Title of Session: Math and Technology
Moderator: David Weksler
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DavidW: Hi, Sheryl. Welcome

SherylM: Hi, David, Thanks

DavidW: Want to talk about math stuff, Sheryl?

SherylM: sure; always read to talk; what's up in the math world

DavidW smiles

DavidW: well, there's the EQUITY question...better teaching for all

SherylM: I am taking that Algebra Reasoning class that Drexel U has online

DavidW: really? cool

SherylM: Equity is an issue

SherylM: You know that I think the rural urban equity issue is not being very well addressed

DavidW: rarely is

DavidW . o O (fewer people, for one)

SherylM: Yea, but technology can make that irrelevant

DavidW: oh, yes...

DavidW: First real efforts at distance education were usually in the west (Montana, for example) and trying to provide (often) advanced math education to just a few students dispersed over a very wide area

SherylM: I also have an equity issue with the farther from the coast the fewer quality projects and professional development opportunities

SherylM: One of the very best online professional development opps I have had in the last decade was through McREL and Colo Sch of Mines

DavidW: What was the focus?

SherylM: Earth Science and integrating into a middle school curriculum

SherylM: John Ristvey and Dr. Donna Bogner

DavidW: I'm quite interested in what may come from the just completed Shuttle flight with the first Education mission specialist

SherylM: We were in teams, but our teachers used chat and email to directly involve us from the beginning.

DavidW: I would hope we can get a lot of people using NASA stuff - there is so much that is really fantastic

SherylM: Yes, but there system is terribly diffuse in structure, so the ordinary teachers without support have difficulties using it.

DavidW: but, a lot of the challenge seems to be providing opportunities for people to try new things without the pressure on test prep

DavidW: science in the state of Kansas has had some interesting "ups and downs" the last few years

DavidW winks

SherylM: yea, we used to have really high quality prof dev supported by NSF, NSTA, but they haven't been very supportive for almost 2 decades. The news you have heard about, I believe is a direct result of decades of neglect and non support from our peers and funding groups.

DavidW: Tell me a little about the Algebra Reasoning class, Sheryl...I'm curious what it is looking at

DavidW thinks

SherylM: I just started, but the main focus of the class is to help upper elementary students use, effectively, algebraic reasoning in their math learning. The focus is to help the teachers build those reasoning skills

SherylM: We have had a survey and some other activities.

DavidW: What does algebraic reasoning look like in 5th grade?

DavidW: Algebraic reasoning gets thrown around a lot as a term - I'm often unsure what

it refers to at different levels

SherylM: yes, I was a very lucky little girl...I learned the "New Math" from the first grade on, so I only think algebraically, LORL

DavidW smiles

SherylM: In a nutshell, it is all the reasoning that surrounds the variable

DavidW: Let me show you something pretty cool - might address this is a way

SherylM: I think what prof dev people try to do is simulate the scientific method in the math perspective. Think

SherylM: A different way of thinking for many people

DavidW: well, it's about asking questions, I think...ultimately

SharonWB joined the room.

DavidW: Hi, Sharon. Welcome

SharonWB: Hi David and Sheryl.

DavidW: Sheryl, take a look at:

SherylM waves at Sharon

DavidW: http://tools.google.com/gapminder

SharonWB: David ... Jeff and I have talked, briefly, about ways to collaborate with the NASA room and the Science Resources room

DavidW: cool

SherylM: You know David, I was really impressed with Squeak and the other MIT programs from the TI festival

SharonWB: BJ wondered if there might be ways for us (you and me -- us) to collaborate, too

DavidW: I'm excited about whether there will be more NASA stuff coming with the completion of the shuttle flight

SharonWB: There are some great STS-118 resources that I can add to the room

DavidW: Well, in the past 13 days (because of STS-118) I was thinking about that a lot

SherylM: I really like the cloud and bubble representations that are being used more in online data analysis

SherylM nods

SharonWB: There are also some sites that I've pulled together that offer teachers a chance to pool their students' data into global data

DavidW: What were you thinking about Squeak, Sheryl?

DavidW: I was going to talk a little bit about some online data analysis tools that are popping up on the web

SherylM: the similarity to logo was impressive, because so many educators and researchers think they have to reinvent the wheel

DavidW: If you click on the labels for both the vertical and horizontal axes, you can change the data (some interesting demographic categories) for that basic chart

DavidW: Well, I think Squeak draws a lot on the history of Logo - user construction

SherylM thinking and looking at the graph

SherylM: yes

DavidW: One of the great examples of POORLY presented data was the solid rocket boosters and temperature prior to the Challenger Flight

SharonWB: David and BJ ... I can update the NASA Resource site. I apologize for being negligent to the site.

SherylM: I really like the way many variables are available; really cool; I will pass this on.

DavidW: it's about asking questions with numbers and seeing how information can reveal something useful

DavidW: Sharon, I wouldn't say you have been negligent...

SherylM there is always lots to do!

SharonWB: But I have ... I love the work that you all do here ... I just get sidetracked and swamped by other things.

DavidW: Bj and I may disagree on this, but I tend to believe that the active discussion of tools among educators tends to elucidate more about how one might use them

SherylM shakes her head in agreement

DavidW: It's like building an online resource - as it gets more complicated, you need a guide, a librarian (cybrarian) to focus on particulars

DavidW: Otherwise, it's too much information

SharonWB: David ... What about this plan ... I'll update the site ... and then get back to you and Jeff about ways that we can collaborate.

SherylM: Sharon, on what part of NASA work do you focus?

SharonWB: Mostly elementary and middle school resources and curriculum

DavidW: I think that sounds great, Sharon - please don't feel under any OBLIGATION to collaborate...it might be nice to tease out some of the math content from some of the stuff you are highlighting

BJB2 . o O (there is a follow up discussion of Squeak on October 1)

SharonWB: The NASA CONNECT series is designed to show "realworld" applications for middle school math

SharonWB: That would be a good connection.

DavidW: I typically find the NASA folks at NCTM and NECC to find out what they have developed recently for education use

SharonWB: And ... we're working on some AP and Algebra problems that center around the Vision for Space Exploration.

SharonWB: Those are going through review now.

DavidW: cool

SharonWB: They are very cool.

SharonWB: The content and background piece introduce different topics in the return to the Moon.

SherylM: I don't know if you share much with the solar people, don't know what the dept is, but Liz Pumfrey is one of the prof dev

SharonWB: And ... once again ... the plan is to show an application of the math.

SharonWB: I've done some work with the Sun-Earth Connection folks at Goddard

DavidW: I think many teachers, unless they've had some direct contact with NASA programs, tend not to think about what might available from NASA for K-12

SherylM: Yes, that's them

SharonWB: I've worked with Troy Cline and Elaine Lewis

DavidW: Sharon, do you know who Laurie Anderson is?

SherylM: Yes, Elaine Lewis is a person I would think would be a great collaborator

SharonWB: BJ ... once I update the room and talk with Jeff ... I'll be happy to run a session if you'd like

BJB2: cool, Sharon!

SharonWB: Elaine is wonderful. I was involved in two webcasts with them this past year

DavidW: That would be great, Sharon

SherylM: Sharon, who is Ron Balke? Is he a real person? I first started receiving newsletters from him with the Galileo project

SharonWB: Did I show you the work that I did for the Greenland Space Science Symposium?

DavidW: Also, if you give me a heads-up, I would be happy to work on some math threads...we might be able to create an interdisciplinary session

SharonWB: I don't know someone named Ron Balke. Sorry ...

SharonWB: That would be fun!

SherylM: LOL, I don't think he is real. I think the name is just used for the Galileo and other projects

SharonWB: Could be.

SharonWB: I've also worked with Sten Odenwald.

SharonWB: He runs the astronomy cafe.

SherylM: OK, I have been there, but I haven't had much contact with that group.

DavidW: Sharon, with the teachers you are working with, what are the things they are most interested in...what do they "need", in your opinion?

SharonWB: Sten also has math problems that he'll sends out monthly.

SharonWB: Need as in ... content? skills? resources?

SherylM: I have two particular interests, one is the sun and solar concepts and the other is CO2 interactions and earth cycles.

DavidW: Sheryl, do you know about my friend, Ihor Charischak's, Noon Day project?

SharonWB: Sheryl, when you say the sun ... are you also interested in space weather?

SherylM: I was really so sorry about the Genesis Project.

SherylM: Yes,

DavidW: http://www.k12science.org/noonday/

SherylM: Yes,

SharonWB: Last May, I was able to go to Greenland to interview space scientists ... and many of them talked about space weather.

SharonWB: Go to ... http://www.nortellearnit.org/nia_nasa/greenland_symposium

DavidW would have thought scientists in Greenland would be talking about melting ice

SherylM: Yes, I have been there. It is great.

SherylM: I will check out the Greenland symposium

SharonWB: You'll find 38 individual interviews with the space scientists

SherylM: cool

SharonWB: I asked them questions that my students asked.

SharonWB: And I also asked them about what interested them in studying space ... attributes needed to succeed ... ahah moments in their research

SherylM: I think scientists always like that...they are rather like authors in that regard, I

think

SharonWB: There's a lesson plan there that connects lots of space weather resources together.

SharonWB: It asks students to study different aspects of the sun and space weather

SharonWB: There's also info on how to set up a space weather action center from Goddard

SherylM: In these areas of science there is really no way to separate math and science, so it is a wonderful area for integration

DavidW agrees

SharonWB: And there's a chance for a cultural study too

SharonWB: We also talked about life in Greenland.

SherylM: I hate to bring this up, but the evolution issue isn't just a problem for biology, but also for physics, chemistry and astronomy. I had students who would not accept the concept of Red/Blue Shift and the time connection because of the evoblinders. It is really sad.

DavidW: interesting

SherylM: scary too

DavidW . o O (fossils, geology?)

SharonWB: How did you deal with this?

DavidW . o O (oil)

SherylM: Yea, you know those all came about in the flood and they also won't believe in atomic decay.

SharonWB: BJ, David, Sheryl ... I enjoyed talking ... but need to go.

SharonWB: BJ ... I'll work on an update tomorrow.

SharonWB: Thanks!

SherylM: Thanks Sharon; can't wait to learn more

SharonWB: Bye

BJB2: great. Good talking with you, Sharon

SharonWB left the room (signed off).

DavidW: well, that was nice

SherylM: yes, it was

BJB2: the resources are available...it's a matter of collaboration

SherylM: I agree.

DavidW: So, the students "don't accept" that the observations are valid, Sheryl?

SherylM: No

DavidW: Is Sharon on the schedule in September, BJ?

BJB2: not yet [Ed Note: Sharon will be a guest speaker for the September 4 Science Resources discussion.]

DavidW: what about the observation of the sound of a siren as it comes toward you and then goes past you?

SherylM: The religious leaders in this area even use the scientific process as a weapon against science. When scientists disagree, they use that to "prove their idea of genesis"

DavidW: Do you know about the National Center for Science Education (I think that's the group)?

DavidW checks

SherylM: Well, LOL, they don't even understand the connection between the Doppler effect and the Shift

SherylM: Yes

SherylM: This whole last decade has been very discouraging, because the "scientists" and universities abandoned us to the radicals.

DavidW nods

DavidW: I think it is a difficult task - to take on someone's beliefs

SherylM: We had a great Earth Science Teachers group. I was president in the late

1990's.

SherylM: There is still a very small group, but there is little interest among younger teachers.

DavidW: I wanted to mention this to you, Sheryl - granted it's not in Kansas, but...

DavidW: http://www.k20center.org/

DavidW: Have you come across this group?

DavidW: Pretty active throughout Oklahoma

SherylM: Well, I could wallow in this Pity Party Pool, but it doesn't really help. I just would like other people outside our state to empathize, to understand our burden. LOL

DavidW: I met one of the outreach people at NECC in Atlanta - I'm hoping he will actually lead a discussion about the project in TI

SherylM: Actually, no, but I will look it over. It looks really helpful and interesting.

DavidW: They seem to be actively connecting K-12 schools and the University of Oklahoma...

DavidW: They seem to have a lot of money from various funders (NSF, Gates Foundation, etc.)

DavidW: And, they have a fairly broad reach across the state

DavidW: I was really excited about the integration - just to NAME themselves "K-20" got me interested

SherylM: Oklahoma has some national groups such as the weather research center at Norman and other groups that are strong enough to balance the "other side".

SherylM: They also have the Effective Schools Research center at OU

BJB2 looks at the clock on the wall

SherylM: Well, BJ, on another topic, some ladies joined today and were asking questions all over the place. I helped them some, but I am sending you a transcript of our conversations. They want to start a K=12 group

DavidW: I think they have not done much outreach (or publicity) outside of OK - Quyen Arana suggested that might be something they are more interested in now

DavidW: Sounds good, Sheryl

SherylM waves goodbye!

SherylM: Have a great evening!

DavidW: There is a link on the main web page with instructions for starting a K-12 group

DavidW: You, too

DavidW: Thanks for joining in

SherylM: OK, I will look at it. These gals were talking as fast as they could think with no internal monitor.

DavidW: TYPE IN UPPER CASE

DavidW: often that gets people's attention

DavidW smiles

SherylM: see ya, David...BJ

DavidW: Take care

DavidW waves

SherylM waves back