

Math and Science Advisory Council Minutes

3-18-09; 10 am – 4:00 pm
State Library, Santa Fe, NM
Pinon Room

In Attendance: Brian Every, Kim Thomas, Joyce Kaser, Bob Eisenstein, Ted Stanford, Irene Lee, Ellen Levy, Jonathan Wolfe, Ed Spivak, Richard Nygren, Phyllis Baca, Tom Gruszka, Cathy Kinzer, Lorenzo Gonzales (arrived after lunch), Claudia Ahlstrom, Pascal Buser, Mary Jo Daniel, Felicia Leyba (note-taker)

Guests: Rick Scott, Gloria Rendon, Peter Stacey, Cliff Ross

Theme: Next Steps for Moving Forward

After welcoming all in attendance, guests were asked to introduce themselves. Visiting were: Peter Stacey from UNM, Rick Scott from HED, and Cliff Ross from Earth's Birthday Project. The agenda was reviewed and a discussion of input for ARRA suggestions was added to agenda during the lunchtime.

The Chair welcomed and introduced Dr. Gloria O. Rendon, Assistant Secretary for Instructional Support and Vocational Education. Dr. Rendon thanked the Council for their work and described some of her experience working in Santa Fe Public Schools, including establishing a science resource room at an elementary school.

Dr. Rendon responded to questions raised by Council members. Some of the points she made:

- NM Project 2012 has been well accepted at the PED; she doesn't anticipate or want it to "just sit" and not be acted upon
- We need to help teachers understand the best strategies for teaching through on-going professional development focused on the standards
- Communication within PED is critical as well as with the Council; improving inter-Bureau collaboration will be a priority
- PED does not direct districts to use specific materials or an instructional program; previous attempts to do this have resulted in significant push-back from the districts
- The first rounds of stimulus (ARRA) funding will go directly to districts; they may need help to quickly determine how best to spend the funds
- A successful science materials system requires a supportive community; schools often have more equipment and materials than they realize

NM Project 2012 Feedback

Copies of feedback on NM Project 2012 received through email and by the PED were distributed to all present. Mary Jo had indicated on the copies the most germane chapter(s); Council members met in "chapter" groups to review and respond to the

feedback. The groups were also asked to identify any needed revisions to NM Project 2012 and recommendations that might be appropriate for future ARRA funding to suggest to Tom Bowles.

Chapter One Report Out

Issue: Perceived disinterest in science; elementary science pre-service teachers are not being taught in a way that addresses what science is. Not sure that comments are easily included in Chapter 1. HE institutions don't place a high enough value on teaching teachers; need incentives or rewards on having successful programs for teachers (currently condensed in 1.1.4); may need to be made more explicit. Chapter 3 addresses inquiry science for students. Input calls for paradigm shift in university science courses to **doing** more science. Are these addressed by Natural Science course programs which have existed for the last 40 years? The suggestions received as input would require a large shift in the deployment of resources as well as a paradigm shift at the university level.

Need to be thoughtful about math courses (9 credits); make suggestions for content of these courses.

Chapter Two

Issue: if you're going to have teachers doing on-going, job-embedded professional development, you have to cut back on something else to avoid overloading the teachers' plates. How to do that? NM Project 2012 recommendations must make it clear that this is not adding one more thing but changing teachers' jobs. Administrators will have to make changes to make the needed time available. It would be a big change to allow adequate time. Need to revise 2012 to make policy implications clearer. PLCs at schools; 2012 language needs to strengthen the connection to summer institutes with higher ed and classroom practice.

Courses for pre-service teachers need to prepare them for on-going life of professional development and learning math and science throughout their lives. They need to be learning the processes of math and science (inquiry); learn by solving problems and making connections between topics. Need a summit (of math instructors) to look at university math courses in arts and sciences for future teachers; collaborate with HED P-20 Program (math and science articulation task force).

Chapter 3

A suggestion was made to have a FAQ on 2012 on website to address questions and input was raised.

The group took notes in order to present a response to input providers clarifying points raised in 2012. Pascal is going to work on how to calculate student mobility; may need to look at implications of high mobility on curriculum and instruction.

Chapter 5

Time-sensitive items need to be updated in 2012.

Website at NMSU will continue.

Fast track for licensure for STEM professionals with 4 or more years of experience in Higher Ed should be advertised. MSB will work with Licensure to develop a one-page flier on program.

Strategizing to engage the legislature; perhaps we need to engage them during the interim.

Chapter 7

Marketing input—group is writing a response to clarify need and reasoning for marketing campaign.

Science and religion input—writing a response validating issues, connecting to Standards

Bob Eisenstein will take input from the Chapter groups to write responses to those who submitted input.

Math and Science Bureau Report

Mary Jo gave an update on STEM-related legislation. HB 322 was passed by both the House and the Senate and it is expected the Governor will sign it. SB273 that has gone nowhere; HB2 (budget) has passed and we're going to assume it will be signed. HB2 does contain most of the requested funds for PD in SB273.

Mary Jo also asked for input on the Math and Science Bureau website; it is now also posting MSAC information. Irene Lee and Jonathan Wolfe agreed to provide input; will discuss before next Council meeting.

Guest Carlos Acosta

Carlos Acosta from the Lieutenant Governor's office presented information on the Centennial Graduates Initiative, the intent of which is to use the state's centennial (2012) as a vehicle for increasing graduation rates. The program focuses on this year's 9th graders (class of 2012); they hope to leverage existing programs and resources to create excitement and provide incentives. They intend to have a website dedicated to the initiative; students will generate most of the content. They are also working to designate 100 scholarships at NM Institutions of Higher Education as Centennial Scholarships; this does not require additional funding as they are just re-naming existing scholarships. Criteria for the scholarships are not set, but they would likely have an emphasis on NM History.

Mr. Acosta welcomed the opportunity to work with the MSAC to develop programs or scholarships related to math and science.

STEM Programs Database

Phyllis Baca reported on her efforts to develop a database on STEM-related programs and services. NMSU has developed a partial list but it is not easy to search and find the type of program or resource you want. It needs a better Graphical User Interface (GUI).

Concern was expressed about setting up a database without adequate funding to support its ongoing maintenance and updating as well as setting clear specifications for the site.

Priorities for Next Steps

In order to begin a discussion about setting Priorities for the Math and Science Bureau based on NM Project 2012, Bob Eisenstein presented a review of the recommendations color-coded to represent those he felt had been addressed, those which most needed attention and those he wasn't clear on how to proceed. In his opinion, the single greatest issue facing NM is a looming shortage of math teachers at the high school level.

After his presentation, Bob encouraged every Council member to submit their thoughts on priorities and next steps.

Another issue raised was the level of achievement in math at the high school level and a fear that high school math courses may be “watered down.”

After discussion, Mary Jo agreed to research what is needed to conduct a Town Hall (with NM First)—a follow-up to the one in November, 2005.

Upcoming MSAC vacancies

Four Council members' terms expire on June 30, 2009; three representing private industry and one representing K-12. The PED will use the same application form used for the initial appointments. Mary Jo will send the application form to all Council members and encourage them to distribute it widely. Current members are welcome to re-apply. Alternates will be asked to commit to attending the majority of meetings for 2009-10 if they wish to remain as alternates.

Bob Eisenstein mentioned that he had applied for funding from the LANL Foundation (\$1500) to be used to support operating expenses of the Council, such as lunches and conference calls.

Meeting Evaluation

Agenda worked.

Good we read through comments about the project. Bob will send letters to those who submitted feedback.

We need to present information more visually—use flipcharts, e.g..

We need a lesson. Learn more hands on about science/math.

Next meeting will be Friday, May 15 in Las Cruces.