

Concept categorization analysis: Comparing verbal and written data

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Goals of this small study

- How can we adapt an interview protocol for a large-lab setting?
- What limitations exist in the lab setting?
- Is there a significant difference in the data?
 - How much data we get
 - Richness of the data

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Why it's valuable

- We often move toward an "implementation" of research protocols
- The professor asked to use our materials

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Data Collection - Participants

*Done within a larger study

- Algebra-based physics, pre-instruction
- Identical protocols
 - One set: verbal, with researcher
 - One set: written, in lab

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Analysis Technique

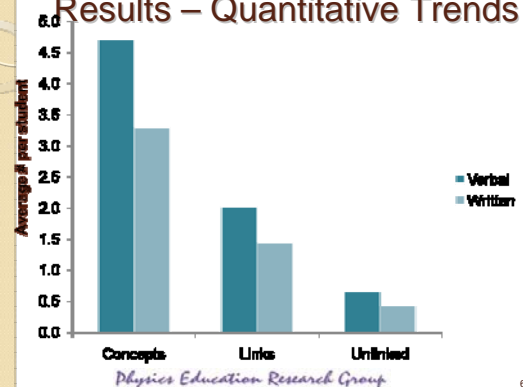
Concept Categorization – Lawson, Nieswandt

- Concept Types
 - Descriptive
 - Hypothetical
 - Theoretical
- Concept Links
 - Different levels
- Unlinked Concepts

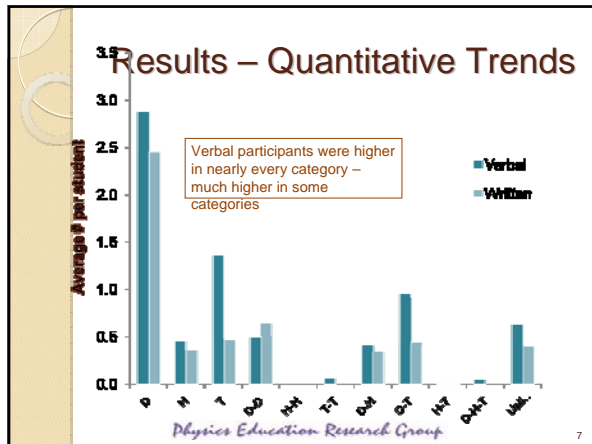
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Results – Quantitative Trends



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- ## Results – Qualitative Trends
- Biggest difference in Prediction/Testing
 - Questionable Prediction Phases
 - Not always a real prediction?
 - No explanations for prediction
 - Written in past tense
 - Same data, just less
 - No significant difference in the types of concepts students used
 - No significant difference in their level of correctness
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- ## Conclusions
- Larger body of data than possible with verbal in-depth interviewing
 - Not quite as rich
 - Reinforced previous (verbal) results
 - Consistent with prior data
 - Collecting written data was worthwhile
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Thank you!

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