



# Exploring teaching techniques that influence learning

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# Purpose

- Two parts
  - *What do students learn?*
  - *Why do they learn it?*

# Background: What do students learn?

- Faculty Objectives
- Student Recall
- Student Ratings

## Why do they learn it?

- Developed a codebook to analyze lecturer performance in several areas
- Measured time spent on each topic





# Themes and Objectives

- Example objectives and corresponding themes
  - In the general population, cholecystectomy should not be done in asymptomatic cholelithiasis
    - *Do not remove asymptomatic stones (14 comments)*
  - Imaging studies to evaluate carotid stenoses
    - *Angiography (10 comments), Doppler (21 comments)*
- Example extraneous themes
  - 8 statements about grafts being expensive
  - 7 statements about how Einstein died of an AAA



# Video Codebook

- Subjective criteria
  - *Ex: Class discussion/interaction, Learning environment created, Body Language*
- Objective criteria
  - *Ex: Use of imaging, Laying out a roadmap, Reinforcement of main points*
- 14 total categories
- Three point scale
  - Strong (2), Present (1), Absent (0)

# Results

- 12 faculty lectures included
- 1,204 free recall evaluations (3860 statements) analyzed
- Seven lectures underwent video analysis



# Results

- Relationship between coding score and student ratings
- Relationship between codebook score and teaching success

Lecturer	Coding Score (out of 28)	Student Evaluation (out of 7)	Met Objectives	Total Objectives	Extra Themes
K	23	6.26	4	6	5
E	23	5.32	3	3	4
O	19	5.45	5	5	2
F	16	5.31	3	5	2
J	15	5.14	3	5	1
N	12	4.89	3	3	9



# Results

- Time spent on topics

	Average time spent (min:sec)	Maximum (min:sec)	Minimum (min:sec)
Met Objectives	7:39	29:28	0:13
Unmet Objectives	0:45	2:27	0:00
Extra themes	3:20	14:23	0:08



# Conclusions

- Relationships
  - 2006-07's student ratings of professors with 2007-08's
  - Student ratings with key concept retention rates
  - Student ratings with video codebook scores
- Codebook usefulness as an evaluation tool

# Potential Future Work

- Time spent on topics
  - What influences how long it takes for students to pick up a concept?
- Statistical analysis on video codebook scores
  - Which criteria are important in promoting retention?
  - Which criteria are related to higher student ratings?

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