

**STS Forum—Science and Technology in Society
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Session 301: Plenary Session: “Development Across the World with Sustainability”
Address – 7 minutes – on October 9, 2007
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(Remarks as given, 10/9/07)

IN VIRTUALLY EVERY SECTOR OF SOCIETY TECHNOLOGY HAS
DRAMATICALLY MADE OUR LIVES BETTER, EASIER, MORE
CONVENIENT.

SO MY QUESTION IS: WHY ISN'T HIGH-TECH UTILIZED IN K-12
SCHOOLS IN THE USA?

PARTICULARLY IN GEOGRAPHY CLASSROOMS?

DEVELOPMENT AND SUSTAINABILITY CAN ONLY BE
ADDRESSED BY GEOGRAPHICALLY LITERATE CITIZENS.

WE AT NATIONAL GEOGRAPHIC HAVE WORKED FOR 20 YEARS
TO RESTORE GEOGRAPHY TO OUR PUBLIC SCHOOLS.

WE MUST MAKE SURE THAT MAPS AND TOOLS OF THE
DISCIPLINE ARE IN THE CLASSROOMS AND THAT THE SUBJECT
IS WELL-TAUGHT.

LET ME BE CLEAR:

THIS IS NOT YOUR GRANDMOTHER'S GEOGRAPHY. IT IS NOT WHAT YOU THINK.

GEOGRAPHY IS NOT JUST KNOWING THAT DJAKARTA IS THE CAPITOL OF INDONESIA BUT RATHER THAT IT IS A NATION SCATTERED ACROSS THOUSANDS OF ISLANDS STRETCHING SOME 5,000 MILES WHOSE INHABITANTS SPEAK THOUSANDS OF DIALECTS.

INDONESIA IS HOME TO ONE OF THE WORLD'S GREATEST NUMBER OF BELIEVERS IN THE WORLD OF ISLAM—SOME 100 MILLION MUSLIMS. INDONESIA AND SINGAPORE CONTROL THE VERY NARROW STRAIT OF MALACCA THROUGH WHICH 1/5 OF THE WORLD'S SEABORNE GOODS AND ONE-THIRD OF ALL OIL SHIPPING MUST PASS. PIRATES HAVE PROWLED THE AREA FOR CENTURIES.

GEOGRAPHY IS NOT JUST ABOUT LOCATING FLOODPLAINS. IT IS ABOUT UNDERSTANDING WHY YOU DON'T BUILD COMMUNITIES IN FLOOD-PLAINS – EVEN NEW ORLEANS.

IT'S NOT ABOUT HOW MANY EARTHQUAKES OCCUR IN A YEAR. IT'S WHY UNDERSEA EARTHQUAKES OFF JAPAN SEND SURFERS IN HAWAII SCURRYING TO THE BEST SURFING BEACHES.

IT'S NOT JUST ABOUT WHAT GRAINS ARE GROWN IN RUSSIA. GEOGRAPHY IS ABOUT A YOUNG COMMODITIES TRADER IN

CHICAGO WHO LEARNED THAT BY STUDYING SATELLITE IMAGES OF RUSSIAN GRAIN REGIONS HE COULD PREDICT UPCOMING GRAIN HARVESTS.

IN POOR YEARS HE CORNERED THE ENTIRE CHARTER CONTRACTS OF GRAIN CARRIERS. THE WORLD HAD TO COME TO HIM. TODAY HE'S A MULTI-MILLIONAIRE.

GEOGRAPHY IS ABOUT CIVICS; SUSTAINABLE GROWTH, TRANSPORTATION; PLANNED DEVELOPMENT, PRESERVATION, CONSERVATION, AND OPEN SPACES. OR THE IMPLICATIONS OF CLIMATE CHANGE – THE LIST IS LITERALLY ENDLESS!

AS WE ARE PAINFULLY LEARNING IN THE UNITED STATES, GEOGRAPHY IS ABOUT UNDERSTANDING BOTH SHORT-TERM AND LONG-TERM IMPLICATIONS OF MASSIVE IMMIGRATION: ECONOMIC, CULTURAL, SCHOOLS, LANGUAGE, HOSPITALS, HEALTH AND WELFARE, AND MOST IMPORTANTLY, POPULATION DENSITY PATTERNS. AGING GOVERNMENT PERSONNEL HAVE ONLY RECENTLY REALIZED THAT AN AGING POPULATION HAS A DIFFERENT FERTILITY RATE THAN YOUNGER POPULATIONS.

LITTLE OF THE “NEW” GEOGRAPHY IS BEING TAUGHT TODAY. WE WILL NOT REALIZE THE POTENTIAL THAT HIGH-TECH OFFERS IF OUR YOUNG ADULTS REMAIN TECHNICALLY ILL-LITERATE.

FORTUNATELY, TEACHERS IN THE UNITED STATES ARE STEPPING UP FROM COAST TO COAST TO MEET THE CHALLENGE.

- THEY GIVE UP THEIR SUMMER VACATIONS TO ATTEND PROFESSIONAL DEVELOPMENT INSTITUTES,
- THEY JOIN GEOGRAPHIC STATE ALLIANCES OF TEACHERS AND PROFESSORS,
- THEY LOBBY POLITICIANS FOR MORE TIME IN THE SCHOOL DAY AND MORE MONEY – OR ANY MONEY -- FOR THE DISCIPLINE.

THEY ARE AN ARMY OF UNPAID VOLUNTEERS.

THIS PAST SUMMER OUR GEOGRAPHIC ALLIANCES PARTNERED WITH MUSEUMS, THE NATIONAL SCIENCE FOUNDATION, THE NATIONAL ENDOWMENT FOR THE HUMANITIES AND MANY OTHERS TO BRING TEACHERS EXCITING PROFESSIONAL DEVELOPMENT OPPORTUNITIES.

THEY WORKED WITH NATIVE INDIAN POPULATIONS.

THEY TRAVELED AS FAR AS BANGLADESH ON A FULBRIGHT-HAYS GROUP PROJECT FOCUSING ON NATURAL HAZARDS;

THEY ATTENDED WORKSHOPS AT CLARK UNIVERSITY, HOME OF GIS, FOCUSED ON “DESERTS AROUND THE WORLD AND THE PEOPLE WHO LIVE THERE”;

THEY DISCUSSED TOPICS AS DIVERSE AS GLOBAL CLIMATE CHANGE TO THE *CULTURAL DIVERSITY OF THE AMERICAN SOUTH*.

THESE TEACHERS ARE AMERICA'S MOST VALUED (BUT UNDERRATED) NATURAL RESOURCE.

IN EUROPE AND ASIA TEACHERS ARE REVERED; IN THE USA ALL TOO OFTEN THEY ARE IGNORED OR RIDICULED FOR POOR PERFORMANCE; WHEN THE BLAME SQUARELY LIES WITH FEDERAL AND STATE ADMINISTRATORS.

WE SHOULD DO WHATEVER IT TAKES TO GIVE TEACHERS THE VERY BEST TOOLS TO DO THEIR JOBS.

YOU WOULD NEVER SEEK OUT A DOCTOR WHO USES TECHNOLOGY FROM THE 1960'S.

WE ARE EXPLORING PLANETS. WE ENJOY INSTANT COMMUNICATIONS. WE ARE ENTERING A NEW WORLD OF BIOTECHNOLOGY AND ROBOTICS. AND YET, MANY OF OUR SCHOOLS OPERATE AT THE TECHNOLOGY LEVEL OF 1950 OR EARLIER.

HOW CAN WE HELP OUR TEACHERS WORLDWIDE? LET ME SUGGEST A FEW WAYS:

1. PROVIDE TEACHERS STATE OF THE ART, EXCITING HARDWARE FOR THEIR CLASSROOMS. CLASSROOMS SHOULD BE AT LEAST AS INTERESTING AND STIMULATING AS *BART SIMPSON* OR *I LOVE LUCY*.

2. PROVIDE TEACHERS THE SOFTWARE THEY NEED TO TEACH WHAT STUDENTS MUST LEARN TO COMPETE GLOBALLY. GEOGRAPHERS HAVE SPENT ENDLESS TIME CREATING NATIONAL STANDARDS FOR K-12 GEOGRAPHY.

NOW WE MUST SPEND EQUAL TIME CREATING THE SOFTWARE TO TEACH THOSE STANDARDS.

3. GIVE TEACHERS ACCESS TO PROFESSIONAL DEVELOPMENT SO CRUCIAL TO MASTERING TODAY'S TECHNOLOGY.

MANY--MAYBE MOST--TEACHERS DO NOT KNOW HOW TO, OR ARE AFRAID TO, BRING TECHNOLOGY INTO THE CLASSROOM.

INDEED, MANY TEACHERS FEEL THEIR STUDENTS ARE MORE COMPETENT WITH COMPUTERS THAN THEY ARE.

MAKE NO MISTAKE; THIS IS NOT ABOUT "DUMBING DOWN" TECHNOLOGY FOR TEACHERS.

QUITE THE OPPOSITE: THIS IS ABOUT TECHNOLOGY COMPANIES RISING TO THE CHALLENGE OF CREATING EDUCATIONAL

TECHNOLOGY TOOLS THAT TEACHERS CAN BE TRAINED TO USE.

THEN AND ONLY THEN WILL TEACHERS WHISK CHILDREN AROUND THE GLOBE TO MARVEL AT TODAY'S TECHNOLOGICALLY-CONNECTED WORLD.

HONESTLY, MY BET IS IF YOU DROP INTO K-12 CLASSES TODAY, MOST AMERICAN TEACHERS ARE NOT UTILIZING HIGH-TECH.

FROM SCORES OF CLASSROOM VISITS AND CONVERSATIONS I HAVE HAD WITH TEACHERS, I AM CONVINCED WE HAVE FAILED THEM. TECHNOLOGY IS SIMPLY INCOMPREHENSIBLE TO THEM. MOST K-12 HIGH-TECH PROGRAMS ARE SIMPLY NOT USER FRIENDLY.

I CHALLENGE YOU TO CHANGE THAT. IF I--AT AGE 76--CAN USE HIGH-TECH TO DRIVE MY BOAT, SURELY WE CAN PRODUCE MATERIALS THAT TEACHERS CAN EASILY USE IN THEIR CLASSROOMS.

THAT ONE CRUCIAL ACCOMPLISHMENT COULD DRAMATICALLY CHANGE THE PROSPECTS OF OUR KIDS GUIDING THE PLANET TO A BRIGHTER FUTURE.

I HOPE THAT IS A LITTLE FOOD FOR THOUGHT FOR YOU THIS MORNING.

I APPRECIATE YOUR ATTENTION AND LOOK FORWARD TO OUR
DISCUSSIONS.

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