High **LIGHTS**

a newsletter for members of Aurora

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Words from the Director

Welcome to Aurora HighLights!

Aurora, which includes us all, has been working on a new paradigm in learning. We may not think of it that way, and this in itself is important. A good paradigm involves making changes that bring with it solutions to professional and even personal needs. Aurora is a new paradigm, as it addresses systemic changes within not just schools but also communities. It is simple to use. It is highly collaborative within and between communities, while avoiding difficulties that come with it. It is real, having authentic rewards and results. Most important, though, it is just simply a blast to use. However, creating something of this nature has not been easy.

Much work has been accomplished in the last three years on professional, curriculum, and software development. It is amazing what we have all accomplished together! Hundreds of lessons will be ready for home-schooled, public and private K- 12, and university students this coming August. Lessons in ALL disciplines, including even sports, will begin being field tested this coming school year.

Everyone will be amazed at what GammaStream Technologies has up its programming sleeve, as GammaStream completes many of the wanted features for the Classroom and Information Centers. Users of the system shouldn't worry; the ease of use will still be GammaStream's most cherished feature.

Aurora Facts

- Over 2,000 educational activities will be completed and ready to be shared worldwide by 2002.
- To date, 546 teachers have been trained or have helped in GeogWeb curriculum development, while over 11,500 students have been involved. Additionally, 69 administrators and 751 parents are a part of the Aurora Project.
- An Aurora partner, Southwestern Education Development Laboratories, headquartered in Austin, Texas, has undertaken over 500 projects, totaling more than $120 million since 1966.
- In 1997 the Aurora Project was one of only 19 federal Technology Innovation grants awarded, out of 674 submitted. Aurora received $5.25 million for a five-year period, the third highest amount given nationwide.
- Thirty-six teachers from Enid Public Schools are involved in creating GeogWeb activities. Terry Sacket, twin brother of Projector Director Gary Sacket, is Enid's facilitator.
- 700 activities, complete with teacher, student, and parent guides, will be field tested, beginning in August, 2000.
- GammaStream Technologies, Inc., specializing in WebObjects programming, is the developer of Aurora's software applications.
- Kristopher Lemoins, a May graduate of Enid High School, will work his way through Oklahoma State University by creating digital maps and assisting OSU professors.

Partner Involvement

Historical Society Brings Past Into Present

The Oklahoma Historical Society is one of many contributing agencies working on the Aurora project. Bruce Joseph and Whit Edwards, Director of Education, have helped, as has Rodger Harris, Oral Historian. In fact, Harris presently has over 35 lessons listed on Aurora's website.

"We started with trying to create the most complex tools that we could," Harris said. "The student gets to enjoy technology and use basic research and all other skills in what we used to call 'whole language' (learning)."

The Historical Society provides tours of museums, reenactments of historical events, and interviews with historic people – all through the Internet, "the virtual approach," according to Harris. The past is no longer simply stored in books, but is available through technology in a variety of formats and places.

"Working on Aurora gives us a sense that all our agencies are working on a grand scale, but also locally," he said. "It's a wonderful project."

Harris encourages people to use electronic equipment and processing to do varied research projects, expressing themselves through photographic essays, digital imaging, films, recordings, and/or writings. He knows that the resources from the collections and archives at the historical society will enhance the learning process.

"All our Aurora activities are designed to address local geography," he explained. "We want people to talk to others who might have been impacted by World War II, Korea, or the Depression, always from a perspective of how it affected Oklahoma (or a local community or area)."

He says that some of the activities he has created are more technology weighted, while others take an archeological/historical approach.

The activities cover research on a plethora of topics, including such things as hot rods, pop culture, flappers, beatniks, hippies, and cemeteries.

Step-by-step instructions have been given for learners of all ages to participate in what Harris describes as "very oddball projects."

Odd or not, the activities should engage people in memorable learning experiences – thanks to the Oklahoma Historical Society, http://www.ok-history.mus.ok.us.

Aurora Features

Community Focus – Aurora itself is a learning community of teachers, students, family members, and agencies/organizations who navigate through the GeogWeb vehicle. Soon more people will join and begin to focus on both their individual and collaborative communities through shared information.

Portfolios – All Oklahoma colleges now require students to keep portfolios in their various departments. Aurora manages the portfolios for students in classes of university professors who use the GeogWeb server. Through a U.S Department of Education grant, Northwestern Oklahoma State University is taking the lead in this effort.

Data Center – The GeogWeb curriculum includes information from local, state, national, and international sources. Links to that information and to data from all Aurora partners, agencies, and organizations can be found on Aurora's home page on the World Wide Web at http://www.auroraok.com.

Lesson Highlights: From Fourth Grade to College – Everyone Gets in on the (Act)ivities

Elementary School – Fairview Fourth Graders Navigate Through Town

Rita Dick's fourth graders in Fairview will probably want to be the navigators on family trips from now on, since they recently learned all about map making and interpretation.

The students created personal maps, complete with a key to such places as their homes, the local swimming pool, the high school football field, and their best friends' homes. Some even included churches, schools, and/or parks.

It was a fun project, according to the kids, helping them learn more than just how to locate something on a map. They also learned how to make a map grid, read a compass, determine distances, and use a computer.

Dick says she is still refining the project, which she originally entitled "Gridding Your Own Community Map" before changing to "Using a Grid on a Map."

The students drew their own maps of their individual neighborhoods or town and then used grid sheets to mark locations. Some students made their own grid, with lines in even columns and rows, marked 1, 2, 3, 4, etc. and A, B, C, D, etc.

Students were given options. If they didn't want to draw their own map, they could log on to the Internet at http://mapping.usgs.gov/ to use government-made maps or go to Aurora's web pages to use GeogWeb's maps of cities in Oklahoma.

Rita Dick helps Cash Parsons, Brock McKee, Kaleb Turnham, and Tyson Winegeart mark grids on their individual maps.

"It seemed overwhelming when we first started (the project)," Dick said, "but the kids got excited. They helped a lot by going through it step-by-step, editing it so they could use it themselves."

As with all the GeogWeb lesson plans/activities, there is a student guide and parent guide, in addition to the teacher guide. Specific instruction is given on how to use the available tools for the lesson.

If any Fairview fourth grader grows up to be a bus driver, ship's pilot, astronaut, or any other navigator, he/she should probably thank Rita Dick.

"It seemed overwhelming when we first started (the project), but the kids got excited. They helped a lot by going through it step-by-step . . ."

High School –

Portrait Mosaic: A Scientific, Geographic, Sociological Look At A Class

Beauty is in the eye of the beholder – and if you could behold the composite portraits of Terry Sacket's classes at Enid High School, you would be surprised!

Students were surprised, too, at the results of a class project

"What we learned is that no man's face is perfect," Sacket said, in explaining the project, but he feels that the good and bad facial features average out, resulting in an image that the beholder could define as beautiful.

Sacket's students learned much more than what the class resembled as a whole, in the composite facial image.

In the area of science, students learned how to process photos from the Internet and how genetic traits (such as large ears) are portrayed in a composite picture. From a geographical perspective, they learned that a composite picture taken in the Enid schools would look much different from one taken in Anadarko, which is 60 percent Native American, as compared to Enid's six percent.

The sociological make up of the class was reflected in the picture, too. For instance, in one glance at the image on the computer monitor, a viewer could determine whether the class was predominantly Asian, black, female, etc. The students also calculated percentages using data on the class.

The activity began with the face of each of Sacket's students in a particular class being digitally photographed in a close-up pose. Then the images were aligned and layered, via the computer, on top of each other. Each layer changed the look of the first photo, until, after about 20 layers, the composite was complete.

In one glance at the image on the computer monitor, a viewer could determine whether the class was predominantly Asian, black, female, etc. (Also) a composite picture taken in the Enid schools would look much different from one taken in Anadarko, which is 60 percent Native American, as compared to Enid's six percent.

Interestingly, some portraits looked "feminine," with feminine traits predominant, even though males outnumbered females in the class.

Sacket said the activity was extremely successful with students, who sharpened their critical thinking skills while having fun learning.

College Classes –

Teaching Teachers to Teach Creatively

Dr. Brian Campbell, professor of Science Education at Southwestern Oklahoma State University, has spent many weekends, in his words, "locked in my office/study, sitting in front of my computer" developing activities for the Aurora Project – thirty- seven lessons/activities, to be exact.

"I'm impressed that educators across Oklahoma have gotten together to develop a comprehensive educational program such as this," he said. "It's an outstanding program whose time has not only come, but is well overdue."

When writing the guides for teachers, students, and parents, Campbell has tried to integrate Aurora activities into the science education courses that he teaches.

"We use the activities in my Geology Applications and Physical Science Applications classes," he said. "Those classes are designed for educators who are going into the field."

Noting that it sometimes takes the developer six or seven months of work on an activity before it is put on the Internet to be shared with others, Campbell said, "I like the activities where students build objects. I've tried to aim at the elementary level – meteorology, the direction of the wind, identification of the moon phases."

He thinks data collection and dissemination, among other technological aspects of Aurora, make it unique.

"It's an outstanding resource for educators," he said, citing as an example an activity he created using plate tectonic identification in determining the location of an earthquake.

Having completed research in grades kindergarten through twelve, plus having been a teacher of fifth through ninth graders and a professor of college students, Campbell is highly qualified as a curriculum developer.

On a trip to the Witchita Mountains, Brian Campbell's students learn facts that they can eventually share with their own students.

His teaching specialties are just the icing on the cake for GeogWeb development. His Bachelor of Science degree was awarded at the University of Wisconsin, Platteville, with two Masters of Science following that – one in geology and the other in science education, from the University of Iowa. His specialties were cognitive development and geology. He also has a Ph.D. in science education from Iowa.

"Aurora is such a worthwhile project," he concluded. "It would be nice to see others who aren't involved now, become aware and get involved."

Others would have a lot of catching up to do in order to keep up with this busy professor.

Aurora Personality

Let's Meet Scott Taylor

Anadarko Middle School teacher Scott Taylor has not been on the Aurora team since its inception, but all Anadarko schools just got wired for the Internet, so now he can go to work (with Aurora activities, that is)! He is already one of those people who always stays involved in work, work, work.

In addition to teaching seventh and eighth grade geography and ProTeam (the middle school equivalent of twelfth grade Teacher Cadets), Taylor coaches both middle and high school tennis. He is also in the Army Reserves, and just completed his master's degree at Southwestern Oklahoma State University.

An Anadarko native, Taylor received his bachelor's degree at East Central University. He has taught six years in Anadarko, and according to Superintendent Tom Cantrell, "We're lucky to still have him here."

Cantrell noted that Governor Frank Keating recently appointed Taylor to the State Textbook Committee and that the young teacher also received a $4,900 geography grant for next year.

Taylor is excited about the grant, called Operation Pathfinder, which will make geography fun and challenging through an outdoor, hands-on learning laboratory. Located on about ten acres of land, the "geo lab" is being set up this summer.

Taylor is completing some coursework at SWOSU while simultaneously setting up the outdoor laboratory.

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In the photo above, Gary Sacket, left, and Don Wilson, right, talk to Scott Taylor about the geography grant which will enable Taylor to set up an outdoor laboratory for middle school students to learn more about geography.

("Taylor" continued)

Taylor says he is fortunate to have many outstanding resources available, including Western Farmers Electric Cooperative, Caddo Abstract Company, the Bureau of Indian Affairs, and the United States Army Reserves, who, incidentally, will provide training materials and help teach students the fundamentals of land navigation and map reading.

"Dr (Bill) Miller, Chairman of the Oklahoma Aeronautics and Space Commission, is going to help set up the land navigation laboratories," Taylor said, adding that Miller was commander of Taylor's ROTC unit several years earlier.

"Dr. (Bill) Miller, Chairman of the Oklahoma Aeronautics and Space Commission, is going to help set up the land navigation laboratories."

In regard to the project's title, Taylor explained, "Pathfinder is the title for a soldier who secures a landing zone for the rest of the unit or group to follow. This lab will provide hands on learning . . . enabling the students to become ' pathfinders' and to establish an exceptional knowledge base of geography."

Geography isn't the only thing the kids will learn, however. Taylor says the project is cross-curricular, covering health and wellness, math, and science and the environment, as well as many other disciplines.

"Students will be given instruction on how to use a lensatic compass, how to read a topographic map, and how to use a global positioning system," he said. "Then they will go to the geo lab and plot points and find them. Additionally, they will learn orienteering, relying on their ability to associate terrain to find a point."

Operation Pathfinder is something that Taylor is eager to share with Aurora.

"I anticipate that lesson plans and materials for learning will be developed and disseminated through Aurora," he said. " After approval, the activities could be put on Aurora's web page for other educators to use."

Don Wilson, who advised Taylor in his master's degree work at SWOSU, feels that there are unlimited numbers of Aurora activities that could be incorporated into Operation Pathfinder.

"This would be a good tool for Aurora – of how to set up the geo lab with orienteering and land navigation," Wilson said.

Taylor agreed, stating, "I'm excited because it's hands-on activities, so the kids will remember it."

"And they'll love it," Wilson added.

Tasks Underway

Clinton teachers Marie Poole and Sue Ayn Moore are working on performance assessments for the 700+ Aurora activities.

Terry Sacket continues to work on data forms for the seemingly endless pieces of information generated by hundreds of educators who work on Aurora development.

Southwest Educational Development Laboratory (SEDL) film crews are preparing Aurora Project videos to be shown in five states – Arkansas, Louisiana, New Mexico, Texas, and Oklahoma.

At least two major grants have recently received funding, thus helping to propel Aurora's vision far into the future. SEDL's Regional Technology Educational Centers grant will help provide technical assistance for Aurora. Also, Northwestern Oklahoma State University was awarded a "Preparing Tomorrow's Teachers to Use Technology" grant. Gary Sacket is working to secure other funds for Aurora and contributing partners.

As more schools and homes become wired for the Internet, more teachers will search for credible classroom activities. They will find the GeogWeb curriculum filled with enticing ways of looking at new and even old lessons/activities.

Aurora Calendar

August 29 – Board/PF meeting
September 8-9 – Innovation Configuration meeting
September 19 – Board/PF meeting
October 6 – Board/PF meeting at Rose State College
October 7 – Fall Conference, especially for teachers new to Aurora
November 28 – Board/PF meeting
December – no meetings
(All meetings are at Bishop McGuinness High School in Oklahoma City, unless otherwise listed.)

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