Knowles Science Teaching Foundation

2004 Science Teaching Fellows
Summer Meeting – August 3-5, 2006

Goals:

1. To have a revised set of lesson plans that you are committed to teach during the 2006-2007 academic year based on evidence from the lessons you taught this year
2. To come to a better understanding of yourself as a novice teacher, what you are learning and still need to learn, and to better understand how your students come to understand science ideas and engage in inquiry.

You have a great deal to accomplish at this meeting and a short time in which to do so. Please keep the meeting schedule in mind and plan your work accordingly.

Resources

You have several different resources at your disposal during the meeting. Denise (Chemistry), Donna (Physics), Keith (Earth Science) and Chuck (Math) are experienced teachers who will be available to work with you and push your thinking. They are here to help. I'll be available, of course, and Angelo will be in and out. Additionally, the resource room (Franklin) has curriculum resources and two laptops with internet connections.

Procedures:

1. Begin with each person in your group sharing for no more than fifteen minutes about:
   - the context of your modified lesson study. Tell each other about your school and the class(es) in which you used this instructional sequence.
   - where your instructional sequence fits into a larger unit and your school year.
   - Any changes you made to your joint lesson plan and why
   - What evidence you brought from your teaching to share with your group

   NOTE: Try to avoid talking about what went well and what didn't at this point. The idea is just to get background and know where each member of your group is starting from.

2. After each of you has shared, plan your work based on the meeting schedule. There are 8 hours scheduled for lesson study at this meeting, and about 1 hour of that will be used for cohort business. Some groups will have three different sets of evidence to share – keep that in mind.

   Based on the above discussion, decide which sections of video and what types of evidence to review, from whom and in what order. **Video clips should be fairly short** – 5-7 minutes.

   Decide what the group's focus will be during the viewing. Rather than watching with no specific goal in mind, choose classroom management, questioning techniques or some other aspect of your teaching. You should be prepared to discuss evidence from each teacher that shows something that went well and something that needs work.

   Once you've figured out your agenda for the meeting, **please let me know** (you can e-mail me a copy if you want, or just tell me who's doing what when.

3. When reviewing evidence, please keep the following in mind:

- Your comments should be constructive and honest. You're here to learn and improve your teaching through this process.
- The teacher who is presenting the evidence should give some background – but then let the other group members lead the discussion. This is hard to do – not giving reasons for why you did or didn't do something – but it will allow you to get feedback based on what you did, rather than what you were thinking or have reflected on since teaching the lesson.
- When watching video, the person teaching in the clip give some background before playing the tape, but then have your group members lead the discussion.
- Select some of the student work samples to examine. Choose at least one sample from each Fellow. Decide on a sequence for your discussion. Let the following questions guide your discussion.
    - What do these tell you about student understanding?
    - What do they tell you about your expectations for student learning?
    - What do they tell you about your assumptions about what students should know?
    - Were there questions/activities that all or most students get correct? What do you think contributed to students' success on these questions? Why?
    - Were there some questions that all or most students got incorrect? What do you think contributed to this? Why?
    - What does this tell you about your teaching, your assessments and student learning?
    - Can you determine at what level of Bloom's Taxonomy (or Webb's criteria for depth of knowledge) the questions were? Is there value in asking questions at varying levels or at higher levels of Bloom's Taxonomy/Webb's criteria?

4. After reviewing evidence discuss:
    - what worked well for this teacher
    - what seems to need improvement
    - what you and your group learned about teaching from watching the video.
    - what you and your group learned about student learning and student understanding.
    - what changes might this teacher need to make? do those changes apply to all of you?

5. Now redesign the instructional sequence to incorporate what you have learned by teaching and discussing your modified lesson study.

6. At the end of the summer meeting, each team should give me (e-mail or hard copy):
    - a revised plan with supplementary materials (i.e. a copy of a lab that you plan to use.)
    - notes on four (plus or minus one) things that are different about this plan from the one you did last year.
    - notes on four (plus or minus one) things that you learned through this process of planning, teaching, reflecting and planning again, together.
    - at least five probing questions that you will use while teaching the instructional sequence next year.
    - notes on what areas of your plan include inquiry elements, what they are and why you're using them.

- notes on how you address improved student understanding through your new and improved instructional sequence.
- a copy of the assessment(s) you'll use for the unit that includes your instructional sequence or else notes on the assessment you will include for this sequence.