**Title of Session:** A New Model of Science Curricula and Instruction
**Moderator:** Kimberly Lightle
**Title of File:** 20080603middleschoolcurric
**Date:** June 3, 2008

Room: Middle School Portal Group

**KimberlySL**: Hi all - I was just cleaning up the kitchen. Thanks for coming

**BjB**: Kim, any questions about your session tonight?

**KimberlySL**: Not really - this is a new mode of communication for me so I'm pretty slow at chatting - but I do have some questions ready to go and places for people to investigate

**BjB** nods. Sounds good :-)

**KimberlySL**: Hi I'm Kim Lightle from Ohio State University. I have been working with inservice and preservice math and science educators for over 15 years. One of my projects is the NSDL Middle School Portal - we've been working with NMSA and produced a webinar that is the basis for tonight's discussion.

**AlG**: Hi Kim.

**AlG**: ok

**KimberlySL**: Hi Al

**KimberlySL**: I've never led one of these before so please help me out!

**BjB** . o O ( Al has already looked at the document you have featured, Kim )

**KimberlySL**: The presentation URL of the webinar can be found under #2 in the whiteboard. The entire recording should be available on Thursday.

**KimberlySL**: I detached and it is easier - thanks

**KimberlySL**: Would you like to introduce yourselves?

**AlG**: Sure

**BjB**: Hi, I teach remedial communication and am located in south central PA

**AlG**: I'm Al and I teach 6th and 7th grade Science at Chimacum Middle School in WA. Next year I'll be teaching 6th and 8th grade Science. The 8th grade class has been with

me since they were 6th graders.

**BjB**: how cool...do you like that, Al?

**KimberlySL**: Wow - you have really been able to see them grow

**AlG**: Yes, it has been great. They are a wonderful group of kids and I've been enjoying working with them tremendously.

**AlG**: I'm a little nervous because next year when they take our state's Science assessment it will all be on me! :o)

**BjB**: here's the url Kim mentioned that is on the whiteboard: http://onramp.nsdl.org/eserv/onramp:884/NewModel_NMSAPresentation_052908.pdf

**KimberlySL**: I would like to focus on the Ready Set Science document - we'll go there in a minute. The book describes a new way to look at science and curricula - teaching core concepts, learning progressions, and the four strands of science proficiency

**KimberlySL**: the idea of core concepts doesn't mean a mile wide and inch deep

**BjB**: Ready Set Science Doc: http://www.nap.edu/catalog.php?record_id=11882

**BjB** . o O ( that puts it in the transcript )

**AlG**: Cool, that really helps.

**AlG**: I love those transcripts.

**KimberlySL**: That's good. Click on the RSS (Ready Set Science) URL and give the chapter titles a once over

**RebeccaA** joined the room.

**KimberlySL**: Hi Rebecca

**KimberlySL**: We're looking at the RSS (Ready Set Science) book at http://www.nap.edu/catalog.php?record_id=11882 - we'll meet back here in just a couple of minutes

**RebeccaA**: Hi there. Without taking up others' time, could you tell is this an open discussion.. how does it work?

**BjB**: Rebecca, take a look at the url Kim showed you

**BjB**: and then we'll come back to this chat and discuss it

**KimberlySL**: BTW - all the National Academy Press books are available free but the pictures and images are missing online - so its a trade off

**KimberlySL**: Decreasing the number of topics presented, focusing rather on a few core concepts in science (the What)

**KimberlySL**: Developing a research based learning progression (the When)

**KimberlySL**: Facilitating science proficiency so students acquire scientific habits of mind as well as process skills and content knowledge (the How)

**KimberlySL**: I just put three comments up - what about the first statement - decrease the number of topics presented

**KimberlySL**: Teachers - do you think about science concepts or topics when you teach? Is it difficult to "cover everything"?

**RebeccaA**: I fully agree.. but I also teach in a particular situation.. school specifically for students with language based LD's.. (dyslexia, etc).. so fewer topics is the way to go. I pick and choose and come up with my own material. I think that for all students, LD or not.

**AlG**: As a matter of fact, I don't get to everything. I teach from the STC/MS kit (from Carolina Biological) on Energy, Machines, and Motion and we take more than the time the teacher guide says to take.

**KimberlySL**: Do you get in "trouble"?

**AlG**: With 6th graders.

**KimberlySL**: How do you decide it's time to move on?

**AlG**: No, my district is very flexible. They let us, the teachers, determine the curricula and how long we take.

**KimberlySL**: That's wonderful

**RebeccaA**: That's good.

**AlG**: Now our Elementary is part of a coop and they are bound by the time the kits are available.

**AlG**: The downside is that we only have one kit for the entire middle school. Everything else we have to create. And with little budget.

**RebeccaA**: How big is the middle school?

**KimberlySL**: Chapter 4 of the RSS book describes some core concepts but there is no definitive list - The NSES and Benchmarks have given us some guidance.

**AlG**: We only have 237 students 6-8.

**KimberlySL**: sorry to hear that you have such limited resources

**AlG**: Yes, Kim, have you heard of the Science Curriculum Topic Study book by Page Keeley?

**AlG**: Limited resources make this so difficult. At least with a kit we have something to go by.

**KimberlySL**: I'll give Page's book a look - thanks

**AlG**: http://www.curriculumtopicstudy.org/

**RebeccaA**: Some of those Carolina kits I have duplicated with whatever is on hand.. Easy for me to say, I know that's a lot of students.. and a lot of the science games that get purchased from the companies can be made out of whatever as well..

**KimberlySL**: So core concepts, learning progressions, and scientific proficiency - please open up the document under featured items - I want us to look at the four strands

**AlG**: That's what we've been trying to do here, Rebecca. Once the school year starts all bets are off! We use whatever we have on hand :o)

**KimberlySL**: the one to open is Scientific Proficiency Rubric

**AlG**: page 14?

**KimberlySL**: Look at the Featured Items on the Welcome Page for the Middle School Portal room - it is the last one

**AlG**: Thanks, I found it.

**KimberlySL**: Good

**RebeccaA**: I went to the site, but I can't figure out where you are looking...

**KimberlySL**: Go back to the Welcome page (where you came into the chat) and look at the bottom left of the screen - it says Featured Items. Do you see it now?

**RebeccaA** left the room.

**KimberlySL**: The Four Strands of Scientific Proficiency Students who understand science:

**KimberlySL**: 1. Know, use and interpret scientific explanations of the natural world.

**KimberlySL**: 2. Generate and evaluate scientific evidence and explanations.

**KimberlySL**: 3. Understand the nature and development of scientific knowledge.

**KimberlySL**: 4. Participate productively in scientific practices and discourse.

**BjB**: oops

**KimberlySL**: Hope Rebecca can find her way back

**AlG**: I think she left to try and find the document.

**BjB**: she's in reception. I'll try to get her back here

**KimberlySL**: Scientific Proficiency is described in the RSS book as a four stranded rope and that you have to have them all to by scientifically proficient - look at the four strands - are some harder to "do" that others when you plan instruction?

**RebeccaA** joined the room.

**BjB**: good job, Rebecca

**KimberlySL**: Glad you're back!

**RebeccaA**: It will take me a few times before I figure this all out..

**AlG**: I think for kids, the metacognitive is most difficult. I'll next year if they better by 8th grade because as 6th graders it's hit and miss.

**KimberlySL**: I'm in the same boat!

**KimberlySL**: They are not very deep thinkers!

**BjB**: Rebecca, Kim was pointing you to the screen above your chat...the one with the welcome note. Below the note is Featured Items

**KimberlySL**: So the rubric that I had you look at - we were trying to help teachers in both their planning and in assessing students progress towards science proficiency - any feedback would be appreciated

**AlG**: No, and getting them to explain their thought processes, much less those of others, is sometimes like puling teeth.

**RebeccaA**: I teach 8th graders, and while they can be 8th graders.. they are starting to have intellectual thought,,,

**KimberlySL**: It really is wonderful when you see the lightbulb go off

**AlG**: That's good to hear!

**RebeccaA**: Yes.. it can be like pulling teeth, but critical thinking has to be taught, and the question is how..

**KimberlySL**: http://msteacher.org/science.aspx - wanted you to look at one more resource that really helps with the science proficiency - click on the link and read one of the Connecting News Blog posts

**KimberlySL**: The ideas in the posts are to help students (and their teachers) to think like scientists and to start to a discourse around scientific research - the nature of science

**RebeccaA**: those inquiry based lessons are great

**KimberlySL**: Thanks!

**AlG**: Wow, they all have a how to turn into an inquiry based lesson?

**KimberlySL**: We've also tried to get at the core concepts to a certain degree by our Explore in Depth pubs - http://msteacher.org/science_pubs.aspx

**KimberlySL**: Yes - we started the blog back in October and we chose articles that would be available in the long term and we've added a new post almost every week

**RebeccaA**: my background was originally fine art.. science and art are very similar in the thinking. So to get kids thinking in that vein, when we discuss I lead it as though it is a critique and the students have to come up with the why's and hows and even something simple like that gets the kids using their nogins..

**AlG**: Fabulous! I wish I had had the antibiotic resistance one earlier this year. Too bad the school is almost over!

**KimberlySL**: I just remembered one more thing - if you do lesson study at your school the Ready, Set, Science book would be a really good one to use - there are discussion questions for each chapter at http://books.nap.edu/openbook.php?record_id=11882&page=171

**AlG**: Lesson study or book study?

**KimberlySL**: About the Antibiotic resistance - we'll check all the links and update the posts but they will be available next year

**AlG**: Excellent!

**KimberlySL**: Book study - oops

**AlG**: That's a great idea, Rebecca.

**AlG**: I like the art angle.

**KimberlySL**: I've done crit labs (which come from art) in my science classrooms - it goes both ways - great idea

**KimberlySL**: We are going to have monthly chats about important math and science topics at the middle level - do you have any ideas for topics?

**AlG**: It sounds like the Ready, Set, Science book uses the learnings from the book How People Learn. We have a Science partnership here in the northwest and we used the three principles in that book to discuss how kids learn Science.

**AlG**: Those principles make good topics.

**AlG**: Questioning strategies is another great topic.

**RebeccaA**: sorry, I stepped away to try and check out discussion questions offered in the Ready, Set, Science..

**KimberlySL**: There was a book called Taking Science to School: Learning and Teaching Science in Grades K-8 that was the forerunner of RSS - the URL is in the resource list

**RebeccaA**: Yes! Questioning strategies..that's a great one. LD kids, which I'm sure anyone teaching in the public schools has a few or more.. whether diagnosed or not, one of things is that they have a very difficult time formulating questions. That's a good one for all kids..

**KimberlySL**: http://www.nap.edu/catalog.php?record_id=11625 - Taking Science to School

**AlG**: I have to keep reminding myself that RSS is the book. I keep thinking of blogging and RSS feeds. LoL

**BjB** smiles. Thanks, Al...I am doing the same thing!

**KimberlySL**: Sorry about that!

**AlG**: Questioning is also how I remind myself to NOT answer kids questions. Kids stop thinking when we answer questions and inquiry is all about having THEM find the answers (caps for emphasis, not shouting).

**KimberlySL**: I keep saying one more thing but... http://beyondpenguins.nsdl.org/issue/index.php?date=June2008 - click on Equity under Professional Learning. Rebecca - would you be interested in writing a column about questioning and LD students?

**BjB** looks at the clock on the wall. Kim, did you have a date in mind for your next discussion?

**AlG**: Hey Bj, are the links in this chat box live? I click on them and get nothing.

**RebeccaA**: Yes.. on both counts.. yes to what Al said about kids questions and to writing a column..

**BjB**: Al, they should be, but it may be the browser or platform you're using

**RebeccaA**: This was great. I'm looking forward to the next one.. and now I look forward to some dinner.

**AlG**: Firefox 2 on a Mac running 10.4

**BjB** . o O ( an alternative is to go to Actions and click on send to pasteboard...then copy and paste the urls into a browser )

**KimberlySL**: That would be wonderful - I'm not sure if I can email you specifically within Tapped In - would you please email me at lightle.16@osu.edu ?

**BjB**: try Safari on a mac

**AlG**: Cool, I can do that.

**AlG**: I'll try Safari next time. Like Firefox so much better tho

**KimberlySL**: Thanks so much for attending - I appreciate all the feedback

**AlG**: Thanks, the website and the RSS book are awesome resources!

**BjB**: Thanks, Kim. Send me an email when you have the date for your next session.

**RebeccaA**: Yes.. thank you for all the sites! I will share them with others at my school. And was the e-mailing directed at me?

**KimberlySL**: Rebecca - yes - email me and I can get you information about writing an article. Thanks

**RebeccaA**: Right-ee-o! Have a good night everyone.

**AlG**: Good night

**KimberlySL**: BJ - I'll send you an email. I'll be on tomorrow with the Beyond Penguins event. This is really fun. Thanks, Kim

**BjB** smiles...see you then!

**AlG**: Bye, Bj and Kim