Conclusions and Future Directions
Whew...

- It’s been a long semester
- We’ve laughed
- We’ve cried
- We’ve analyzed data
We’ve discussed

- Key EDM/LA methods

- And how they can be used

- To promote
  - New scientific discoveries & to advance learning sciences
  - Better assessment of learners along multiple dimensions
  - Better real-time support for learners
Lots of Methods

- There are a lot of methods for exploring the big data now available in education.

- We’ve gone through most of the ones that are currently most prominent.

- But this is always changing.
To see what’s most prominent next year

- Follow the EDM and LAK conferences and journals
The field of data mining is changing quickly

- And sub-areas like educational data mining are changing with it

- Some of the new ideas in other areas will eventually transform educational data mining

- And some won’t
Final Notes

- When there’s a research question, there’s a good analytical or statistical method for it

- Occasionally you have to invent it

- But make sure to check first for a method that someone (or some research community) has already developed and refined
To put it another way
To put it another way

- “Anything that’s worth doing is worth doing badly”
  – Herb Simon

- But gosh, it’s even better to do it well
  - And to be able to determine which way is better
Some potential future directions

- More and more constructs will be modeled
  - Making discovery with models ever more feasible and powerful
- The constructs we’re already modeling will be modeled better
- The low-hanging fruit will disappear and we’ll move towards the slog that characterizes mature fields
  - We’re already seeing this for knowledge inference
Some potential future directions

- Validation will become more and more stringent
- Educational data will get bigger
  - Making less conservative methods more feasible
- Big educational data will become easier to get
Some potential future directions

- We’ll get better at using the results of EDM analyses
- Figuring out how to use it to drive more and more sophisticated automated personalization
- As well as how to incorporate instructors and other expert humans more effectively into the decision loop
  - Dashboards
  - Design
Some potential future directions

- Educational inference and prediction will become more and more effective
  - And the societal questions of how and why we use these methods will become bigger than the technical questions
To learn more

- See Data, Analytics, and Learning
- Also on EdX
To learn more

- Follow @BakerEDMLab on Twitter
- Or “Baker EDM Lab” on Facebook
- Or come do a Masters in Learning Analytics at Teachers College
- Or just come to EDM or LAK!
Big Data in Education