High School to Higher Education Life Science Transitions Summit IV
Evaluation
February 20, 2009 Casper, Wyoming

30 Responses Transcribed

Your comments will help us evaluate the success of this meeting and plan follow ups.
Please be candid and complete in your responses. No names please.

1. On a scale from 1-10 with ten being high, rate the value of this meeting to you.

10= 27% *8 and higher = 94%*
9= 44%
8= 23%
5= 3%
4= 3%

For any response lower than five (5), please use the space below to explain.

Excellent discussion!

I had different expectations – I truly enjoyed the conversation, but much of it was hashing about what we already knew, leaving us without concrete tools for implementation.

I think this is valuable, however, for real change to occur, something more needs to happen.

I would like to see more teachers involved.

2. We examined student work in the context of evolution and the nature of science. What insights did you gain from this work? Please consider teacher expectations, student learning, student abilities, and other issues important to you.

I think for me I become so focused on teaching science concepts that I don't' emphasize the nature of science. Students do not seem to have a good understanding of the nature of science.

Teachers have similar expectations in both college and 6-12 grade levels of science. Both levels also face great diversity in student readiness. Figuring out how to meet the needs of all our students is of vital importance (in Science specifically).

All the work we examined was age appropriate and demonstrated an expectation of more sophisticated skill development, and content knowledge, as the student progressed through middle school to college.

Students in middle school and younger are capable of learning and correctly using scientific vocabulary if they can become excited about the topic (and some can do it anyway). We should be introducing such terms early on.

Teachers from middle school to community college are teaching appropriate content, based on what I saw and heard.

Utilize as a foundation throughout Biology/Life Sciences.

Nature of science and process is a challenge – misconceptions abound. The nature/process of science (and evolution) must become framework on which to hang other topics in science.

I realized that teachers at all levels are confronted with the same challenges. Student abilities vary and it seems that English/grammar skills are lacking across the board.

I came away with a stronger vision for identifying and communicating my expectations.

1. Teacher expectations are high across all levels.

2. Abillity to communicate is important for students to be successful.
3. Ability to think critically is also important.

I gained the most insight from the readings. They were great! As for insights from this meeting day, I learned that expectations need to be set high and that many teachers are doing a great job of trying to teach the nature of science.

Fewer misconceptions then I expected, however, the nature of science doesn't seem to be explicitly addressed at many levels.

Everyone across the board faces many of the same issues.

I learned that almost all teachers have fairly high expectations for their students, communication of connections to evolutionary change often represents a higher order assessment – assessment of a students' ability to synthesize. Students are lacking in skills to enable them to synthesize these ideas.

I did not find evaluating student work helpful. We all agreed on what were high, low, and medium-quality work and the expectations, though not always clear without the instructor's for the exam or assignment included, were clear once the instructor spoke.

-Diversity of ability at all levels.
-Was nice to get some feedback on the work I presented.
-Set the bar high and students will figure out how to reach it.

-We need to devote resources to help all students overcome their misconceptions.
-We need clear definitions (operational) of concepts such as: the nature of science and science literacy.
-Knowing that we have such a great variety in skill levels in our classrooms, we should have resources in each school community/classroom to address individual needs and strengths in our students.

I saw high levels of communication skills showing organized thinking.

Oversimplification of certain concepts does more harm than good. We need to take a less is more approach.

Some students performed well above, but others far below my expectation (for their age). I need to help my students differentiate fact from opinion, science from belief.

Teacher expectations and student learning exist along a wide continuum. However, when the bar is set high and expectations are made clear, students will achieve!

Contrast between pre 13 and post 13 grade level expectations.

The wide range of diversity at all levels and the problem of addressing the need.

I need to more fully integrate evolution into my courses. I need to better communicate expectations to my students.

Some work I didn't see teacher expectations. In the work I could see lessons that were designed with a goal in mind. I did see variety in student work-especially at the college level.

How complete the education system is. Appreciate difficulties of teaching evolution overtly at K-12. Focus on skills with content as a means to teach skills, not an end.

We sometimes don' challenge students enough or expect enough from them.

Less is more. Need to focus on core concepts and skills and students will perform better.

We are all remarkably on the same page. I really expect to see a change around the state to a more integrated approach to teaching evolution.

It is important to know where each student comes from as far as beliefs and prior knowledge, but also know yourself how evolution is connected to other aspects of science.

3. For next year's Life Science Summit, what kind of activities for faculty would lead to improved science learning for students? Please focus your comments on *student learning*.

This summit was very good. I don't think we completed it. I liked having reading material to help direct discussion.

Shared lessons for integrating evolution and Nature of Science in the classroom.

This is difficult – there are reams of research on effective teacher practices as they impact student learning, however, the only thing under our control is the teaching.

More on inquiry and inquiry-based teaching.

More on integrated science?

Continue small/large group discussion around a central theme.

Brainstorm and present "lesson plans" or activities to accomplish specific student learning goals that try to accomplish a framework on which to hang other topics in science.

Bring in sample lesson plans that have been effective at your level.

Perhaps some mini-lessons given by teachers that have established their effectiveness – short examples that can be modified for each grade level that will expand our knowledge base and our experiences.

Focus on the core expectations required for students at each level at the beginning – not at the end of the meeting.

More discussion about the readings would help me be able to implement the goal of this meeting – to integrate evolution across a whole class (not just in one section of the class). This in turn would affect students and their learning.

Each person brings a struggle for the group to help solve and best practice to share?

Student learning would be best addressed by talking about, working with, discussing, inquiry. Let students ask their questions and let them answer their questions by experimentation.

Sharing ideas about "core" themes/topics/skills for various grade levels.

Best practices – concrete examples of ways evolution is integrated into all biology, genetics, development, ecology, etc.

-Maybe more of a hands-on workshop with ideas for lessons/activities to attract more elementary educators.
-Continued discussion about "scientific literacy."

I would like to see this year's participants presenting on some activity/project they have implemented in their classrooms as a result of this meeting/discussion.

Identify the essential learning for students at each grade level or course. Then consider ways that students can show understanding (assessments).

Ideas for elementary science teaching and how to keep students interested.

As a university-level educator, it's very helpful to hear about the nature of elementary/secondary school preparation.

Big concepts/skills that all students should understand and be able to do. Less is more! So our students will be productive citizens and ready to tackle the challenges of the 21st century.

Give them a can-do, hands-on demo of success.

Interpretation of information and data, then the application of the information/data.

Activities involving introspection and self evaluation are always good.

Talk more about the process we used to design our lessons and units.

Discussions/examples on integrating evolution throughout curriculum.

I like the idea of working on developing a set of core concepts.

Have discussions on the core concepts and skills.

We focused on the theme of evolution. Have a new theme for each summit. The passing out of articles provided good basis of discussion.

Necessary skills for students to succeed as adults in general, and higher learning/education in particular.

4. This two-part question focuses on future science summit meetings:

a) For you, what is the key issue concerning coordination of the teaching and learning of the life sciences from high school to college?

How do K-12 best teach inquiry.

I don't believe our students are prepared when entering college (many students). My teaching background is generally with the at-risk population, many of whom will not attend college. I feel it is most important to help them develop an understanding of the nature of science.

Articulation of expectations – would enjoy a discussion of science literacy.

Improve student writing skills and their ability to think critically.

Focus our skill-set expectations for incoming college students to be successful.

Understanding what "science" is and engaging or re-engaging students.

Back to framework/language/process – if that's more in place, then can make progress.

Student expectations and attitudes – they expect you to provide them with information and do not take responsibility for their own learning.

Expectations. What are we teaching for – what are the goals – can we unify these across the gap of high school to college?

1. Focus on the core expectations required for students at each level at the beginning – not at the end of the meeting.
2. It seems middle and high school instructors want more guidance in specific content, regarding evolution, that should be taught.

High school students need more experiences with doing science. Pair them with master's students.

Determining the core material and skills etc., to be taught at all levels.

Having everyone on the same page. Why not use the National Science Ed Standard to identify what students need to know.

Development of skills that enable students to be proactive learners in different settings.

How do we make change? This seems easier at the college level but prohibitive at the K-12 level.

-Study skills.
-More students headed to college with Hathaway program.
-Very different delivery methods from high school to college.

Testing and accountability.

Keeping kids motivated and interested in science. Providing best opportunities to develop necessary skills to be successful.

That high school biology experiences are not equivalent to a college experience.

College students seem to find science boring and hard. At 2 years of age, they're curious questioners (think the "why stage"). How can we keep their science interest?

Articulation of expectations.

Somehow meld expectations – get everyone on the same page.

Learning styles versus teaching style and the numbers that may prevent the accommodation of each.

Simply sharing what is currently going on in both high school and college.

Different education philosophy.

Agreement on skills. Ideas on how to integrate evolution into the curriculum.

The developmental core concepts would help.

What are the core concepts and skills.

The key issue is continued communication.

Finding and filling the gaps.

b) How can future meetings best address the issue you identified?

Inquiry skills expected for college courses.

Provide students with access to scientific process/nature of science at the elementary level.

I think the model currently utilized can be very effective.

Consider methods to teach students techniques to become critical thinkers.

Have more productive meetings like this one.

Big ideas as the springboard for science content.

Must start earlier – bring in elementary ed. Teachers. Concrete ways to achieve building framework.

Survey students at different levels and ask them what they expect.

More people. Principals and deans should be aware of and support their teachers to attend.

High school students doing more experiments and hands on science.

Workshop to develop this list? All the appropriate people at the table?

What if we took a close look at the book in the middle of the table.

Sharing ideas about "core" themes/topics/skills for various grade levels. Also, connecting core ideas to teaching strategies that simultaneously develop basic learning skills.

Present initiative? Discuss these and how to implement.

More dialogue.

Designing practical activities that can be aligned to the already overlooked curricula.

Identify the essential learning for students at each grade level or course. Then consider ways that students can show understanding (assessments).

We need K-16 articulations.

More elementary school articulations.

Big concepts/skills that all students should understand and be able to do. Less is more! So our students will be productive citizens and ready to tackle the challenges of the 21st century.

Focus on what you can do – don't emphasize "changing" a student's belief – that will come.

Discuss how kids learn at all levels. How are they instructed and can change take place to meet these learning styles.

A suggestion: each participant makes a short presentation based on how they teach a topic, so everyone can see what's actually happening at different levels.

What sources are we drawing from.

Small group discussions/examples with ideas for student assessment.

Work on identifying core concepts.

Distill the core concepts and skills across a diversity of teaching faculty.

We do not need to solve all the problems, as you said on the blue sheet, the right people are here, so let's keep meeting and get more involved.

Necessary skills for students to succeed as adults in general, and higher learning/education in particular.

5. Anything else we need to know? (please continue on the back, if you need space)

Another theme – Ecology.

A listserv between college, high school, and elementary instructors would be beneficial.

Continue the dialogue.

This conversation is very important! Thanks for providing space and organization to allow this to continue!

Would love to have informal meetings with K-16 people before the summit to bounce ideas off of.

I thought changing groups was difficult because I enjoyed the first group I was in, and felt I got more out of the first group.

If someone ever tells me what I have to teach and how I have to teach it, I will leave the profession. There are some elementary classrooms in my district that teach no science.

This was great!

I did learn a lot by doing the readings in preparation. I just thought the discussion, small and large group, often veered off of the stated objectives.

Consider 2 days.

I think to encourage more elementary teachers (and secondary for that matter) the university could offer continuing education credit. Release time from districts may also be an issue for them.

Great work!

If we are assigned a reading, spend a significant amount of time discussing and evaluating its promises.

Expand the conversation – include K-6.

Stay away from Friday's. It's hard to get substitute teachers.