

A Full Flip: Reorganizing a Large Psychology "Lecture" around Team-Based Exercises

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Background

PSYC 333: Child Development

- Upper division for majors and non-majors
- 250 and 450 students
- Taught in tiered lecture hall

Key Course Goals:

1. Develop evidence-based arguments about 5 principles of developmental science (DS) (e.g., *Nature and nurture interact*)
2. Critically evaluate theories and research in DS
3. Apply knowledge of DS to solve real-world problems
4. Effectively communicate principles/applications in writing

My Previous Offerings (2010 and 2011):- Incorporated pre-class reading quizzes/blog posts and regular cooperative learning exercises.

Limitations to Address in Redesign:

- Students did not always take the exercises seriously
- Most exercises did not promote the type deep thinking and problem solving I was looking for
- The course was still an "information dump"-students struggled to identify the most critical issues and information

Spring 2016 Modifications: A Full Flip

- Shifted almost all "information delivery" to out of class time
- Just-in-time analyses of student understanding on pre-class assignments to inform in-class plans
- Fixed learning teams for in-class work
- Class time organized around active learning exercises
- New repeated "case study" assignment completed each unit

Implementation

265 Students organized into 4- or 5-person teams

Used catme.org tool to group students

The Learning Sequence:

Out of Class Time- On Own

- Read (Text or Article)
- Complete Reading Quiz (text) or Reflection (article)

Instructor reviews student performance, Adapts in-class time

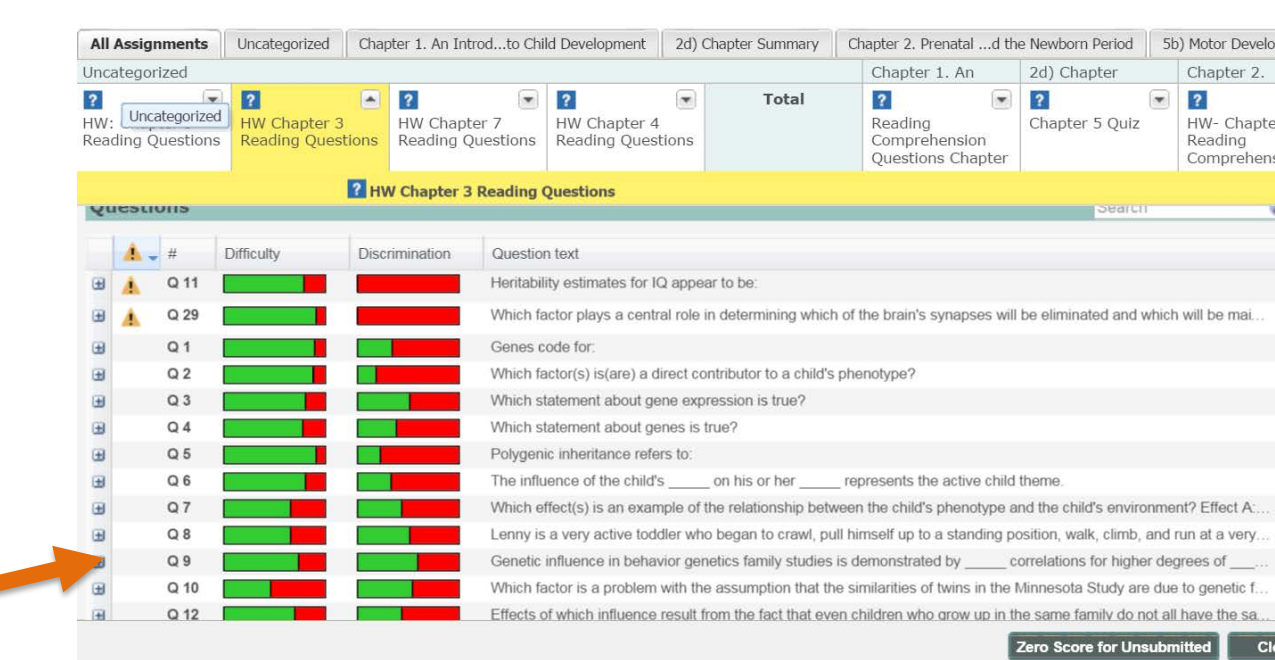
In Class Time- With Team

- Engaged Learning Assignments (ELAs)- graded for quality
- Varied "products"- Worksheets, "Clicker," Video Skits, Posters
- Followed by discussion, "mini-lecture" (5 min) as needed to clarify or extend

Sequence Repeats for each class in the Unit (4 Units)

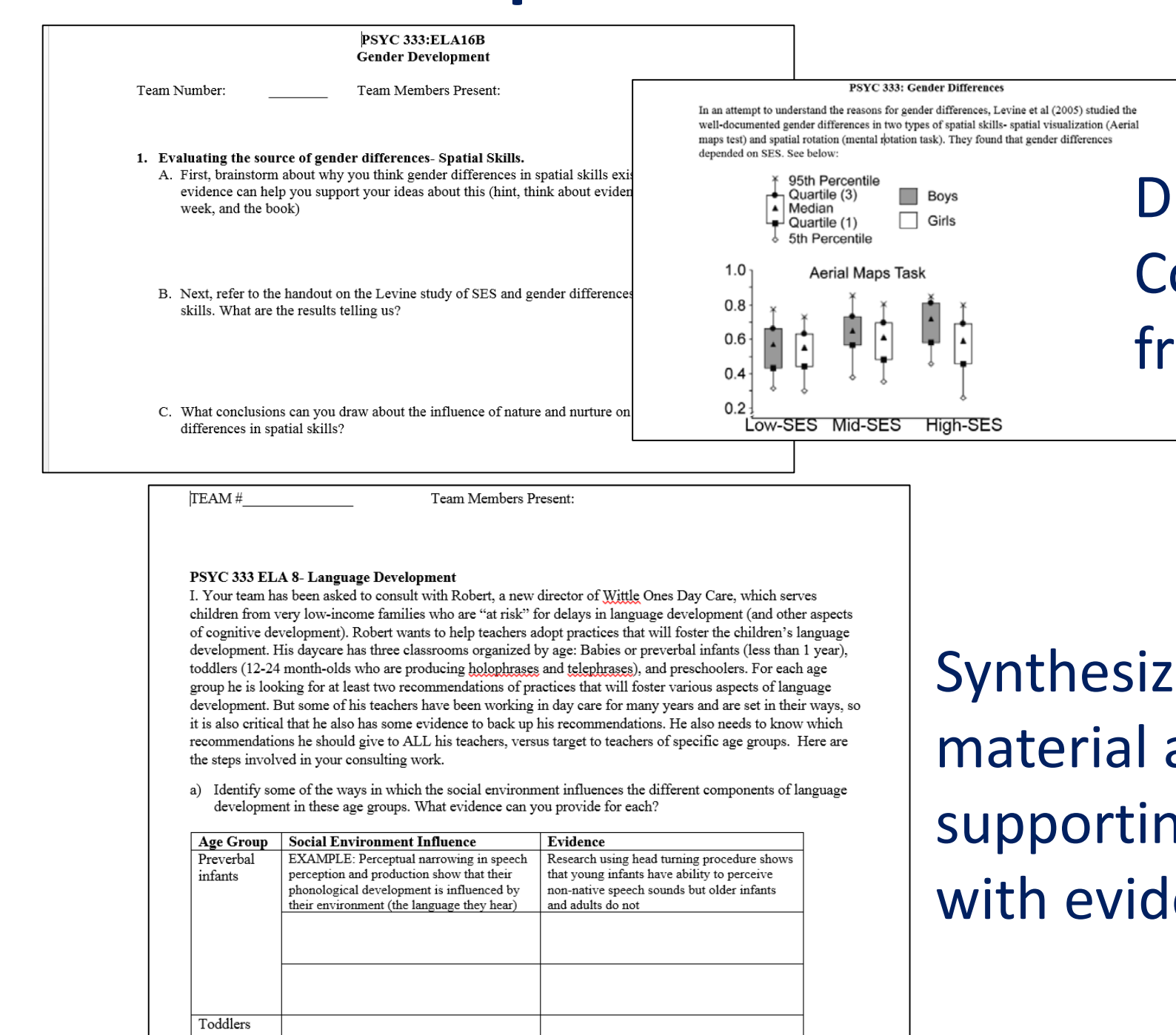
Unit-Level Assessments

- Individual and Team Tests
Peer Review of Teammate Contributions
Student-Generated Case Study:
1. Vignette about developmental history and conditions of hypothetical child.
 2. Analyze how case illustrates principles in developmental science.
 3. Support analysis w/ empirical research.



Performance Dashboard shows which topics need time in class

Example ELAs:



Drawing Conclusions from Data

Synthesizing material and supporting with evidence

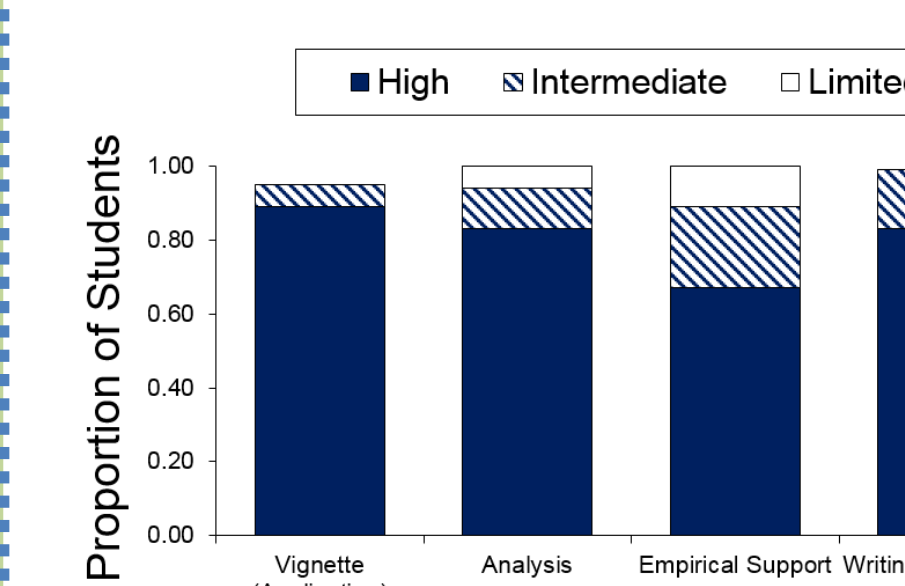
Translating research findings to solve problems (design intervention)

Student Performance (so far)

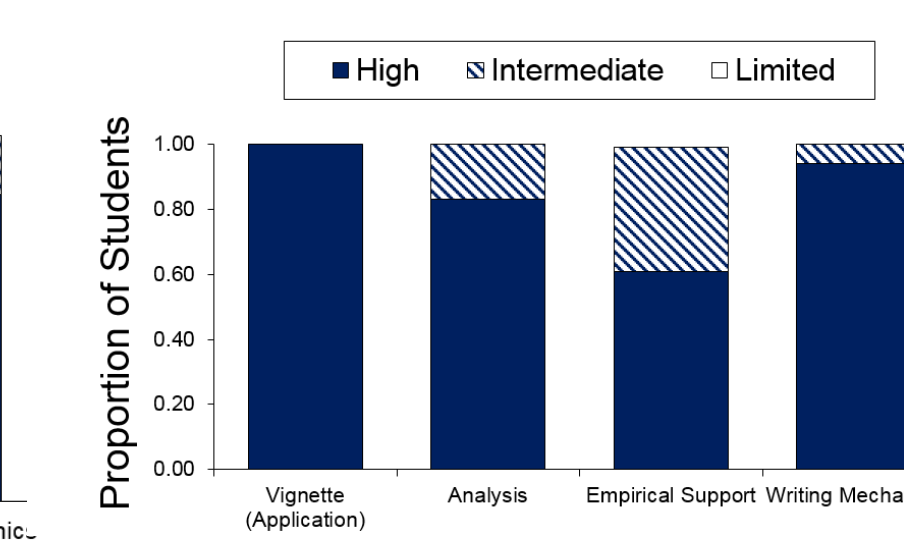
Case Studies

- Overall the Case Studies were strong (based on random subsample of students, n=20; more will be analyzed after end of semester)
- Weakest areas were Analysis and Use of Empirical Support.
- Both dimensions have improved across the first 3 units.

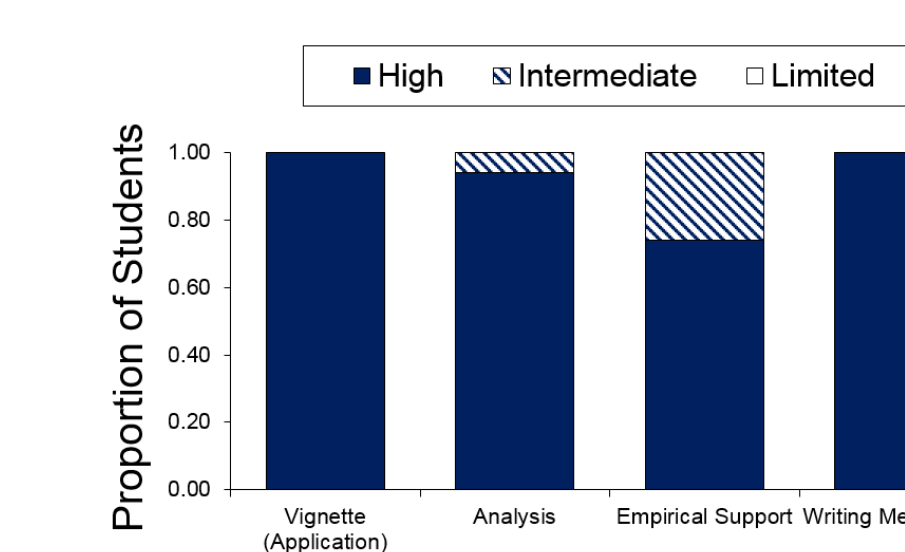
Case Study Performance: Unit 1



Case Study Performance: Unit 2



Case Study Performance: Unit 3



Teams and Student Performance

- Most students highly satisfied with their teams, even if they disliked group work
- Strongest predictor of Team Contribution rating was HW score ($r_s > .36$, $p_s < .0001$):
Students who were more prepared were more valuable to their teams.
- Measures of Team Functioning* predicted larger average improvements in test scores over time, $r_s \geq .27$, $p_s \leq .05$.
Being in a higher functioning team may have produced greater student learning gains

*Satisfaction, interdependence, psychological safety, average team contribution rating

Reflections and Future Directions

- The team assignments and formative peer reviews appeared to be effective- I will keep this strategy (and use of catme tool) in the future.
- Students were quite strong at application, but some could use more support on analysis and the use of empirical research.
- This summer we will analyze performance on test questions aligned with different ELAs, to identify content areas where the ELAs were most effective.
- I may drop unit exams altogether, and make the case study assignment broader and more challenging

Student Performance

Team-Based Exercises:

- Students engagement with and effort on in-class activities is much higher than before
- Team products are of higher quality

