

Session 2 - Teacher Prep Standards - Science Methods

Facilitator: Mike Clough, ISU

Note Taker: Paul Rider, Grand View

Location: Rasmussen 212

NOTES:

Mike continued the discussion from the stopping point during the morning session

Formed small groups; participants were asked to discuss the following question:

2. What are the essential understandings and habits that pre-service science teachers should develop/possess?

- Science as a process of inquiry/modeling inquiry
- Prior knowledge and misconceptions
- Formative assessment for learning/metacognition
- Disconnect between research-based pedagogy (engaged learning) versus practice/reality in schools
- Prepare prospective science teachers to anticipate and effectively navigate through institutional constraints
- Teacher behaviors and interaction patterns
- Knowing how to design activities; preparing activities around the learning cycle
- Know how to help students make the connection between activities and concepts; need to know how to ask effective scaffolding questions.
- Need to help students develop a sense of their limitations and what they need to know to be effective teachers
- Curiosity about the subject matter
- How to keep the community in which one teaches informed
- Laboratory safety
- Classroom management in an inquiry environment
- How people learn
- History and nature of science

Formed small groups; participants were asked to discuss the following question:

3. How much time do we need to teach these things to our students?

- More than we currently do!
- Comment: Make pre-service and in-service coherent. Core curriculum may help establish a way to connect these functions
- Obstacles: administration, students (attitudes, different levels of preparation and ability), federal government