

## PER GROUP MEETING

**Wednesday, August 30  
2006**

## Dyan – Optics of Human Eye

- Still transcribing (“outline” done, filling in the full transcription)
- Preliminary results obtained – need to be verified
  - Stay tuned ‘til next week’s talk!
- Additional interviews?
- More data analysis –
- Dr. Zollman getting input from Germans

### Fran

Outline of Current Research / Outreach projects:  
Summer Review

**To be Addressed::**

- Spent the summer conducting 24 interviews for optics project
  - 12 students; 4 Grads, 5 REU, 3 K-state Undergrads
  - Single slit / Double slit diffraction and Poissons’ Spot
- Transcribed all 24 interviews

• Processes’ used to proceed through lab

• Reasoning?


- What cognitive & epistemological modes are activated?
- How are students “framing” the lab?
- Explicit signs of transfer?

FOSS::

Physics of Sound =

Fun Filled time with 4<sup>th</sup> and 5<sup>th</sup> Graders!

- FOSS – Full Option Science System
- inquiry-based science curriculum



Tune in next time... same bat time... same bat channel!!!

## Bijaya

### Learning by Using Physical Model

- Data analysis scheme
  - Statement tabulation (preliminary result)
  - Code tabulation (see the strength of ideas)
  - Association drawing (origin of thought)
  - Label plots (scaffolding by physical model)
  - Trajectory plot (mapping the variation)
- Paper writing
  - Creation and testing of activities
  - Student model on concepts

Bijaya Aryal


### ARIFA

#### Education Science Course Reform Serving Pre-Service Teachers: Evaluation of a Faculty Development Model

What is it all about? **The project wishes to investigate whether standards based reform science classes are effectively preparing elementary school teachers for teaching science courses.**

How will the study be carried out? The project consists of two parts, (1) A study of existing elementary teachers & how their experiences in UG science classes influences their classroom practice. Classroom practice of teachers who have taken reform science courses will be compared to those who have not taken such courses. (2) A longitudinal study will be carried out where elementary teachers will be followed from their student days at various universities throughout the US to their first jobs as teachers.

What am I doing right now? **Trying to assess & classify various instruments that could be used to measure (a) transfer from science classes that the student teachers take during their UG experience & (b) the effectiveness of the elementary teachers’ classroom practice.**



## Charles

### Refining Research Topic

- Why would most pre-service elementary education students not specialize in science?
- What influence does Concepts of Physics (a reform class) class have on their decision to specialize or not specialize on science?
  - \* Views about science and Science Identity Theory
- What are the “links” between the Concepts of Physics and the Elementary Science Methods Course?
  - \* Dynamic Transfer Theory

### Review of Literature

- VNOS - Views on the Nature of Science (Ledderman)
- TSSI - Thinking about Science Survey Instrument (Coburn 2000)
- CLES - Classroom Learning Environment Survey (Taylor and Fraser)
- RTOP - reformed teaching observation protocol

C. Mamolo

## Jackie- Everyday Electrical Devices

- Want to answer:
  - i. What EEDs interest students? (Grounded Approach)
    - Large variance in devices chosen
    - Variable interest based on device
    - Focus on usability, not function
  - ii. What are students' ideas about how blenders work? (Phenomenological Approach)
  - iii. How can we improve their understanding?
- This semester:
  - Analyze the interviews from last summer with Transana
    - Focus on transfer of learning and constructivism
  - Goal: Rough draft of a journal article in December

## ANNOUNCEMENTS

- **AAPT Winter Meeting**
  - Seattle, WA – January 5-10, 2006
  - Abstracts Due, Thursday, Sept. 7
  - Bijaya & Spartak visiting.
- **Arkansas-Oklahoma-Kansas (A-O-K) Section Meeting**
  - Fri-Sat, Oct 27-28, Emporia State Univ.
  - Depart ~ 3P.M. on Oct. 27
  - Return late evening on Oct. 28.
  - Abstract due ~ 2 weeks prior, ~ Oct. 13
- **Fall Colloquium**
  - Dr. D. J. Wagner, Grove City College / RPI
  - Monday, November 20