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ARTS AND SCIENCE

Scientific Literacy: A Necessity in the 21st Century

By: Laverne Mitchell

The ever-growing importance of science in our daily lives was officially recognized in 1989, when the new National Curriculum made it a compulsory 'core' subject for students aged five to 16. The decision to put science education on a par with literacy and numeracy reflected a desire to create a population that is 'scientifically literate.'

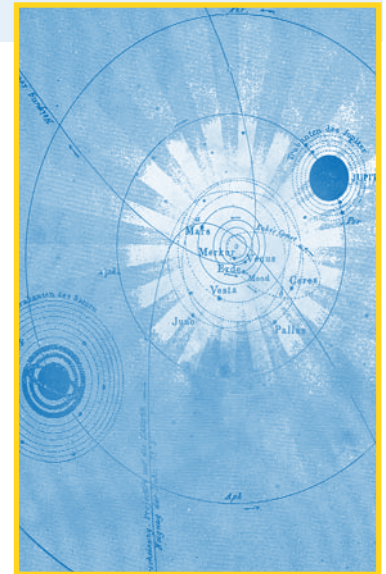
However, times have changed, and the notion of scientific literacy has moved on too. It may have once meant that everyone should have memorized the order of the planets or Mendel's laws of inheritance. Now it is increasingly recognized that scientific literacy is more about equipping people to live in a technologically advanced society where scientific issues are a part of their everyday life.

According to National Science Education Standards, "Scientific literacy means that a person can ask, find, or determine answers to questions derived from curiosity about everyday experiences. It means that a person has the ability

to describe, explain, and predict natural phenomena. Scientific literacy

entails being able to read with understanding articles about science in the press and to engage in social conversation about the validity of the conclusions. Scientific literacy implies that a person can identify scientific issues underlying national and local decisions and express positions that are scientifically and technologically informed. A literate citizen should be able to evaluate the quality of scientific information on the basis of its source and the methods used to generate it. Scientific literacy also implies the capacity to pose and evaluate arguments based on evidence and to apply conclusions from such arguments appropriately."

This is a tall order for the classroom teacher. However, teachers will agree that students deserve this kind of science education and given the appropriate training and resources they are eager to deliver it.



Cyber Sources

MUSIC—San Francisco Symphony

An interactive web site with samples of real works by many famous composers, as well as information and interactive areas to experience and experiment with such ideas as tempo, rhythm, and composing groups of notes.

www.sfskids.org/templates/home.asp?pageid=1

Modern Museum of Art for Children

This is an interactive area that allows you to learn different facts about the artist behind each work of art. It also gives a real-world challenge to either create something or to try a new idea.

www.moma.org/destination/#

ART—National Gallery of Art

A wonderful interactive approach to understanding artistry and the use of composition and brush strokes. The images can be saved and/or printed.

www.nga.gov/kids/zone/zone.htm

SCIENCE—BBC Science

These Science Clips are aimed at children from 5-11 years old. For each unit, there is an interactive experiment and a quiz. Each unit also has a teacher resource which can be found by clicking on the age group link at the top of the page.

www.bbc.co.uk/schools/scienceclips/

Science and Art and the School Library

21st Century Skills include science literacy and the learners' need to understand science concepts. The online databases such as ProQuest's AP Science, Gale's Science Resource Center, and Grolier's The New Book of Popular Science focus primarily on science. These are some of the options available for purchase through NBSLS. EBSCO's Science Reference Center and General Science Collection is available (at no charge) through NOVELny. Other resources include books about a particular topic. Science themes are found in the 520 to 590's and in the 600's section, depending on your particular need. Feel free to take time to browse the shelves. Consider an advanced search

using specific terms for a focused location. There are also plenty of magazines with a science focus.

Art resources are also available using the same options. Books shelved in the 700 to 790's range from architecture to photography to many other topics. Online resources include the Grove Art Online, and H.W. Wilson's Art Museum of Image Gallery.

The school library has the connection to unlimited resources for information. Those items which are not included in the building's collection are very often available as an interlibrary loan request through Nassau BOCES School Library System.

Discovery Education Science

Discovery Education Service is the new online digital curriculum supplement for elementary and middle school science education. Enhance science instruction with up-to-date, standards-based resources coupled with a real-time assessment tool that allows educators to monitor student progress

and recommend resources based on students' individual needs.

www.discoveryeducation.com/products/science/

Call Paula Pisano at 516-608-6666 for details.

Tech Toys

AfterClass.com

Incorporating 21st Century skills has never been easier! Introducing AfterClass.com, a FREE tool for teachers, created to keep students engaged and learning AfterClass. It's a user-friendly participation platform featuring: Blogs, Podcasts, Slideshows, Wikis and more. AfterClass reinforces lessons through student collaboration in a fun CIPA-compliant environment that's forever appropriate for K-12 educational use. Sign-up in just 5 minutes for a free account at:

www.AfterClass.net

PLATO Achieve Now on PSP by PLATO

Welcome to the new homework! PLATO Achieve. Now on PSP—an educational gaming program delivering K-7 standards-based curricula on the PSP (PlayStation Portable) system.

Put learning in the palm of students hands with motivating reading/language arts and mathematics adventures that engage learners, extend the classroom, and increase family involvement. Learning never stops—and neither should today's classroom technology. Game on!

www.plato.com



Upcoming Events

Discovery Education streaming presentation

When: October 23rd

Time: two sessions 10:00 a.m. - 12:00 p.m.
and 1:00 p.m. - 3:00 p.m.

The World of Science Around You—K-3

When: October 30, 2008

Investigating the Earth

When: November 12, 2008

Activities to Prepare Students for the Intermediate Level Science Assessment

When: November 19, 2008

Activities to Prepare Students for the Elementary Level Science Assessment

When: December 1, 2008

The above workshops are held 8:30 a.m. - 3:30 p.m. at the Administrative Center in Garden City.

Blackboard Connect

When: November 14, 2008

Time: 9:00 a.m. - 11:00 a.m.

Where: Duffy Avenue Center, Hicksville

For more information and registration information:

www.nassauboces.org/cit/catalog/pd/Catalogindex.htm

Lunch and Learn Workshops

Time: 12:00 p.m. - 2:00 p.m.

Where: Duffy Avenue Center, Hicksville

2 Know Response System

When: November 6, 2008

Storage & Data Archiving

When: November 17, 2008

Glide

When: November 18, 2008

For more information and registration:

www.nassauboces.org/cit/it/mcs/

For information on any of CIT's programs, including back issues of CIT Response, up-to-date education news, NCLB, special reports, new services and more, visit the Curriculum, Instruction and Technology Web site at:

www.nassauboces.org/cit

SPOTLIGHT—Valley Stream 24 explores Visual Art Education

Visual art education in Valley Stream School District 24 enriches the lives of students by developing their creativity, fluency, elaboration, and originality. Inherent in teaching art is the multi-faceted interdisciplinary approach that allows for expression, risk-taking and imagination. In the art room, students can express their feelings and emotions while we give them the tools to understand math and science concepts.

While learning about art and artists, students learn about the world around them from pre-history to present times. Through works of art they learn about horizontal, vertical, and parallel lines, and how those lines form rectangles and squares. We work with patterns, tessellations, symmetry, measurement, perspective, positive and negative space. Students also explore color mixing, the effects of light on color and reflections. By using diverse materials, students gain an understanding of two and three dimensional objects. When using clay, students learn where clay comes from and how both it and glazes react to high kiln temperatures.



Although most disciplines are taught in isolation, visual art is naturally embedded into all disciplines. Our interdisciplinary approach allows for consistency and innovation to capture those teachable moments where a concept or idea is taught in a different way. Using different modalities helps students understand the world around them while becoming critical thinkers. Skills are reinforced in a nonthreatening environment where students are encouraged to take risks and to think outside the box. Our future scientists, mathematicians and artists emerge from the art room.

ESL and Science

ESL Science Center

A site with handouts and activities with science as content for teachers who teach elementary and middle school English and ESL. Some included topics are arthropods, mollusks, and clouds. One of the handouts is about science and scientists. Students look at the vocabulary used to describe what scientists do, such as research, hypothesize, experiment,

collect data, and predict. Then they look at a list of scientists and have to define what each scientist does using a relative clause.

<http://bogglesworldesl.com/>

Virtual Body

A narrated tour of the brain and heart as well as many other systems. Text is provided with the audio in both English and Spanish.

www.medtropolis.com/VBody.asp