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Professional Development and Change
Year 2 of the National Academy for Curriculum Leadership

A carousel, mobile, kite, tool box, pyramid, mobius strip, tower and flow chart. This sounds like a list in which you are to pick out the one that doesn't belong. But in this case all of these structures belong to a group of models representing a framework for professional development. Presented with a list of issues and concerns for designing professional development, coaches and administrators representing their National Academy for Curriculum Leadership (NACL) teams, put their heads together and the creative juices began flowing. This group of self proclaimed science nerds, data heads, classroom teachers and administrators designed models that were original, intriguing and informative. The designs took into consideration the many facets related to professional development for teachers including: knowledge and beliefs, context, strategies and critical issues. These ideas were then made into visual models that made the concepts more easily understood. For some this was a transformative moment when all the work and activities of this NACL conference week began to make sense in a "big picture" way; laying the groundwork for what needs to happen with the rest of our team and with our districts in the years ahead.

This model making pursuit was just one of many activities that coaches and administrators participated in during the second week of August as we began gearing up for year two of the National Academy for Curriculum Leadership project. As coaches and administrators returned for their second helping of an academy conference this summer there were handshakes and hugs all around as folks became reacquainted with each other. Talk soon turned to teaching and professional development as we learned what was happening in other districts across the country as a result of the first year of the NACL project. What we found was that the representative district teams were at many different levels of professional development. They were all working on the goals of using standards based inquiry teaching in science, as well as promoting the use of the Analyzing Instructional Materials (AIM) method for examining curricula. The levels of awareness and implementation ranged from districts that still needed to bring their colleagues on board to see the value of having inquiry based lessons in the classroom, to those districts that had moved on from the inquiry piece to using the AIM process to select curricula for their district science programs. As we discussed individual programs we learned from each other and became immersed in a professional development experience that challenged us to share ideas, dialogue and discuss how we could advance the teaching of inquiry and scale up the implementation of standards based science in our districts.

The week had an added goal of developing leaders for professional development and for change in our districts. Collaboration with other districts helped us to dissect the attributes of highly effective teams and from this we learned the lessons of the importance of norms of collaboration as well as the difference between discussions and dialogues. Some of the techniques came naturally to many of the participants, but others will have to be practiced in order for us to become successful leaders for our districts.

On the local level, the districts of Kennewick, Pasco and Richland collaborated last year to put on a successful inquiry workshop as a result of the NACL process. Pasco followed up by

undertaking to use the AIM process as they worked to select a new biology text. Kennewick will provide an advanced inquiry workshop as well as a workshop to align the science curriculum with state and national standards during the month of August. Coach and administrator teams from each of these districts have also made a commitment to continue to collaborate on professional development throughout the year. This has resulted in a sustained focus on inquiry and increased collegiality among our teams and other teachers in our districts. As we look toward our state assessment scores and research on how students learn we will begin to use data driven dialogue to advance our thinking about how to best go about improving student learning in science.

Our knowledge and beliefs will guide us as we work to implement change in our districts but we know that these beliefs can and will change with added research and experience. One such experience this week was an activity that pointed to the need to create dissonance in order to transform our thinking and in turn our students thinking about science. Long term learning will not take place unless we create this dissonance. Or as presenter, Jim Short, Science Coordinator for Denver Public Schools paraphrases from the video series *Minds of Our Own*, "Why should a student drop his perfectly good idea about why something happens to take up yours. If this new idea is going to be internalized it must transform the student's thinking." This is the kind of experience upon which inquiry is based and we are fortunate to have strong partnerships with the BSCS Center for Professional Development and the Washington State LASER program which provide technical assistance and support throughout the three year program. Additionally, community and business support comes from Agilent Technologies, Pacific Northwest National Laboratory, Dupont, Intel and the Pacific Science Center. Their commitment to science education and ultimately the making of new scientists for our future is a welcome benefit of this experience. Being associated with such a positive group of people is invigorating, enlightening and inspiring. If your district is participating in the National Academy for Curriculum Leadership count yourself lucky to be involved and volunteer to be on a committee or in a workshop that furthers the cause of science instruction based on standards, data, research and classroom experiences, you will be glad that you did.