Wisconsin Initiative
For Science Literacy

Professor Bassam Z. Shakhashiri
William T. Evjue Distinguished Chair for the Wisconsin Idea
Director, Wisconsin Initiative for Science Literacy

Department of Chemistry
University of Wisconsin-Madison

August 12, 2009 ~ Madison Club ~ Madison, WI
WISCONSIN INITIATIVE FOR SCIENCE LITERACY

www.scifun.org

A National Initiative Headquartered at the University of Wisconsin-Madison

GOALS

Promote literacy in science, mathematics and technology among the general public

Attract future generations to careers in research, teaching and public service
Wisconsin Initiative for Science Literacy

• Science is Fun!
• Science on the Web
• Capitol Science
• Conversations in Science
• Professional Development for Teachers & Faculty
• Women in Science
• Science, the Arts & Humanities

• Science, Religion & Ethics
• Science & Health
• Science in the City
• Science, Politics & the Economy
• Research & Development in Chemical Demonstrations
• Once Upon a Christmas Cheery, In the Lab of Shakhashiri

• Science on the Radio
New Discoveries

Enlightenment

Societal Progress

Societal Problems
Science-rich Sector

Science-poor Sector
Scientific Literacy

Science Literacy
Science literacy does not imply detailed knowledge of chemistry or physics or biology, but rather a broad understanding and appreciation of what science is capable of achieving and, equally important, what science cannot accomplish.

Science literacy will enable the public to make informed choices and to reject shams, quackery, unproven conjecture, and to avoid being bamboozled into making foolish decisions where matters of science and technology are concerned.
Science literacy is for everyone:

chemists, artists, humanists, teachers, all professionals, the general public, youth and adults alike.
Clarity of Purpose
The Purpose of Education:
To enable individuals to fulfill their human potential.
The Purpose of Research:

To advance knowledge.
The Purpose of Technology:
To advance the human condition.
Greenhouse Gases

- Water Vapor
- Carbon Dioxide
- Methane
- Dinitrogen Oxide
CLARITY OF PURPOSE

WHAT
WHY
HOW
WHEN
WHERE
ASSESSMENT

- PURPOSE
- TOOLS
- DOCUMENTATION
- INDICATORS OF PROGRESS
- INFLUENCE ON STUDENTS
- AFFECT ON INSTRUCTOR
- VALUE
Chemical Facts & Phenomena
• Chemical Models & Theories
• Chemical Facts & Phenomena
• Chemical Skills
• Chemical Models & Theories
• Chemical Facts & Phenomena
Attitude and Motivation
Good Teachers Are:

Competent in their disciplines
Good Teachers Are:

**Competent** in their disciplines

**Committed** to their disciplines and to the profession of teaching
Good Teachers Are:

**Competent** in their disciplines

**Committed** to their disciplines and to the profession of teaching

**Comfortable** with the methods and techniques they use
Good Teachers Are:

**Competent** in their disciplines

**Committed** to their disciplines and to the profession of teaching

**Comfortable** with the methods and techniques they use

**Compassionate** with students (and colleagues)
“To me, teaching is the ultimate performing art, and all performing arts are interactive. You always have to connect with the people… You don’t just present, you have to connect. And I find it difficult [online]… It’s one thing to give students the illusion that the teacher is really there. What’s much harder is to give the teacher the sense that the students are really there.”

Jaron Lanier,
Computer scientist who coined the term “virtual reality”
“Teachers owe it to themselves to teach what they love. In so doing, they nourish their students. They owe it to themselves to show their students who they are. To do this, they need to know what they love, and who they are – not a simple task, but surely the anchor without which they’ll drift.”
“Teachers owe it to themselves to teach what they love. In so doing, they nourish their students. They owe it to themselves to show their students who they are. To do this, they need to know what they love, and who they are – not a simple task, but surely the anchor without which they’ll drift.”

Diane Chapman Walsh
President of Wellesley College
“Great teachers are the ones who weave webs of life-affirming connection for their students. Proficiency with technology, tightly framed learning outcomes, even multicultural awareness are secondary to the passion teachers bring to their subject matter, the compassion, awe, and joy they embody and communicate. Great teaching comes from spirit, not from technique.”

Diane Chapman Walsh
President of Wellesley College
Humane
Humane Humanitarian
There is no higher or lower knowledge, but one only, flowing out of experimentation.

Leonardo
SCIENCE IS FUN

www.scifun.org