evensen); "Supporting Health Literacy: NCLB Funds Community Learning Centers" (Harvey Lee); "Picturing Science: Photographing and Writing about Island Environments" (Lori Phillips and Kavita Rao); "From Memorization to Inquiry and Exploration: New Classroom Strategies Promote Science and Mathematics Literacy"; "More Instruction Time Lost: Supertyphoon Pongsona Batters Guam, Chuuk, and Rota" (Alice Borja; Ismael Dobich; Jean Olopai); "Information Literacy: From Identifying Needs to Evaluating Sources" (Nancy Lane); "Developing Technology Literacy: Creating Critical Thinkers and Lifelong Learners" (Andrew Kerr); "Videoconferencing: Improving Access to Training" (Steve Baxendale and Jim Bannan); and "Tech Tips: Do Those Pop-Up Ads Frustrate You, Too?" (Tim Moline). (NKA)

PACIFIC educator

A PUBLICATION OF PACIFIC RESOURCES FOR EDUCATION AND LEARNING

Core Literacies

PacificBasin
Communications
P.O. Box 913
Hon., HI 96808

February 2003 VOLUME 2 NUMBER 1

20TH ANNUAL
PACIFIC EDUCATIONAL CONFERENCE

JULY 21-24, 2003
POHNPEI, FEDERATED STATES OF MICRONESIA

DUE DATES TO REMEMBER

March 31	Presentation/Meeting Proposal Form due
March 31	Teacher of the Year Profiles due
March 31	Advertising deadline
May 19	Earlybird registration deadline
May 19	Exhibition registration deadline
May 20-July 24	Registration

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Pacific Educator (ISSN 1540-4854) is published quarterly by Pacific Resources for Education and Learning (PREL), a 501(c)(3) nonprofit corporation. PREL supports educational research and improvement and serves Pacific children and educators in American Samoa, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia (Chuuk, Kosrae, Pohnpei, and Yap), Guam, Hawai'i, the Republic of the Marshall Islands, and the Republic of Palau.

PacificBASIN COMMUNICATIONS

Published by PacificBasin Communications, LLC

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This product was funded through the National Science Foundation (NSF), award numbers DUE0121749 and ESI0138916, and the U.S. Department of Education (U.S. ED), award numbers ED01CO0014, R203A970016, R203F990026, R302A000001, R319A000001, S186C010001, S256A990007, S283A950001, and S310A980047. The content does not necessarily reflect the views of the NSF, the U.S. ED, or any other agency of the U.S. government.

MA0301A

Relocation Notice

The Honolulu office of Pacific Resources for Education and Learning (PREL) relocated to Pioneer Plaza from January 2, 2003. PREL's new address is 900 Fort Street Mall, Suite 1300, Honolulu, Hawai'i 96813.
Phone and fax numbers remain the same.

OUR HERITAGE, OURSELVES

The Importance of Maintaining Cultural Literacy in the Pacific Islands

By Masa-Aki Emesiochl

Photo: Joyce Kloulechad

▷ In the Pacific islands, traditional learning was part of everyday activities.

In today's world, with indigenous people heavily impacted by constant change and outside influence, it is critical that cultural literacy be sustained by being both taught in the schools and practiced, reinforced, and honored in families and communities.

Suppose students in Pacific island countries are asked to explain their cultures to people in other places. What will they tell them? Will the youth of the Pacific be able to respond to these questions appropriately, with knowledge and confidence?

Why Cultural Literacy Is Important

Traditionally, languages and cultures in the Pacific region were learned not in a formal school setting, but through everyday practice. Today, Pacific island languages are still the dominant language in the home, and the culture shapes every aspect of the lives of the people. However, because of the many changes that have taken place both in work and leisure, there is a need for schools to assist in teaching cultural literacy.

As we adapt and adopt new practices, values, and approaches from other places and other cultures, the richness and subtleties of our own language and culture are being threatened. It is true that culture is ever changing. However, as people of the Pacific who are proud of our language, heritage, and traditional ways, we believe that all our students must have a firm foundation in our languages and cultural values and a healthy view of their own identities and their world. This will allow them to make wise decisions for the future and to carry out the important job of preserving, maintaining, and promoting our way of life.

By knowing our history, we can learn from it. With a solid understanding of where we have been, what has been tried before, and what was or was not

"We Pacific educators, recognizing that outside influences are causing rapid changes in the cultural values and lifestyles of our people, believe that what is best in each of our cultures must be understood, appreciated, and perpetuated. We recognize that the very survival of Pacific island people and their cultural identities rests with our children. We believe our children are the future and that their education must instill pride in their culture and a sense of belonging to the larger Pacific community. Education must also prepare the Pacific child to acquire or adopt what is most useful and beneficial from other cultures. We are committed to the Pacific way – to sharing and working together for the future of our islands. The development of self-reliant, self-sufficient, responsible, well informed, productive, and socially mature citizens of the Pacific island nations who are proud of their heritages will be in a better position to contribute to the building of a better world."

PREL's Pacific Curriculum and Instructional Council (PCIC)

successful, our students will have greater opportunities to carve out a better future.

Our educational systems would be at fault if they did not seek to promote and develop our students' pride in their own cultures as well as personal self-esteem. Both Islanders and people living in our islands have inherited a rich, intricate, and beautiful legacy in our cultures. If we want our young people to become initiators, problem solvers, and architects of a better way of life, they will need to be knowledgeable, confident, and proud of who they are and where they come from.

There is concern among our elders that the schools are sending back to communities graduates who behave like strangers. Currently, school texts and materials are dominated by the English language and Western values, beliefs, and lifestyles. Our students cannot be considered "well-educated" if they fumble to show respect or are uncomfortable speaking with community elders. Our goal is to have students who retain and promote traditional values, such as cooperation and respect for elders and for the environment. Homes and schools will need to work together to ensure that these values are learned.

Invariably, Pacific Islanders travel and eagerly learn from other cultures and countries. For our students to participate effectively as global citizens, they must not only respect other languages and value systems, but also be able to educate others about their islands and their ways of life. It is imperative that we nurture strong cultural identities for our students. While it will be their decision what customs and traditions they will continue in their islands, having a firm foundation in their own cultures should ...er prepare them to make those decisions, and at the same time, to truly understand and appreciate the cultures and customs of people from other parts of the world.

Teaching Cultural Literacy

To succeed in teaching and maintaining home languages, schools must develop an intense pro-literate teaching and learning environment. Students must be provided with incentives to read, speak, and write in the vernacular. The primary objective should be comprehension, and teaching strategies should prioritize relevance to the students, their families, and their islands.

Much of our cultural knowledge is no longer accessible as our elders pass on from this life without having their knowledge recorded. Local efforts to preserve and archive traditional knowledge and the vernacular language are vital if students are to become truly culturally literate.

Our students and society need an educational program that is relevant. The ability to communicate effectively to one's own people about one's own reality is a basic need. The aggressive and thoughtful teaching of the vernacular language and culture should help to fill an important gap that currently exists within our societies.

As we strive to promote cultural literacy within the Pacific islands through integrated curriculum and instruction, it is critical to recognize how culture was learned and maintained through generations. Traditional learning in Palau – whether in the family, in boys clubs, in the taro patch for girls, or through arrangement between the learner and a village expert – was holistic. Learning and "schooling" took place in the context of everyday living.

*Masa-Aki N. Emesiochl is the Program Director of PR*TEC.* ★

Why Should Culture Be Taught?

- To instill in the Pacific child knowledge and appreciation of their own cultural values, language, lifestyle, and heritage, as well as of other Pacific island people.
- To expand the Pacific child's awareness and appreciation of the common and unique elements of various cultures and lifestyles of Pacific island people.
- To enable the Pacific child to communicate clearly about the cultural values, language, and heritage of their own society, as well as the other societies within the Pacific.
- To instill in the Pacific child a sense of pride, belonging, and responsibility in promoting, transmitting, and preserving the important cultural values, languages, and heritage of Pacific island people.
- To instill in the Pacific child knowledge and understanding of the histories and geography that unite Pacific island people.
- To enable the Pacific child to evaluate and assess the impact of cultural practices.

IT WORKS!

Web-Based Reading Program Helps ELLs Make Literacy Gains

By Zoe Ann Brown

NEARStar (the Network for English Acquisition and Reading Star Schools program) provides multimedia beginning reading instruction for English Language Learners (ELLs) over the Web. NEARStar's animated learning activities, online storybooks, and catchy songs engage students while monitoring and assessing their progress. By harnessing technology's potential for individualized assessment and instruction, NEARStar supports English Language Learners so that they too can achieve to their full potential.

But Does It Work?

During the spring of 2002, NEARStar's research-based curriculum was implemented in selected schools in ten states, including California and Rhode Island, and two U.S.-affiliated Pacific entities, American Samoa and the Commonwealth of the Northern Mariana Islands. The sites represented a range of urban, suburban, and rural settings and served students of Hispanic, Asian, Pacific Island, and other ethnic groups from high-poverty, non-English language backgrounds.

Over 3 months of implementation, students engaged in up to 8 Web-delivered lessons with 48 instructional activities. Their teachers had access to the professional website, which provides access to over 600 resources correlated to the student program.

Evaluation of the implementation phase included a quasi-experimental pre- and post-test design on a sample of students, with analyses of differences between treatment and comparison groups. Standardized assessments (including the Gates-MacGinitie Reading Test) and informal assessments (including Fry's Sight Word list, Potter's Alphabet Recognition, and the Ohio State Letter Identification) were also administered. Results indicated positive effects for all kindergarten and 1st grade treatment and comparison student groups tested, and for some assessments, there were significant differences in reading achievement from pre- to post-test in favor of the treatment group.

For example, among 1st grade students, the number of students in the treatment group with increased pre- to post-test scores on Fry's Sight Word list and the Letter/Letter Sound subtest of the Gates-MacGinitie was significantly higher than the number of students in the comparison group. A multivariate analysis of variance (MANOVA) on Fry's Sight Word list and the three subtests of the Gates-MacGinitie (Literacy Concepts, Letters/Letter Sound, and Oral Language) also revealed the treatment group performed significantly higher than the comparison group.

Benefits to Students and Teachers

NEARStar's unique curriculum combines instruction in reading and English language development, presenting high-meaning, high-frequency, and decodable words at a controlled rate in comprehensible contexts.

Benefits to students include a sensory-rich interface with self-paced, game-like activities, and individualized, non-threatening assessment and feedback. Benefits to teachers include independent activities that support classroom instruction and easily accessed teacher resources that are part of the same Web-based package.

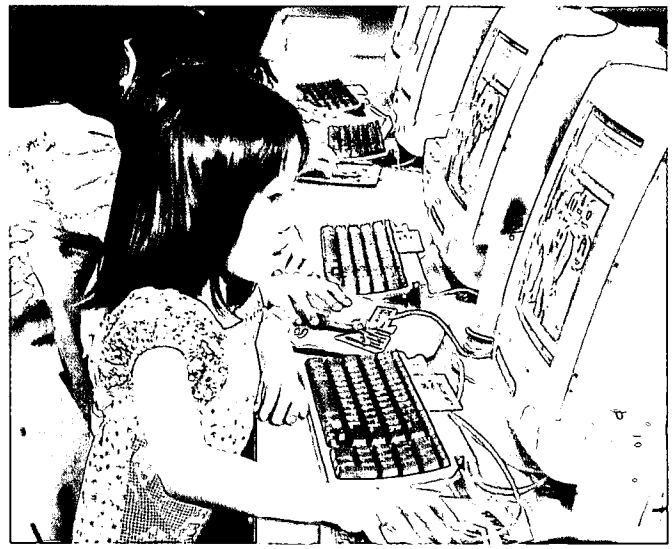


Photo: Tony Tung

▷ Students enjoy as well as learn from NEARStar, a multimedia beginning reading instruction program for English Language Learners.

Two-thirds of the teachers who responded to the formative evaluation survey reported improvement in their students' reading from participating in NEARStar, and three-fourths reported improvements in their students' language skills. A majority also reported that their participation had increased their comfort with technology in the classroom and their ability to link their classroom with educational resources. More than 90% of teacher users believed the program would be effective for students at risk of reading failure or diagnosed as needing special education services. Even more believed that all their students could benefit from the NEARStar curriculum.

Findings of initial implementation of the NEARStar online literacy curriculum showed positive effects on achievement, especially considering the limited number of lessons students were engaged with; on the average, kindergarteners played just 4 lessons and 1st graders played 6 lessons during the brief implementation period. Considering that there are 3 levels of NEARStar, each with 10 lessons, we are cautiously optimistic that students exposed to the entire program will demonstrate even more dramatic improvements in reading achievement. Ongoing research on the program's effectiveness will provide yearly updates on improved reading skills for participants.

For more information, contact Zoe Ann Brown by phone at (808) 441-1325 or by email at brownz@prel.org.

Zoe Ann Brown is the Director of the NEARStar program at PREL. ★

A BRIDGE TO READING AND WRITING LITERACY

Developing Oral Language Skills in Young Children

By Jan Jenner

What is a "literate" person?

Historically, reading and writing literacy has been defined in terms of the following skills:

- reading and writing one's own name;
- reading and writing (with understanding) a short, simple statement about one's life;
- reading the daily newspaper.

Today's expectations, however, encompass more than the ability to read, write, speak, and listen. These expectations include use of oral and written language to make sense of the world and to communicate, problem-solve, and participate in decision-making. The foundation for these literacy skills is language and an understanding of how language works.

At the White House Summit on Early Childhood Cognitive Development held in July 2001, Dr. Patricia Kuhl of The Center for Mind, Brain, and Learning at the University of Washington talked about her research on language development in the infant brain. Field studies conducted in Japan, Russia, Sweden, Finland, France, and the U.S. show that as infants get older, they no longer respond to foreign languages. As Kuhl explains, "By 12 months of age, young infants are very focused on the patterns of their own language . . . . They become more culture-bound, just like us. This specialization is essential for language learning, and illustrates how powerful early learning is" (from "Born To Learn: Language, Reading, and the Brain of the Child," available at www.ed.gov/PressReleases/07-2001/07262001-kuhl.html). By the time they are 1 year of age, infants are familiar with many language components, including sounds, sound combinations, and the tempo and cadence of words and phrases. Children's source of information about these language components is their parents and caregivers.

A National Research Council report titled *Preventing Reading Difficulties in Young Children* (available at www.nap.edu/html/prdyc/ch4.html) describes studies that explore family factors that influence children's language and literacy development. These factors include parents' beliefs, attitudes, and behaviors about reading, including answering children's questions, employing literacy concepts, responding to children's behavior toward print, providing reading material, and conducting language activities with their children. Children whose parents sing or chant nursery rhymes with them not only help children develop a positive view of reading, but an understanding of sound patterns and what those patterns look like in print. Because a child's knowledge of oral language precedes and forms the basis for knowledge of written language, it is vital that those who work with young children be aware of and help develop children's oral language skills.

Promoting Reading and Writing Literacy

Family habits and traditions regarding oral language lay the groundwork for children's ability to apply language principles to written language. To assist young children's oral language development:

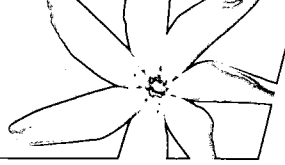
- Provide a warm and rewarding atmosphere when using oral language.
- Use language in a social, child-centered context.
- Use language that is meaningful and purposeful.
- Present the entire language system at once.
- Provide opportunities to learn simultaneously rules for both language and communication.

Source: An address by Dorothy Strickland titled "The Role of Parents and Grandparents in Children's Cognitive Development: Focus on Language and Literacy" delivered at the White House Summit on Early Childhood Cognitive Development, July 27, 2001. Available online at www.ed.gov/PressReleases/07-2001/07272001-strickland.html.

(See the sidebar that accompanies this article for more on how parents and caretakers can help young children develop skills that promote reading and writing literacy.)

The Reading First initiative established a national imperative: all students must read on grade level by grade 3. Research shows that there are tools available to help us meet this challenge. It will take active partnerships among researchers, schools, and families, however, if that goal is to be attained.

Jan Jenner is a Reading Specialist with the Pacific Regional Educational Laboratory.



A KEY READING COMPONENT

Focus on Fluency Helps Develop Reading Comprehension

By Ludy Van Broekhuizen

Fluency may well be the most neglected and least understood of the five reading components defined in the U.S. Department of Education's Reading First initiative. The others – phonemic awareness, phonics, vocabulary, and reading comprehension – are all essential to skilled reading. But how does fluency fit into the equation? Research shows that fluency is critical to reading comprehension and that students who do not develop fluency may remain poor readers for the rest of their lives. Yet many students are not getting the instructional support they need to develop this crucial skill.

Fluency is the ability to read quickly, accurately, and with appropriate expression (*Report of the National Reading Panel: Teaching Children to Read*, available at www.nichd.nih.gov/publications/nrp/smallbook.htm). Fluency develops over an extended period of time through practice, and although fluency depends on well-developed word recognition skills, these skills by themselves do not inevitably lead to fluency. Other factors that affect fluency include the number of words a child can recognize and understand in print, the speed and accuracy with which the recognition process takes place, and the characteristics of the texts read.

When fluent readers read silently, they group words quickly, which not only helps them gain meaning from the text, but also makes it possible for them to read with expression. Expressiveness depends on the reader's ability to divide the text into meaningful chunks, like clauses and phrases. Fluent readers read aloud with ease, pausing appropriately within and at the ends of sentences and making suitable shifts in emphasis and tone. Their reading sounds natural, as if they are speaking.

At the earliest stages of reading development, students' oral reading is slow and labored. These students are just learning to "break the code," painstakingly attaching sounds to letters and then blending the letter sounds into recognizable words. Readers who have not yet developed fluency read slowly, word by word. Their oral reading is choppy and plodding. Even when these students recognize words automatically, their oral reading may still be expressionless, and therefore, not fluent (see *Put Reading First: The Research Building Blocks for Teaching Children to Read*, available online at npin.org/library/2002/n00753/n00753.html).

The National Reading Panel encourages teachers to regularly assess student fluency. Procedures that can be used in the classroom include informal reading inventories, miscue analysis, pausing indices, running records, and reading speed calculations. For detailed information on assessment see *Put Reading First.*

Consistent, intensive intervention efforts can improve reading fluency; effective approaches include oral guided reading and repeated reading. Use of texts with repeated core vocabulary is also helpful. (See the sidebar for tips on helping young readers develop reading fluency).

Developing skilled readers is seldom easy, and the stakes are high for both students and teachers. Fluency is a key component of the reading process, with implications for comprehension as well. There is a great need for teachers to focus on this important component of reading.

Ludy van Broekhuizen is the Associate Director of the Regional Educational Laboratory at PREL. ★

Helping Your Students Develop Fluency

Repeated oral reading with feedback and guidance leads to meaningful improvements in reading expertise. Some ways in which you can help your students develop fluency:

- Pre-teach key vocabulary words and concepts critical to understanding the passage or text.
- Preview the text by having students listen to you reading the text aloud.
- Provide a variety of opportunities for students to read and reread the same text aloud. For example, have students read to an adult; conduct choral or group reading; use audiotapes and have students read with the tape; use buddy or partner reading where students read aloud to each other and talk about what they've read.
- Have students practice using a variety of word recognition skills. As students get older, this should include recognizing meanings tied to parts of words (e.g., knowing that the prefix "philos" means "love of").

TARGETING FLUENCY

Forum Speakers Stress Need for Oral Reading and Feedback

Photo: Ludy van Broekhuizen

▷ Dr. Elfrieda Hiebert and Dr. Marilyn Jager Adams presented research findings at PREL's Focus on Fluency Forum.

The target is clear: all children must read on grade level by 3rd grade.

What, then, needs to happen for children to read with speed, accuracy, and expression, and to understand what they read? What kind of fluency instruction will lead to improved comprehension?

Throughout the Focus on Fluency Forum, regional teams listened to researchers present their findings and then met in small groups to discuss and take action on fluency issues. What did they learn?

- Fluency is more than word recognition. Factors affecting fluency include the reader's skill in processing the graphological, orthographic, semantic, and syntactic features of text; the speed with which this processing occurs; and the ability to retrieve information while focusing on comprehension and not decoding (Foorman, Shanahan).
- Strategies known to help students develop fluency are repeated reading, guided reading, assisted reading, and paired reading. These strategies involve repeated oral reading with practice until students achieve a criterion level of expression, accuracy, and speed. For success, however, feedback is essential.
- As Foorman pointed out, "Repeated reading, by itself, is insufficient to address the rapid processing of the multiple systems comprising fluency." Feedback is critical, and can be provided by peers, tutors, parents, and teachers (Shanahan). Students need increased feedback in the beginning stages of reading.
- Studies do not consistently show that silent reading works, primarily because there is no way of knowing what the student is reading. Teachers need to hear students reading aloud so that they can assess speed, accuracy, and expression. This does not mean that schools should abandon silent reading. It means that schools should not expect these programs to automatically increase reading fluency.
- Text matters in fluency development. Core vocabulary, or words that students are expected to know by the end of the year in a grade level, is critical for comprehension. According to Hiebert, "When primary and challenged readers have exposure to texts with higher repetitions of core vocabulary and fewer rare words, their fluency improves."
- For older children with reading disabilities, fluency is limited primarily by sight vocabulary. As Torgesen explained, "Once children become able to read text accurately, the major challenge in working with older disabled readers is how to engineer and focus reading instruction and practice so that the development of 'sight word vocabulary' is accelerated at a rate sufficient to 'close the gap' in reading fluency."

Forum proceedings will be compiled in a summary document, which will be available through the REL at PREL. Forum PowerPoint presentations will be available at the REL website at www.prel.org. ★

WHAT:	Focus on Fluency Forum
WHEN:	November 6-7, 2002
WHO:	Over 120 participants from the Regional Educational Laboratories (RELs), Comprehensive Assistance Centers (CCs), state and county departments of education, schools, institutes of higher education (IHEs), and researchers in the area of reading fluency.
WHY:	To look at implications and applications of reading fluency research and to determine next steps for increasing student fluency and reading achievement.

The following researchers shared their current work at the Focus on Fluency Forum: Dr. Marilyn Jager Adams, Harvard University; Dr. Barbara Foorman, University of Texas - Houston; Dr. Elfrieda Hiebert, University of Michigan - Ann Arbor; Dr. Michael Kamil, Stanford University; Dr. Timothy Shanahan, University of Illinois - Chicago; Dr. Steven Stahl, University of Illinois - Champaign Urbana; and Dr. Joseph Torgesen, Florida State University.

BECOMING BETTER READERS

Fluency Work Makes a Difference

By Susan Hanson

"Alan is really reading. He even volunteers to read to me now. He's never done that before." These happy words are from a mother whose dyslexic 7th grade son was finally making substantial progress in reading. When I began tutoring him, he was in the 5th grade and reading at a 1st grade level. Although he made gains the first two years of tutoring, the progress was slow and labored. In the last year of tutoring, he went from a 4th to a 7th grade level.

What made the difference? One practice added to Alan's biweekly 45-minute tutoring session was a repeated reading activity to build fluency. (See the sidebar for the complete tutoring sequence.) During repeated reading activities, students read aloud sections of books they have read before. The books must be at the students' instructional reading level (the level at which they know most of the words and understand what they read).

As Alan reread each selection over three different tutoring sessions, he learned to read the piece in phrases and with confidence. Repeated reading was helpful to Alan in part because he could hear himself read fluently, and he had never experienced this before. His reading was beginning to sound skilled, rather than like a robot mouthing sounds.

Alan's reading rate also increased by the second and third reading of a selection. Although fluency instruction is not designed to increase reading speed, increases may occur as a result of the instruction (Rasinski, 2000). Alan's personal goal was to read approximately 125 to 150 words per minute (wpm), which is considered average for a student reading at an intermediate level.

After his three-minute timed readings, Alan would calculate his wpm and graph the results. The idea of charting wpm was very motivational for him, because he could connect it with his love of competitive sports. We had finally found something in reading that was fun for him! As a result, he went at the task of rereading with full attention, as he does when he competes in sports.

Photo: Rick Sandlin

▷ Repeated reading increases fluency and helps children become better readers.

Research has shown that "the major factor limiting reading fluency in older children with reading disabilities is a relative deficiency in the number of words they can read by sight" (Torgesen, Rashotte, & Alexander, 2002). By rereading material three to four times, Alan increased his bank of instantly recognized sight words. Since he no longer had to struggle as much with unfamiliar vocabulary, he was able to concentrate on meaning and use his sense of language to read more fluently.

One-to-One Tutoring Lesson Plan for Reading (45 minutes)

Repeated Reading (3+ minutes)	Practice with familiar material includes graphing and coaching. Allow 3 minutes for reading plus time to graph words per minute.
Guided Reading (20 minutes)	Student reads from a connected text. Practice includes word analysis, concept and vocabulary development, and modeling of comprehension strategies.
After Reading (5 minutes)	Student and tutor discuss reading; tutor coaches student on reading strategies.
Writing (10 minutes)	Student writes to a prompt that involves connections to self, other texts, and the world.
Closure (3 minutes)	Student completes self-evaluation and sets future reading goals.

Reading for Fluency

What does it mean to be a fluent reader and why is it important? According to the National Reading Panel (2000), a fluent reader is able to read aloud quickly, accurately, and expressively. As reading researcher S. J. Samuels (2002) explains, "Fluency is important because it exerts an important influence on comprehension . . . to experience good comprehension, the reader must be able to identify words quickly and easily" (p. 167).

What does research say about the effectiveness of repeated readings? The National Reading Panel (2000) states, "An extensive review of the literature indicates that classroom practices that encourage repeated oral reading with feedback and guidance lead to meaningful improvement in reading expertise for students – for good readers as well as those who are experiencing difficulties." For students who read in the

vernacular, repeated reading is equally effective and should be part of the first language program.

Although Alan's improvement took place in a one-to-one tutoring situation, classroom teachers can include fluency training for struggling readers as part of their comprehensive reading programs. A brief description of a simplified process appropriate for classroom use accompanies this story. Other techniques classroom teachers can use to increase fluency include reading poetry and chant, Readers' Theater, reading in unison with a taped version of a book, and shared reading.

Benefits

Although there were other factors besides the repeated reading technique that helped Alan to make accelerated reading growth during his 7th grade year, I am convinced that repeated reading was the technique that made the greatest difference for him.

How a teacher provides repeated reading for fluency as part of the comprehensive reading program will vary from classroom to classroom, but it must be part of every classroom's reading program. Teachers in all content areas can use repeated reading techniques with their students to improve comprehension of science or mathematics content while developing students' reading skills at the same time. We can't let our students fall further and further behind because they cannot read fluently when we know through research that repeated reading practice will help them become better readers.

NAEP's Integrated Reading Performance Record Oral Reading Fluency Scale

Level 4

Reads primarily in large, meaningful phrase groups. Although some regressions, repetitions, and deviations from text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation.

Level 3

Reads primarily in three- or four-word phrase groups. Some smaller groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present.

Level 2

Reads primarily in two-word phrases with some three- or four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to larger context of sentence or passage.

Level 1

Reads primarily word-by-word. Occasional two-word or three-word phrases may occur – but these are infrequent and/or they do not preserve meaningful syntax.

Source: www.springfield.k12.il.us/resources/languagearts/readingwriting/readassess/NAEPFluencyScale1.pdf

Repeated Reading in the Classroom

Repeated reading with guidance works well in a one-to-one tutoring situation, but how can regular classroom teachers make it part of their fluency program? Follow the steps listed below.

- Select a story from basal or other reading materials. The text should be at or slightly above students' instructional level.
- Read the selection aloud to the students while they follow along silently.
- Place the students in pairs, grouping stronger with weaker readers wherever possible.
- Invite one student to read orally while the other follows along.
- Instruct the pair to switch roles so that the other student is the reader.
- Over a period of several days, schedule three more meetings so that the pair can read the selection again.
- At the end of the cycle, when each student has read the story four times, assign new partners and repeat the process with a different text.

Source: This process is based on the work of Semonick, Lewis, & Samuels (2000), as described in "Reading Fluency: Its Development and Assessment," in A. E. Farstrup & S. J. Samuels (Eds.), *What Research Has to Say About Reading Instruction* (3rd ed., pp. 166-183), Newark, DE: International Reading Association.

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Susan Hanson is an ELL Program Specialist with the Pacific Comprehensive Regional Assistance Center. ★

PARENT CORNER

Simple Strategies Spell Early Reading Success

By Patricia von Oelhoffen

Parents can have a powerful impact on their children's literacy and learning development by putting a few simple strategies into action, while promoting positive attitudes about reading.

By reading with your children every day, you enhance their chances at school by raising their self-esteem and reading ability. Becoming a better reader helps a child do better in social studies and mathematics, as well as in the humanities. By reading with your child, you help develop good reading habits; for example, children will read on their own a book that has been read aloud to them. Here is a list of reading activities that you and your children can participate in.

- Read a bedtime story. These enjoyable times when you and your child are close together are essential in establishing a lifelong habit.
- Take turns reading to each other. Beginning readers need help in moving from word-to-word reading to smooth, meaningful reading. Take turns. You read one page and your child reads the next.
- Read your child's favorite book over and over again.
- Read a variety of children's books. If your child likes animals, get books about different animals. If your child likes sports or airplanes, get books on those subjects.
- When reading a book with large print, point word by word as you read. This helps children learn that reading goes from left to right and understand that the word they say is the word they see.
- Ask an older child to read to the younger one. This practice improves fluency and helps the child to see the joy of sharing books with others.
- Read stories with rhyming words and lines that repeat. Invite your child to join in on rhymes and refrains.
- Discuss new words. For example, "This is a stadium. Which sports do you think are played in a stadium?"
- Stop and ask about the pictures and about what is happening in the story.

Spontaneous reading games are fun for children and parents alike. Here are some suggestions:

- Hold the book the wrong way. Your child should correct you. This activity reinforces the child's understanding of how to hold a book.
- Start from the back of the book. Notice if your child will correct you.
- Read a familiar book. Name different characters incorrectly; instead of reading "Snow White," for example, say, "Once upon a time there were three bears." Your child should correct you. This verifies that your child is matching words with pictures.

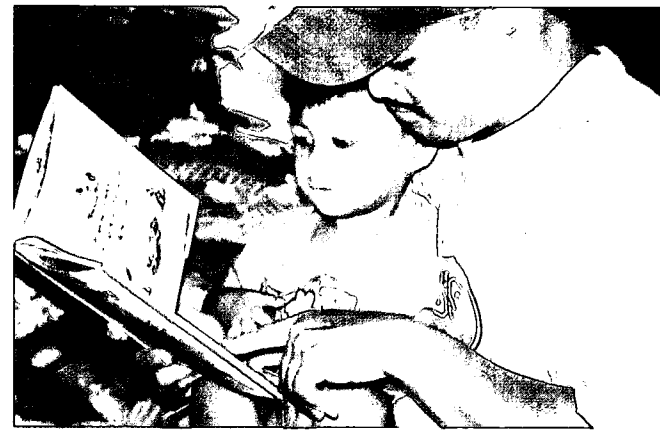


Photo: Kelly Higashi

▷Home reading activities help children develop crucial skills.

Finally, here are some home activities that your child will enjoy and that support learning of alphabet names and sounds:

- Letter Hunt. Hide alphabet cards around the room. Invite your child to find a card, say its sound, and then say a word that starts with the sound (such as cat for the letter C).
- Sound Hunt. Give your child a bag containing letters of alphabet cards. After pulling one letter out of the bag, ask your child to find something in the house that begins with that letter, and then place the letter on the item. For example, "t" could go on the table; "b" on the bed; "r" on the refrigerator.

Spending 20 minutes a day on reading activities with your children can make a lifetime difference in their ability to read quickly, easily, and with enjoyment!

Patricia von Oelhoffen is a Program Specialist with the Pacific Comprehensive Regional Assistance Center. ★

No Child Left Behind: Helping Your Child

The U.S. Department of Education (U.S. ED) is reissuing *Helping Your Child*, a popular publication series for families and caregivers. These colorful booklets are updated with new information, including the latest research-based practices for helping children learn. They offer practical activities to stimulate children's learning and a list of resources such as books, computer programs, and websites that adults and children can enjoy together. Titles include "Helping Your Child Become a Reader," "Helping Your Preschool Child," "Helping Your Child With Homework," "Helping Your Child Through Early Adolescence," a new publication, and "Helping Your Child Succeed in School." Booklet orders and further information on this series can be obtained by visiting www.ed.gov/pubs/parents/hyc.html.

TEACHING THE STANDARDS

Decision Making Skills Enhance Student Health

By Sonja Evensen

How best to promote health worldwide is a question that has spurred decades of discussion. Through health education, young people learn what health is, its importance, and how to make choices that will enhance, not diminish, their person well-being. The 1948 Constitution of the World Health Organization (WHO) in Geneva, Switzerland, offers the most commonly accepted definition for health: "A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (www.who.int/about/definition/en).

Health literacy is defined by the Joint Committee on National Health Education Standards as "the capacity of an individual to obtain, interpret, and understand basic health information and services and the competence to use such information and services in ways which are health-enhancing." This implies a number of levels of understanding, which include reading, listening, analytical, and decision making skills, as well as the ability to apply these skills to health situations. The Committee in 1995 arrived at a set of standards to help guide health educators in helping students attain health literacy (www.ed.gov/databases/ERIC_Digests/ed387483.html). These core competencies have been synthesized in seven broad standards.

Standard 1. **Core Concepts.** Students will comprehend concepts related to health promotion and disease prevention. Performance indicators for this standard include identifying what good health is, recognizing health problems, and understanding ways in which lifestyle, the environment, and public policies can promote health.

Standard 2. **Accessing Information.** Students will demonstrate the ability to access valid health information and health-promoting products and services. Performance indicators focus on identification of valid health information, products, and services including advertisements, health insurance and treatment options, and food labels.

Standard 3. **Self-Management.** Students will demonstrate the ability to practice health-enhancing behaviors and reduce health risks. Performance indicators include identifying responsible and harmful behaviors, developing health-enhancing strategies, and managing stress.

Standard 4. **Analyzing Influences.** Students will analyze the influence of culture, media, technology, and other factors on health. Performance indicators are related to describing and analyzing how one's cultural background, messages from the media, technology, and one's friends influence health.

Standard 5. **Interpersonal Communication.** Students will demonstrate the ability to use interpersonal communication skills to enhance health. Performance indicators relate to interpersonal communication, refusal and negotiation skills, and conflict resolution.

Standard 6. **Goal Setting and Decision Making.** Students will demonstrate the ability to use goal setting and decision making skills to enhance health. Performance indicators focus on setting reasonable and attainable goals and developing positive decision making skills.

Standard 7. **Advocacy.** Students will demonstrate the ability to advocate for personal, family, and community health. Performance indicators relate to identifying community resources, accurately communicating health information and ideas, and working cooperatively to promote health.

Through the core concepts, the standards supply just enough factual information. Using self-discovery and group-oriented activities such as discussion, role-play, and art activities, the health teacher can facilitate an experience that has meaning and relevance for the student. An activity that will help educators use the standards to make health classes come alive accompanies this article.

Sonja Evensen is a Program Specialist with the Native Hawaiian Safe and Drug-Free program. ★

DECISION TREE EXERCISE

1. You've been invited to a party. Do you go? (What were the factors you considered in this decision?)	❑ Yes ❑ No
2. You go to the party and your friends are drinking and encourage you to have something to drink. Do you join them? (What were the factors you considered in this decision?)	❑ Yes ❑ No
3. Someone you like asks you to leave the party with them. Do you go? (What were the factors you considered in this decision?)	❑ Yes ❑ No
4. He/she has been drinking and wants to drive. Do you get in his/her car? (What were the factors you considered in this decision?)	❑ Yes ❑ No
5. He/she drives to an abandoned place and wants to have sex. Do you consent? (What were the factors you considered in this decision?)	❑ Yes ❑ No
6. You agree to have sex but your partner refuses to use a condom. Do you have sex anyway? (What were the factors you considered in this decision?)	❑ Yes ❑ No
7. You (or your girlfriend) get/s pregnant. Do you opt for an abortion? (What were the factors you considered in this decision?)	❑ Yes ❑ No

SUPPORTING HEALTH LITERACY

NCLB Funds Community Learning Centers

By Harvey Lee

One important component of the *No Child Left Behind Act of 2001* (NCLB) is Title IV, Part B, more commonly known as the 21st Century Community Learning Centers. The program offers competitive grants to establish or expand learning centers that help students meet standards in core subjects by offering activities that strengthen and complement classroom curricula. Programs and services, which are offered outside regular school hours, can be as varied as tutoring, drug and violence prevention, art and music, technology, and recreation. The centers are also expected to offer literacy and related educational development for members of students' families.

The goal is to foster a safe and drug-free learning environment that supports academic achievement. Through the community learning centers, students receive supervision before and after school and during summer vacation while their parents are at work. The centers improve students' reading and prevention skills, reducing the possibility of future health problems or risky behavior by increasing comprehension of fitness and prevention messages and promoting healthy lifestyle choices.

A good source of information about the community centers and NCLB is *No Child Left Behind: A Desktop Reference*, available at www.ed.gov/offices/OESE/reference. Copies of the report can also be requested via fax (301-470-1244), phone (1-877-4-ED-PUBS), and email (edpubs@inet.ed.gov). Alternate formats such as Braille, large print, or audiotape can be obtained by calling (202) 260-9895 or (202) 205-8113.

For more information, please contact Harvey Lee, Program Specialist for the Pacific Comprehensive Regional Assistance Center, at leeh@prel.org. ★

PICTURING SCIENCE

Photographing and Writing About Island Environments

By Lori Phillips and Kavita Rao

"What was the impact on our ancient environment when the caldera we live in erupted?" These words were written by Naomi Vaeau and Winona Lineberger to accompany the image at right. They produced both words and images as participants in an all-day professional development workshop presented during the July 2002 Pacific Educational Conference (PEC) in American Samoa. The Picturing Science workshop trained teachers in an instructional approach that integrates students' science learning through use of language arts and digital photography. Workshop activities were geared to show teachers how to implement a two-week unit in their classrooms.

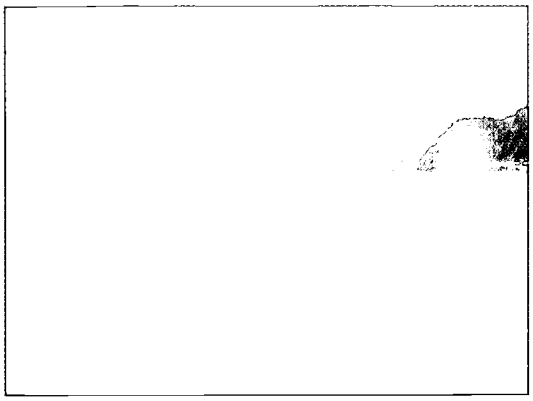
Starting with science standards, teachers develop vocabulary around key concepts like stewardship, a common concept underlying much inquiry-based science education and appropriate for all grade levels K-12. Once students discuss the concept, they create a word board that displays related vocabulary. Choosing from categories like "plants," "animals," "landforms," "geology," and "natural resources," the students work in groups to take the photographs they will use to illustrate their writing.

While use of digital cameras promotes technology literacy, disposable cameras or drawings work just as well. Once the photographs have been taken or the drawings have been made, the students work together to articulate the ideas behind the images. Referring back to the word board and the central theme, they are encouraged to write descriptively and to recreate their images in words using metaphors, analogies, and other literary devices. Teachers with bilingual learners have the option of having students write in their first languages, in English, or in both.

For more words and images, visit the Picturing Science website, a showcase of work by participating teachers and students available at www.prel.org/picturingscience/preconference/index.html. The Picturing Science approach was developed by Lori Phillips and Kavita Rao; the PEC workshop was sponsored by the Pacific Center for the Arts and Humanities in Education (PCAHE), the Pacific Mathematics and Science Regional Consortium, and the Pacific Regional Technology in Education Consortium. The workshop has also been presented in Guam, Saipan, and Hawai'i.

Capturing their images helps students take a fresh look at their environment and rethink their relationship to it. By writing about the photographs they have taken, students explore the connections between words and images and the ways in which they reinforce each other. But whatever literary technique students use, the powerful message of environmental stewardship shouts at the viewer both in image and in word.

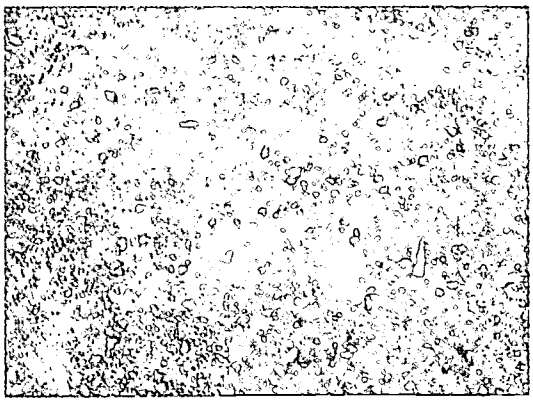
For more information about the project, contact PCAHE Program Director Lori Phillips at phillipl@prel.org or Pacific Mathematics and Science Consortium Instructional Design Specialist Kavita Rao at raok@prel.org. ★



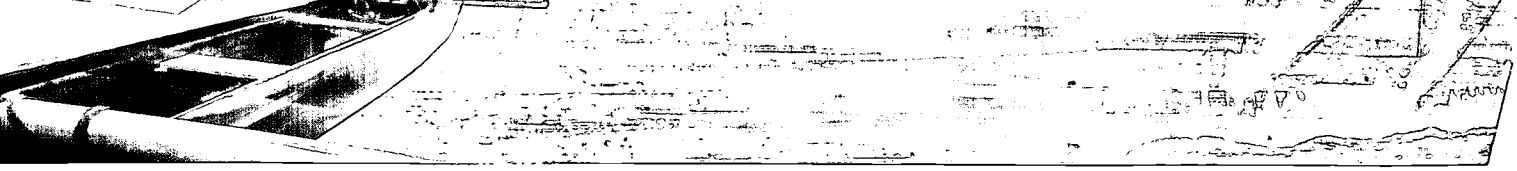
Photos and captions: Naomi Vaeau and Winona Lineberger

▷Yesterday: What was the impact on our ancient environment when the caldera we live in erupted? If we really treasure the beautiful land formations it created, we'll keep them clean. Conservation is our business!

▷Today: Let Rain Maker Mountain own the panorama of nature. Like the flimsy man-made ship on the edge, let's stop trying to conquer Nature and become responsible stewards. Bubbling jewels of delight, the clean seawaters will salute us forever.



▷Tomorrow: People cast a foreboding shadow on their planet and its ecology today. Let's learn to use its resources wisely or else we'll lose it all. Conservation: it affects everything and everybody everywhere.



FROM MEMORIZATION TO INQUIRY AND EXPLORATION

New Classroom Strategies Promote Science and Mathematics Literacy

By the Pacific Mathematics and Science Leadership Team

In the face of rapid scientific and technological development across the Pacific and throughout the world, all citizens need to be scientifically and mathematically literate. People today face a range of hard choices, from the personal (such as how to avoid disease) to the global (such as what to do about the greenhouse effect). People who understand science and mathematics are better prepared to sort fact from fiction, make sensible decisions, and urge their leaders to make informed public policy choices.

Literacy in science and mathematics is also economically important. The Pacific region needs workers who have the ability to solve problems and think creatively in all sectors of the economy and in a range of professions, including health, technology, finance, and economics.

Classrooms That Promote Science Literacy

Science includes a substantial body of knowledge, but it is more than that. It is a way of looking at the world and ordering one's experiences in it. A scientifically literate person is one who understands the key concepts and principles of science and uses scientific knowledge and ways of thinking in everyday life. Science education is most effective when it presents challenging content and helps students develop scientific methods of thinking. Science values inquiry – careful observation, thoughtful analysis, healthy skepticism, an approach that blends both logic and imagination, and the development of sound and coherent predictions and explanations.

Classroom Shifts That Support Literacy Development

FROM	TOWARD
Science and mathematics as important only to some	Science and mathematics as necessary to all students
Lecture, reading, and language first	Instruction that meets the needs of diverse students
Teaching as imparting knowledge	Teaching as facilitating learning
Instructional decisions based on textbook content	Instructional approaches that build on students' prior knowledge
Treating students as passive learners	Engaging students in active learning
Learning as an individual process	Learning as collaboration
Focusing on theory	Applying knowledge to students' lives
Presenting ideas and concepts as disconnected pieces of knowledge	Connecting ideas in a holistic, integrated and thematic fashion
Presenting concepts only once or unnecessarily repeating similar content year after year	Employing a spiral curriculum that builds on prior knowledge
Memorizing of facts and information	Using inquiry to promote thinking skills and conceptual understanding
Measuring student achievement solely through pencil and paper tests	Using multiple assessment tools, including tasks, open-ended questions, and student portfolios

Good science teaching encourages students to be curious, creative, open-minded, willing to suspend initial judgments, able to collaborate with others and persist in the face of failure. In effective science classrooms, the activity of finding out is as important as knowing the answer. Research has validated teaching strategies that help develop the values and thinking processes that define scientific literacy. These key strategies are listed in the sidebar that

accompanies this story.

In addition to a body of knowledge and a set of intellectual tools, science literacy means values. These include a deep caring for and commitment to people and the environment. The scientifically literate know, honor, and value the scientific wisdom of Pacific cultures. They honor the past, but are aware of the need to check knowledge and assumptions against new information. As they look ahead, they are ready to act upon their knowledge – of the living environment, human society, the universe, energy, and much more – to help preserve and improve our world.

Science literacy isn't just about what you know. It's about who you are.

Photo: Liane Sing

▷Active learning strategies like inquiry and exploration promote science literacy.

Classrooms That Promote Mathematics Literacy

In order to promote mathematics literacy, all students must have access to important mathematics. Students should not be separated into groups that study different content and are held to different expectations. Achievement in mathematics does not depend on innate talent. By opening important mathematics to all students, teachers and administrators ensure that all are intellectually challenged and have the same opportunities to develop mathematical power.

This approach to mathematical learning is characterized by dramatic shifts in mathematics education related to content, instruction, and assessment. Content that was once reserved for the top few is now accessible to all students. This includes probability, statistics, discrete mathematics, transformational geometry, functions, and algebra. Changes in instructional methods include the use of student language to develop ideas about these topics. Students are asked to demonstrate their mathematical understandings in a variety of ways, including projects, journal writing, problem creation, and discussion.

With the proper instructional support, students will become mathematically literate, with the ability to find multiple solutions, problem-solve independently, and transfer knowledge to new applications. They will be able to use their mathematics thinking tools to solve problems not now in existence. They will make decisions based on an awareness of governmental, religious, economic, and other social trends and beliefs, and on an understanding of complex information, including environmental changes and their long-term implications.

Shifts in instructional methods and values require teachers to rethink how best to promote mathematics literacy. Lecture and practice, long the primary instructional approach in both elementary and secondary school, has produced students who depend on teachers to supply the "correct" problem-solving method and who have little experience in solving the kinds of problems they will encounter once they leave the classroom. With the new demands that are being placed on our students as they enter the workforce, we must restructure to provide mathematical experiences outside traditional curricula. By focusing on problem-solving activities, teachers can help prepare students to function in an ever-changing workplace. Even though the tasks students perform are mathematical, the solution strategies apply in everyday situations. Predicting, sorting necessary from unimportant information, and analyzing solutions in context are all important decision-making activities.

Mathematics is no longer just the language of specific fields like science, finance, economics, and accounting. While mathematical literacy makes it possible for students to maximize career opportunities, it also helps them grow into productive citizens capable of making informed decisions about their own lives, their government, and their global society.

This article is excerpted in part from the Pacific Standards for Excellence in Science *and the* Pacific Standards for Excellence in Mathematics, *documents developed by the Pacific Mathematics and Science Leadership Team. Both are available at www.prel.org/work/ms/rsc/sf.asp.* ★

PACIFIC news

CNMI

PREL's service center in the Commonwealth of the Northern Mariana Islands has moved. The new location is Marianas High School, Building H, on Saipan. The center has a new phone number, (670) 234-6000, and a new fax number, (670) 234-7735.

Guam

The Mathematics Education for Novice Teachers: Opportunities for Reflection (MENTOR) Project held its inaugural Institute in Guam, January 6-9. This new program supports mathematics education in the U.S.-affiliated Pacific by promoting mentoring and other forms of support for novice teachers. About half of the institute was devoted to mathematics education and the other half was spent training participants to be mentors. Guam's Department of Education expressed its appreciation that the event took place as planned despite the hardships caused by Supertyphoon Pongsona.

Pohnpei

The 20th annual Pacific Educational Conference will be held July 21-24, 2003, in Pohnpei, Federated States of Micronesia. The theme for this year's conference is "Protecting the environment through culture, literacy, and technology." For more information see www.prel.org/pec.

PRELSTAR

PREL has received a three-year renewal of its PRELSTAR grant from the U.S. Department of Education (U.S. ED). The PRELSTAR project is one of U.S. ED's Star Schools programs, which are grants awarded to organizations working to promote distance education. PRELSTAR's mission is to enhance learning in the Pacific region by enabling and promoting the use of distance learning technology. The project develops and delivers educational programs and provides training and technical assistance. For more information contact PRELSTAR Program Director Steve Baxendale at (808) 441-1363 or baxendas@prel.org.

MORE INSTRUCTION TIME LOST

Supertyphoon Pongsona Batters Guam, Chuuk, and Rota

By Alice Borja, Ismael Dobich, and Jean Olopai

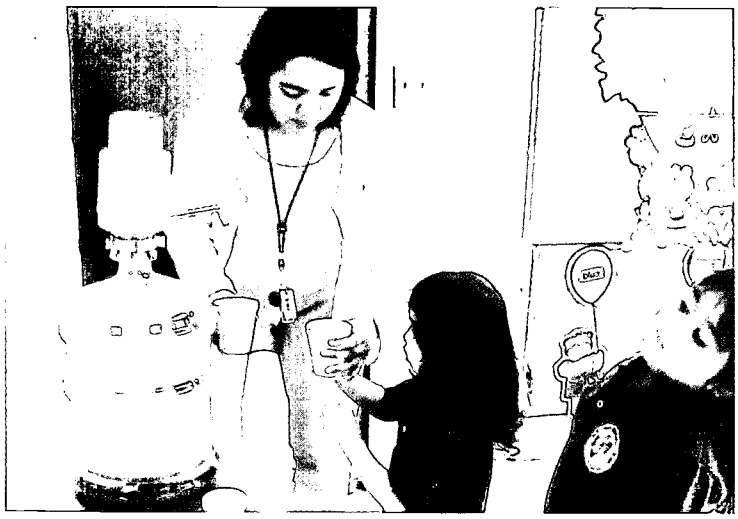


Photo: Sherey T. Taimanglo

▷ For the second time in six months, Guam's students were forced to rely on bottled water after Supertyphoon Pongsona contaminated island water supplies.

In early December Supertyphoon Pongsona battered a region that had barely begun to recover from last July's Typhoon Chata'an. Pongsona caused significant damage in northern Chuuk State in the Federated States of Micronesia before pounding the islands of Guam and Rota in the Commonwealth of the Northern Mariana Islands with sustained winds of over 150 mph. In the days following the storm, President Bush declared both Guam and Rota federal disaster areas.

Six weeks after the storm, one quarter of Guam's households still had no electricity, and many still had no running water. Guam's public schools played an important role, providing shelter for three weeks to thousands who had been left homeless. Starting in early January, however, efforts were focused on restarting classes as quickly as possible. When schools started to reopen in mid-January, bottled water remained the only source of safe drinking water. Serious damage to their campuses forced several schools to schedule double sessions, with some students attending in the morning and the others coming in the afternoon. Guam's public schools lost at least three weeks of instruction, in addition to the week that was lost after Chata'an.

Education on Rota was also affected by Pongsona. All three of Rota's schools were damaged, and Rota's students lost three weeks of instruction due to the storm.

Earlier in the week the storm caused damage to crops and buildings in the Hall and Weito islands in Chuuk State. Several school buildings in this region were seriously damaged. Chuuk's continuing recovery from the devastation of Chata'an was set back considerably by this latest storm. ★

INFORMATION LITERACY

From Identifying Needs to Evaluating Sources

By Nancy Lane

Information may be one word in answer to a simple question, such as "What's the weather like today?" Or it may be contained in a wide range of books, journals, and computer databases that help to provide answers to complex research questions, such as "What causes cancer?"

It is useful to think of information as part of a continuum: Data>Information>Knowledge>Understanding>Communication. *Data* are the facts and figures, based on observation, surveys, or research that have been collected and are available for use. *Information* consists of data that have been organized for the potential benefit of individuals. *Knowledge* is information that individuals recognize as relevant and think about and interpret, gaining *understanding*. They may also use this understanding for a purpose, which usually involves *communication*.

Photo: Joe Laturnau

▷ Students must be taught to evaluate Web sources carefully.

Information literacy is knowing when you need information, what you need, where to find it, and how to evaluate and organize it. The report published in 1989 by the American Library Association's Presidential Committee on Information Literacy (www.ala.org/acrl/nili/ilit1st.html) stated that "teaching facts is a poor substitute for teaching people how to learn, i.e., giving them the skills to be able to locate, evaluate, and effectively use information for any given need."

The American Association of School Librarians published a position statement in 1996 that outlined nine information literacy standards for student learning (www.ala.org/aasl/ip_nine.html) (see sidebar). Pacific teachers should consider these standards and adapt them as appropriate to the print and media resources available through their school and through their local public and college libraries.

Although the Internet is becoming increasingly more important for research, students must be selective in deciding whether it is the best source for answering an information query. A printed source or a telephone call may be better, faster, and cheaper.

When the Internet is likely to be the best source, students must use a range of searching and evaluation skills to ensure that the information they retrieve is in fact authoritative, useful and relevant. A website that provides links to a range of criteria for evaluating the quality of website information is at www.vuw.ac.nz/~agsmith/evaln/evaln.htm.

Unless students are taught critical thinking and evaluation skills with respect to information literacy, the fears of the Librarian of Congress, James Billington, may become real. As he wrote in "A Technological Flood Requires Human Navigators" (*American Libraries*, *27*(6), 1996, p. 39), "I am haunted by the thought that all this miscellaneous, unsorted, unverified, constantly changing information on the Internet may inundate knowledge, may move us back down the evolutionary chain from knowledge to information, from information to raw data."

Nancy Lane is the Director of Communications at PREL. ★

INFORMATION POWER

The Nine Information Literacy Standards for Student Learning

Information Literacy

Standard 1: The student who is information literate accesses information efficiently and effectively.

Standard 2: The student who is information literate evaluates information critically and competently.

Standard 3: The student who is information literate uses information accurately and creatively.

Independent Learning

Standard 4: The student who is an independent learner is information literate and pursues information related to personal interests.

Standard 5: The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.

Standard 6: The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.

Social Responsibility

Standard 7: The student who contributes positively to the learning community and to society is information literate and recognizes the importance of information to a democratic society.

Standard 8: The student who contributes positively to the learning community and to society is information literate and practices ethical behavior in regard to information and information technology.

Standard 9: The student who contributes positively to the learning community and to society is information literate and participates effectively in groups to pursue and generate information.

DEVELOPING TECHNOLOGY LITERACY

Creating Critical Thinkers and Lifelong Learners

By Andrew Kerr

Ask educators anywhere in the world what they want for their classrooms and the answer will usually be computers – even if needs for electricity, phone service, textbooks, or a classroom haven't been met. The push for computers in education is driven by the almost universal recognition of the importance of technology in the world today. Computer skills are the ticket to better jobs, success, and money in areas where employment is limited to low-paying agriculture or manufacturing jobs. As the world has made the shift from the industrial age to the information age, schools have struggled to keep up. Often computers are purchased from already very tight school budgets, cutting textbook and supply purchases and even "non-essential" programs like art, music, and vocational education to ensure money for computers.

What many schools fail to realize, however, is that the power of technology rests not on a computer but on developing technology literacy. Technology is not an end, but a means to an end. The best technologies in the world will not help students without a proper plan of instruction. As ironic as it may seem, a school with limited technology resources that maximizes student time on computers by integrating technology into the curriculum will be more successful in developing technology literacy than a school that offers high technology environments with no integration. It is the difference between creating short-term computer operators and life-long learners with critical thinking skills. Computers can be powerful teaching and learning tools or $1,500 a piece drill-and-practice machines.

So what is the solution? How do we move students out of computer classes in which they at best learn straight applications without proper instruction and at worst play "skill building" games that are little more than expensive interactive worksheets? The answer is to focus on technology literacy through technology integration. Instead of offering separate computer and writing classes, for example, schools can offer writing classes that use the computer. Through technology integration, students engage in real world tasks (like writing papers), learn a computer application (Microsoft Word), and learn a computer concept (word processing). The difference may not be readily apparent, but it is key to understanding technology literacy. Microsoft Word 2000 will change, but the concepts of writing, layout, and word processing will stay (for the most part) constant. If a student is not just literate, but technology literate, they can use any word processing program with little or no instruction. The difference is between training students on an application versus teaching them to be critical thinkers and life-long learners.

The International Society for Technology in Education (www.iste.org) has developed National Education Technology Standards (NETS) that list technology skills and concepts students should acquire by the end of grades 2, 5, 8, and 12. These are the standards that the Pacific Regional Technology Education Consortium (PR*TEC) and PRELSTAR have used to teach technology integration not only in the PREL service area, but most recently at Shanghai Teachers University in Shanghai. The NETS site also provides practical examples and advice on how to integrate technology into the classroom. Although the NETS standards were developed for the U.S., teachers in other nations have found them useful. Some of the entities in the PREL service area have adapted many of the standards for their own educational systems.

Photo: Andrew Kerr

▷ These students at Shanghai Teachers University are learning to integrate technology into school curricula.

The key to technology literacy is not "seat time," or the amount of time each student gets to spend on a computer, but the quality of the time spent. Here are a few of the many questions educators should ask themselves:

- Does using technology enhance or inhibit my curriculum?
- Can I accomplish the same objectives without technology?
- Does the way technology is utilized in the classroom meet technology standards?

There is no mystery to technology literacy. The key is to recognize it for what it is – a "literacy" – and to build upon those skills accordingly.

For more information on technology literacy and the PR*TEC's initiatives in this area, please contact Andrew Kerr at kerra@prel.org.

*Andrew Kerr is the Associate Director of PR*TEC.* ★

VIDEOCONFERENCING

Improving Access to Training

By Steve Baxendale and Jim Bannan

For the past few years, PREL has been using videoconferencing to improve access to training while reducing travel costs. Through a partnership with the Pan-Pacific Education and Communication Experiments by Satellite program (PEACESAT), PREL now reaches all 10 entities in its service region in over 30 sites that can be connected to other videoconference (VTC) sites throughout the world.

This VTC network is being used on a regular basis to provide training and consulting services to teachers, information technology professionals at departments and ministries of education, and PREL staff. Several VTCs have been held with participants in Washington, DC, and several of the Pacific island entities at the same time.

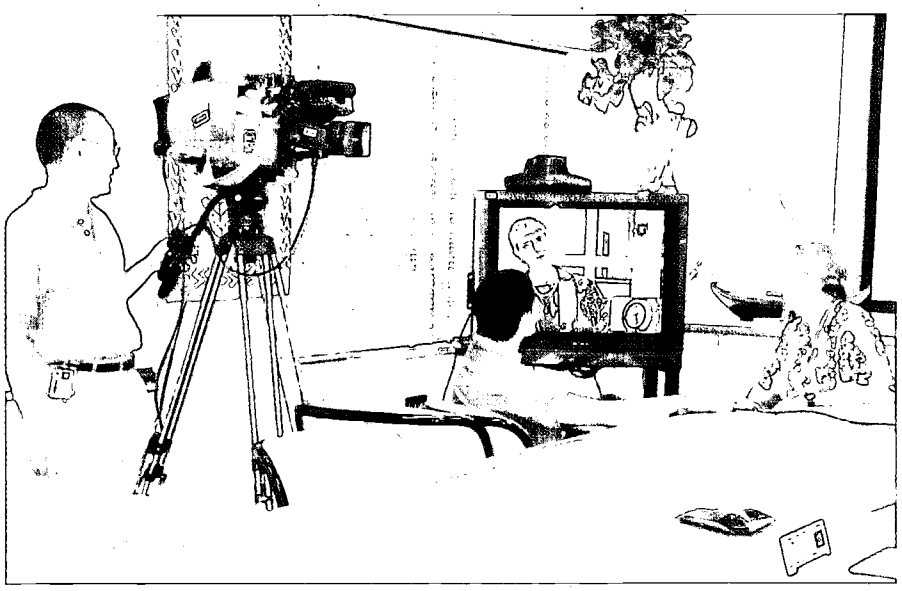


Photo: Kelly Higashi

▷ Videoconferencing makes it possible to meet face-to-face without the expense and inconvenience of travel.

Videoconferencing offers the opportunity for experts to "attend" meetings and assist in developing plans to improve education in the Pacific region. One of the greatest advantages of VTCs over meeting in person is that travel time is reduced or even eliminated, as the VTC site might be just down the hall or across town. Videoconferencing may not replace all travel, but it reduces travel costs and frees up time for its participants. Until recently, VTCs required a substantial investment in infrastructure and high telecommunications charges. Recent advances in technology, however, have reduced these costs and made videoconferencing available to a growing number of users in a variety of applications.

Though research has shown that VTCs are at least as effective as traditional instructional delivery systems when used appropriately, using this technology successfully requires good instructional design, prior planning, reliable service, and qualified facilitators at remote sites. Good instructional design means that clear objectives for the VTC are developed with an understanding of the learners' needs, the goals of the meeting/training, and the learning context. Instructional designers must recognize the strengths and weaknesses of each medium, be creative, and have a good understanding of the instructional design process and learning theory.

Prior planning is also crucial for success. In addition to developing the activity, an effective VTC requires attention to details such as the best date and time, the availability of participants, and the reliability of the VTC network. Lighting, ng, and camera placement also need to be considered to create the best possible environment for learning.

Learning is dynamic and unpredictable. Motivated learners make their own decisions about their learning tasks. Videoconferencing supports a dynamic learning environment by providing synchronous, two-way communication between participants. Even body language is communicated, providing the ability to see whether a participant understands a concept or is confused or worried.

To use videoconferencing effectively, teachers must understand the basics of instructional design and be able to work with instructional designers in the development of courses. One of the best resources in this area is The National Educational Technology Standards for Teachers (NETS), developed by the International Society for Technology in Education (www.iste.org). NETS is designed to assist in preparing teachers to use technology in ways that include assessment and evaluation, productivity and professional practice, and planning and designing learning environments and experiences.

Through its PRELSTAR and PR*TEC programs, PREL is working with developers of VTC programming to identify the best applications for the Pacific region. As the VTC network grows, opportunities and access to courses, workshops, and collaborative sharing will continue to increase.

Steve Baxendale is the Program Director of PRELSTAR. Jim Bannan is the Associate Director of PRELSTAR. ★

techtips

DO THOSE POP-UP ADS FRUSTRATE YOU, TOO?

By Tim Moline

There you are, doing online research for a class project or lesson, when suddenly you are bombarded by intrusive Web advertisements inviting themselves into your previously controllable world. What do you do?

Like many others, you are probably spending some of your research time closing windows you never knew were opened – nor ever wished to see. But as soon as you close one window, another one pops up in its place. And the "pop-up attack" continues. Your research has now turned into a test of your patience, an endless process of closing offensive advertisements until you are finally frustrated enough to close your Internet browser and go to the nearest library.

How can you win the battle against pop-ups and take control of your Web browsing experience? It's simple using one of several ad-blocking programs available for free or for a small fee. For example, I use a free and very user-friendly version of Pop-Up Stopper from Panicware (www.panicware.com) and am now, once again, in control of my virtual world.

There are many other services available, and I urge you to take a look at them. One way to locate the service that best meets your needs is to utilize the "Search" feature available in your favorite Web browser's home page. Or go to sites such as www.google.com or www.yahoo.com and enter something like "prevent pop-up ads."

Take control of your "surfing" and sink those pop-up ads!

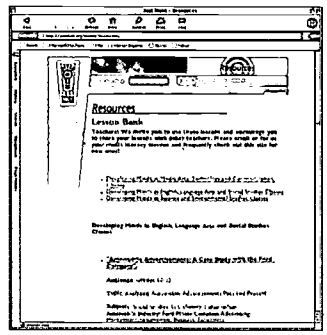
Tim Moline is the Technology Applications/Data Management Specialist for the PREL Technology Center.

Tech Tips provides information on the use and maintenance of computers. PREL provides no guarantee against any loss that may occur to your computer system as a result of using this advice. Professional assistance should be consulted as appropriate.

>finditonline

Links to Helpful Education Resources

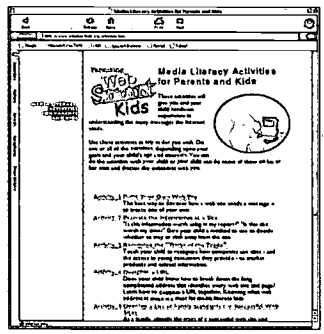
As students have a range of technologies available to them in school and at home, it is important to help them gauge the relevancy of information, learn how to find reliable sources, and be discerning consumers of media and information. The sites below provide lesson plans and ideas for teachers and parents.



Just Think Media Literacy Lessons

justthink.org/lessons/lessons.html

This "lesson bank" has curriculum-related projects developed by teachers to allow students to explore concepts of media and information literacy. Categories include Developing Minds in Media Arts, Technology, and Communication Classes; Developing Minds in English, Language Arts, and Social Studies Classes; and Developing Minds in Science and Environmental Studies Classes.



Parenting Web Smart Kids

www.websmartkids.org/activities.htm

This site has many tips for parents to guide their children through the Web and teach them how to evaluate and gather information from sites they visit. Many useful links to other organizations and sites for increasing media literacy are also available.

National Educational Technology Standards Project

cnets.iste.org

Created by the International Society of Technology in Education, the standards project site has links to the National Educational Technology Standards guide as well as several online resources and lesson plans. The lesson plans can be searched by grade level and subject and provide blueprints for technology integration into the classroom. The lessons are rich in ways to educate students not only about the technology tools they are using but also how to integrate and choose the technology and information they use.

SOME THINGS ARE FREE!

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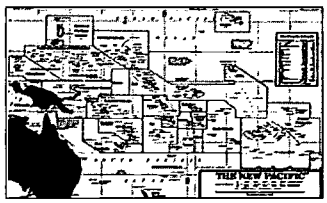

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19"x25" ($7 value)

☐ **SAMOAN CHIEF'S DAUGHTER**
20"x26" ($7 value)

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Samoan Chief's Daughter Poster *(pictured above)*

☐ **THREE-YEAR SUBSCRIPTION** $30.00
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(sizes and designs are limited in quantity; please indicate first and second choices)

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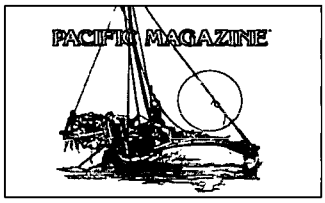
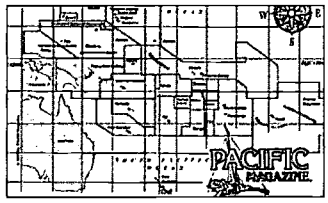


☐ **OUTRIGGER CANOE WITH SUN**
☐ White ☐ Tan
☐ Small ☐ Medium ☐ Large



☐ **MAP OF THE PACIFIC**
☐ White ☐ Ash Gray
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