

Informally SPEAKING

The Newsletter of the Informal Science Education Association of Texas

February 2003

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The mission of the Informal Science Education Association (ISEA) is to improve science education in Texas by supporting partnerships among informal and formal educators.

Message from the President

2002 has been an exciting year for the Informal Science Education Association of Texas! We started out the year with a strategic plan in hand, and have accomplished many of the goals of this plan. First of all, ISEA is now an official 501(c)3 organization, and it has its own bank account!

The 5th annual conference of ISEA was at Sea World of San Antonio in February 2002. If you were there, it is unlikely that you will ever forget it, especially those of us who were feeding the dolphins at 6:00 am on the coldest morning of the year. Temperatures reached a record 17°F in San Antonio that morning. Emilio Williams was our keynote speaker, and discussions at the conference centered around maintaining diverse connections. A message of the conference was to “be intentional about what you want, or it may not happen.”

Production and distribution of the ISEA newsletter improved over the year with Margaret Russell as newsletter editor. We had great articles and photos highlighting

informal programs across the state.

The summer board meeting took place at McKinney Roughs Nature Park, which will be the site of the 2003 conference. At the summer meeting, board members decided on this version of our working mission statement: “The mission of the Informal Science Education Association is to improve science education in Texas by supporting partnerships among informal and formal educators.”

The ISEA 6th annual conference will take place on March 4-6, 2003. The theme will be *Understanding Learning*. Dr. Larry Lowery of the Lawrence Hall of Science in California will give the keynote address, and sessions will focus on what we know and want to know about learning in both formal and informal situations.

In October 2002, ISEA board members hosted a one-day Funding Opportunities Workshop at the Bob Bullock Texas State History Museum in Austin. Twenty-two participants from around the

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**FOCUS
ON**

What do the TAKS mean to you?

Starting with the current school year, all public schools in Texas will participate in a new and vastly expanded standardized testing program. The Texas Assessment of Knowledge and Skills, or TAKS, will test students not only in language arts and math, but also in social studies and science. Students in grades 3–11 will be tested every spring, and different subjects will be tested in different grade levels. Science, for instance, will be tested in grades 5, 10, and 11. This is the first time that standardized tests on this scale

have been given in science, and they are being taken very seriously. For staff at informal science education sites, an understanding of the TAKS will be an essential component of our jobs over the next couple of years.

There is room for plenty of debate about the TAKS: Are these assessments worthwhile? Are they fair? Are they just the pedagogical flavor of the year? While we should all think about these issues in depth, the purpose of this article is more descriptive than theoretical. I want to briefly share what

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President's message, *continued from page 1*

state received valuable information about grant monies available to informal sites. This workshop also served as a fund raising event for ISEA.

In November, Martha Kolbe and I ventured to El Paso for the Conference for the Advancement of Science Teaching (CAST). The president of ISEA serves on the Affiliate Congress of STAT, the Science Teachers Association of Texas. This provides ISEA with opportunities to contribute to conversations and policy making that concern the teaching of science in Texas. STAT also provides ISEA with a booth at the conference and hosts the ISEA web page at www.statweb.org/isea.

On December 10, 2002, fifteen board members and a few guests met at Wild Basin Wilderness Preserve in Austin to discuss priorities for the coming year. The number one priority established at this meeting is for ISEA to "Formalize a mentoring process between member organizations." In addition to working on this, in 2003, ISEA will also consider developing a public policy action team, and establishing an educator portal on the ISEA web page. Two additional suggestions are underway already: ISEA will have an evaluative study of the March conference, performed by a professional evaluator; also, ISEA will host a reception for Texas' 20 Regional Service Center representatives for science when they meet in Austin this April.

The question posed to board members at the December meeting was, "What

one thing would you like to see ISEA do in the future that has not been done before?"

My answer was that I would like to see ISEA continue as a viable organization. When I first met with a group of informal and formal education folks in the summer of 1996, I was so excited that informal science was being recognized on a statewide basis. The Dana Center and the Texas Statewide Systemic Initiative could see value in creating an informal science education action team. Eight years later, I am delighted that the Texas ISEA is recognized as a respected model of what can be done in informal science at a state level.

As an action team, members discussed at length the most efficient use of our talents, and how we could best gather and disseminate information on a statewide basis. When members held the first ISEA conference in March 1998, we sought to gain input from informal educators across the state. At our 6th conference in March 2003, we will continue our practice of presenting nationally recognized leaders in science education to our membership. The conference will again offer professional development and networking opportunities for both formal and informal educators across Texas.

It has been a great year for ISEA!

*by Janice Sturrock,
Austin Nature and Science Center*

News from around the state

San Antonio Area Informal Education Association

The SAAIEA continues to extend its network with the formal science education community through its association with the San Antonio Urban Systemic Program's Science Leaders team. The Science Leaders are a group of math and science curriculum coordinators and an SAAIEA representative who meet monthly to develop and implement long-term strategies for the improvement of math and science education. In October 2002, the Science Leaders presented a one-day conference, "The Role of Science in 21st Century Education," at McCollum High School. Over 300 science teachers from the San Antonio area attended the

conference, which was keynoted by Nobel laureate, Dr. Leon Lederman, and featured an Informal Education exhibit hall showcasing the programs of area museums, nature centers, public service organizations, and universities.

Dallas / Fort Worth

No formal organization currently exists in this area. Organizers needed!

Austin Collaborative for Cultural Education Sites and Schools

ACCESS has sponsored exhibits to travel through certain schools in the Austin Independent School District, a program that is

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Focus on: TAKS, *continued from page 1*

I've learned about the TAKS, and offer some suggestions on how we informals can support our comrades in the classroom.

First of all, the TAKS are a reality, right here and right now. Standardized, multiple-choice science tests are being administered *this year* in grades 5, 10, and 11, as mandated by the Texas State Legislature. In 2005—just two years from now—students will not graduate from high school if they haven't passed the 11th-grade science exam (the “exit-level” exam). Teachers and administrators across the state are concerned—if not just scared silly—about the TAKS, and the first round of results are sure to cause some spectacular fireworks this spring and summer, for better or worse.

What do the TAKS cover?

I met someone recently who was working on writing the actual TAKS test questions. His advice for science teachers? “Teach the TEKS.” Everything I've heard echoes this sentiment: The TAKS science test will be squarely aligned with the Texas Essential Knowledge and Skills. So, as an informal provider, if you're already familiar with the TEKS, you're in good shape to know what's covered on the TAKS exams. For the elementary science test (given in 5th grade) the kids will be grilled on the basics: the nature of science, life science, physical science, and earth science. (Rumor has it, by the way, that a comparable eighth grade exam will be implemented within the next couple of years.)

On the high school TAKS test, however, the content is not as broad. In particular, earth science is not covered on the 10th and 11th grade exams. Biology and IPC (Integrated Physics and Chemistry) are on the test, but since earth science isn't required in high school, the TAKS doesn't test kids on it. This could affect field trips to earth science institutions—will they still want to come if it's not “on the test”? At the natural history museum where I used to work, middle-school visits were a fairly common occurrence. I wouldn't be surprised, however, if those numbers have dropped off this year, due in part to this shift in the state's testing priorities.

How can this help me?

You and I know that museums can be tremendously helpful for teaching science content. And even if you're at an earth-

science institution, kids can learn physical science and biology there too. So we've got to spread the word. Get a copy of the TAKS objectives, figure out which content areas your museum can address, and then preach the gospel to every teacher you can find: Yes, we cover this content! Yes, we can help you teach science! And, good heavens, Yes, by coming to our informal-science site, *your kids can do better on the TAKS!*

By looking at the TAKS objectives, you may also find some tidbits that can help you directly support the content that's on the TAKS tests. Using the natural history museum as an example again, one of our most popular tours focused on prehistoric life. We never put much emphasis on the biomechanics of how dinosaurs walked, but it would be easy to do; in fact, it would be a natural extension of the classification of dinosaurs as either bird-hipped or lizard-hipped. Any skeleton is really just a bunch of levers that get yanked around by muscles, right? By emphasizing this content, the museum could support TAKS objectives on “an object to which a force such as a push or pull has been applied” (5th grade) and “the efficiency of various machines such as levers” (11th grade).

If you have the time, try writing a letter to teachers that have come to visit your museum in the last couple of years. “Hi there, just wanted you to know how valuable a field trip will be in learning the TAKS objectives...” Many sites are putting the correlations up on their websites and including a list of correlations in their teacher info packets. Perhaps most importantly, whenever you get a chance, talk to the teachers. Find out how you can help them with this TAKS business. Is that letter thing a good idea? Should it go to the principals too? And so on. The teachers are bound to have more ideas for you.

It's easy to complain about the TAKS, and I wouldn't blame you for banging your head against a nearby tree now and then. But be encouraged: I am hopeful that we in the informal science community can use this “culture of accountability” to our advantage. What we do is important, and if that usefulness needs to be explained yet again in a new language, then we'll do it. It may take a little work to figure out how we can most effectively support the teachers, but hey, isn't that what we do best?

by R. Brent Lyles, Charles A. Dana Center

WEIRD SCIENCE FACT

Slugs have green blood.

For more information on the TEKS and the TAKS, the Charles A. Dana Center's website is a good place to start:

www.scienceTEKStoolkit.org

News from around the state, *continued from page 2*

continuing in 2003. Another continuing program is the *Speaker Series*, co-sponsored by the Austin Museum Partnership. In this popular series of events, experts in various fields present their work at Austin-area informal sites, and free admittance is offered to area teachers and museum professionals.

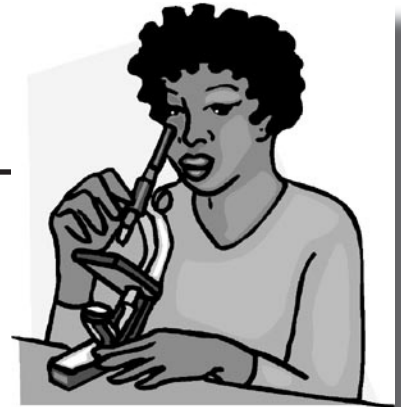
South Plains Educational Resource Collaborative (Lubbock area)

The first annual SPERC Educator Appreciation Open House was held in October 2002 at Barnes & Noble Booksellers, drawing fifty teachers. Positive comments were received from the teachers,

who especially appreciated the convenient time of the event, as well as the good information. Formalization of this new organization continues, and newly elected officers have spent much time on mundane but necessary matters such as membership, publicity, and budget, as well as the formidable task of long-range, strategic planning.

Houston Informal Science Coalition

After a comparatively inactive fall, at press time HISC was just about to hold a general meeting, at which projects for 2003 would be discussed... Stay tuned!



ISEA is looking.....

...for a few (more) good members!

Guide another institution or fellow informal educator to this fine organization, and become one of the ISEA members competing for a bonanza of dividends. Member institutions are contributing prizes for the individual bringing in the most memberships. Win a gazoo of videos, books, CDs, science toys, and entrance tickets.

Please have your new members indicate on the membership forms or conference registration forms who promoted their application. Send the following with registration or bring to the conference:



Current ISEA Member

Name _____ Institution _____
Phone # _____ e-mail _____

Names and Affiliations of Newly Recruited Members

(Feel free to use several additional pages if necessary.)

Participant Questionnaire

Circle all that apply to your organization:

- Aquarium
- Art Museum
- Botanical Garden
- Business/Industry
- Children's Museum
- K-12 Educator
- Nature Center
- Science Center
- State Park
- College/University
- Government
- Zoo
- Other

Circle all that apply to yourself:

- Educator
- Interpreter
- Exhibit Designer
- Consultant
- Higher Ed. Professor
- Supervisor
- Classroom Teacher
- Student
- Other

Please indicate which ISEA conferences you have previously attended.

2002 2001 2000 1999 1998

Is your informal institution listed in the Regional Resources section of the Dana Center Science Toolkit? Yes No

If not, would you like to be? Yes No

To review the Dana Center Science Toolkit, see www.scienceTEKToolkit.org

The mission of the Informal Science Education Association is to improve science education in Texas by supporting partnerships among informal and formal educators.

**Questions?
Contact**
siri.lindholm@tpwd.state.tx.us
or visit www.statweb.org/isea

*Informal Science
Education Association*

**“Understanding
Learning”**

**6th Annual
Conference
March 4-6, 2003**

**McKinney Roughs
Bastrop, Texas**

www.statweb.org/isea

Informal Science Education Association

ISEA presents "Understanding Learning"

Registration Form

What is the Informal Science Education Association (ISEA)?

The ISEA seeks to improve science education in Texas by supporting partnerships among informal and formal educators. Formed as an action team in 1996 by the Charles A. Dana Center, the ISEA includes members from a variety of organizations including museums, zoos, aquaria, parks, nature centers, universities and other science-rich institutions.

Conference Purpose:

The conference will feature dialogue with state and national education leaders in a relaxed atmosphere designed to give you time to reflect on state education goals and network with your peers. Participants will engage in activities that promote networking, discussion issues related to science education, review and receive science education materials, and focus on an array of facilities to contribute to the professional development experience.

Conference Location:

McKinney Roughs in Bastrop, Texas is 1,100 acre nature park and environmental learning center dedicated to the preservation of biodiversity, watershed protection, and the preservation of cultural and natural resources. For more information about McKinney Roughs, visit http://www.lera.org/community/mckinney_roughs.html

Keynote Speaker:

Nationally renowned expert in learning, Dr. Lawrence Lowery is a professor emeritus at the University of California at Berkeley. He remains active as the Principle Investigator for the Full Option Science System (FOSS), a science curriculum for grades K-8 developed at the Lawrence Hall of Science. He continues to publish and edit articles and books, the most recent being *The Kingfisher Science Encyclopedia* (New York and London, 1993), *Pathways-Guidelines to Implementing the Science Standards* (NSTA publication, 1997), *The Biological Basis for Thinking and Learning* (Lawrence Hall of Science Monograph, 1998), *How Science Curriculums Reflect Brain Research* (Phi Delta Kappan article, November 1998), one of several authors of *Teaching for Inquiry* (National Science Education Standards Addendum, 2000) and *Developing Minds* (Association for Supervision and Curriculum Development, 2001).

Conference Highlights:

Conference sessions offer a variety of perspectives on learning and informal education. Sessions include:

- Linking Technology with Informal Education Science and Lifelong Learning
- How Teachers Use Informal Institutions
- Early Childhood Learning
- Hands-on Math Activities
- Funding Informal Science Programs

In addition, "Open Space" sessions will also provide opportunities for in depth discussions with peers.

Send completed registration form to:

Informal Science Education Association
Charles A. Dana Center
The University of Texas at Austin
P.O. Box M
Austin, TX 78713-8913

(Please print information.)

Name: _____

Title: _____

Institution _____

Email address: _____

Important: All conference correspondence will be done by Email!

Address: _____

Phone: _____ Fax: _____

Conference fee: \$175
(includes food and lodging)

Late conference fee \$200
(after 1/15/03)

Conference fee enclosed: _____

Send a check or money order (no PO's please) payable to The University of Texas at Austin. Refund requests must be submitted by 2/15/03. No refunds after 2/15/03. Fees can be transferred to another educator from same organization. Please submit transfer request in writing.