



Just-in-Time Teaching (JiTT)

- ***Case study: Teaching like a physicist***
- ***JiTT Basics***
- ***Assessment***
- ***Foretaste of tomorrow***

Case Study: Background

- Content knowledge ✓
- Background in pedagogy x
- Background in brain science x
- Training as an instructor x
- Youth and hipness x
- Training as an experimentalist ✓

Case study data

- **My first teaching evaluations**
- **21 item Likert Scale, 3 groups**
- **Clarification of Course Material**
 $Z = -0.5$
- **Instructor Activities**
 $Z = -0.6$
- **Instructor Skills**
 $Z = -0.6$
- **Comments: mediocre to downright ugly**

Case study conclusions

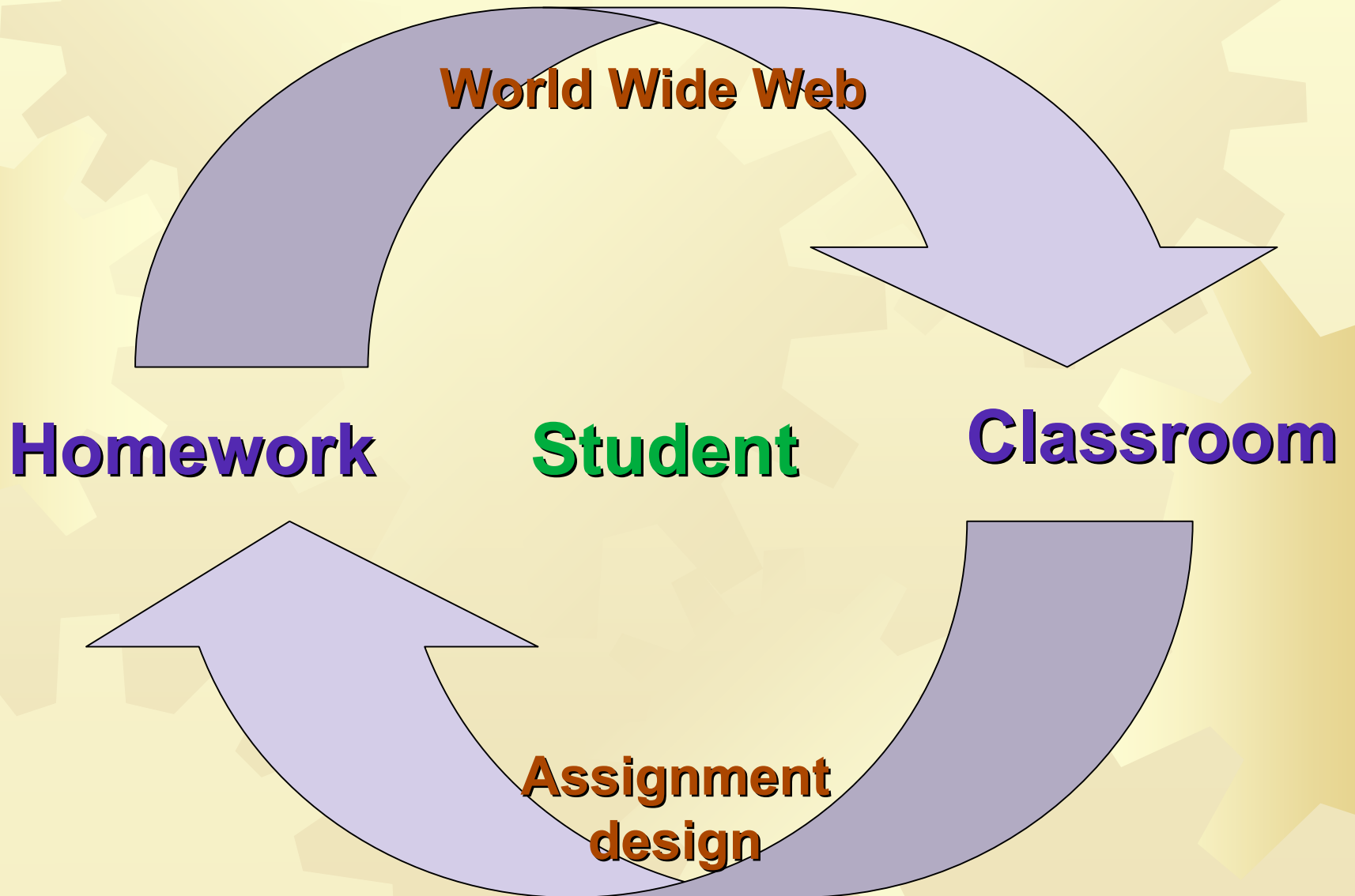
- **BIG trouble**
- **A new mentor**
- **A year of lunches**
 - **Learning to listen**
 - **Student centered teaching**
 - **Burgeoning understanding of learning styles**
 - **The Chicago bus driver**
- ***Development of Just-in-Time Teaching***



Just-in-Time Teaching

- **What do you think this phrase means?**
(No ringers, please!)

For Visual Learners





For text lovers

- **“WarmUp Exercises” due two hours before class**
- **Open ended short essay questions covering the day’s material**
- **A pre-class, online reading quiz**
- **Instructor adjusts plan for the day “Just in Time”**
- **Discussion based on what students understand and what they do not**

If you like examples

- **Nursing**: Describe the similarities and differences of epinephrine and vasopressin in the ACLS context.
- **Biology**: In your own words, explain the difference between a *theory* and a *belief*?
- **Math**: If a function has an inverse and is an increasing function, can you determine if the inverse is increasing or decreasing? Explain.
- **Philosophy**: How does Aristotle characterize a man without a state?
- **Economics**: Describe an example of the cost/benefit principle from your own life experience

Assessment of JiTT

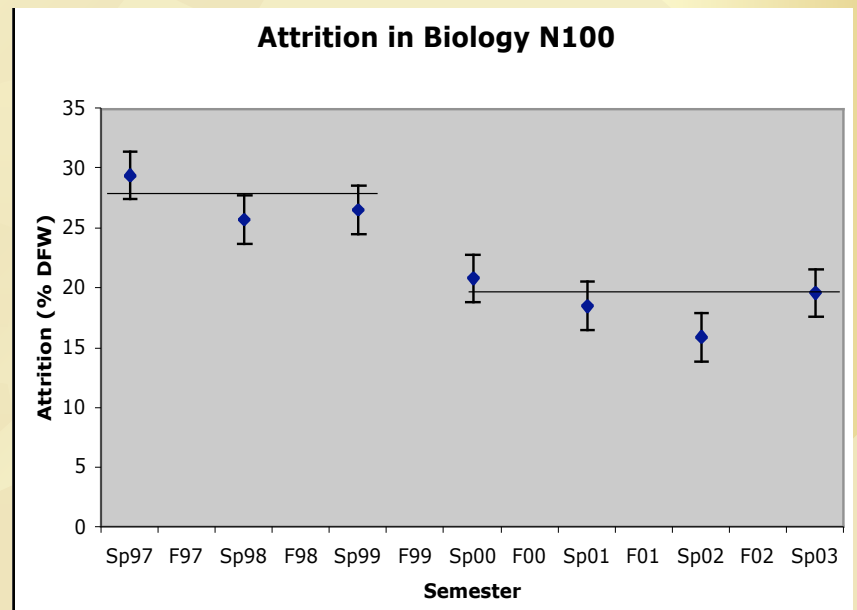
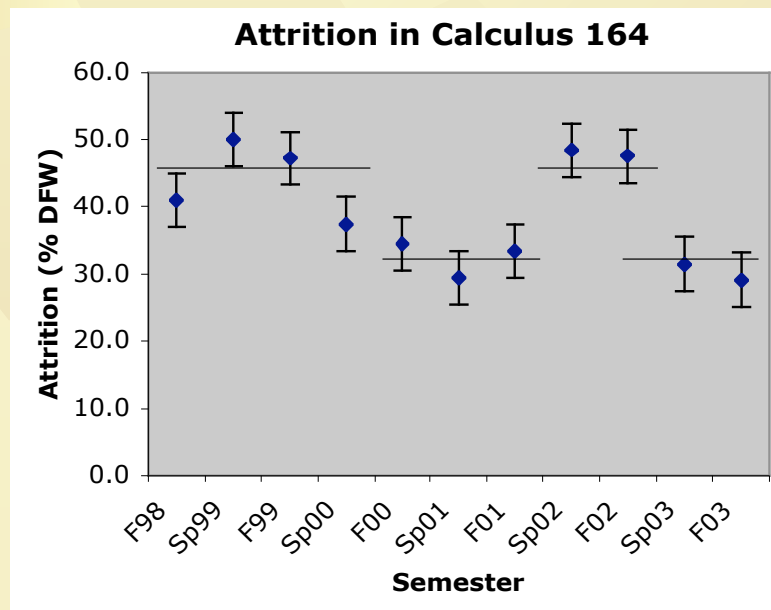
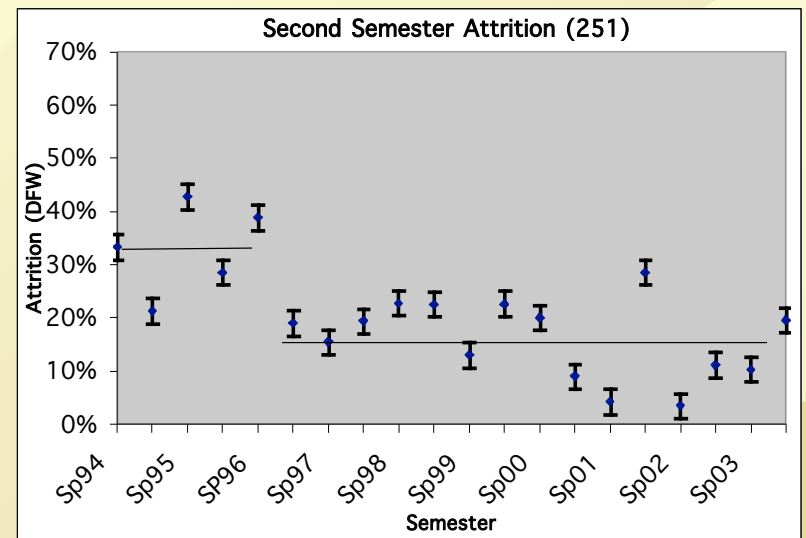
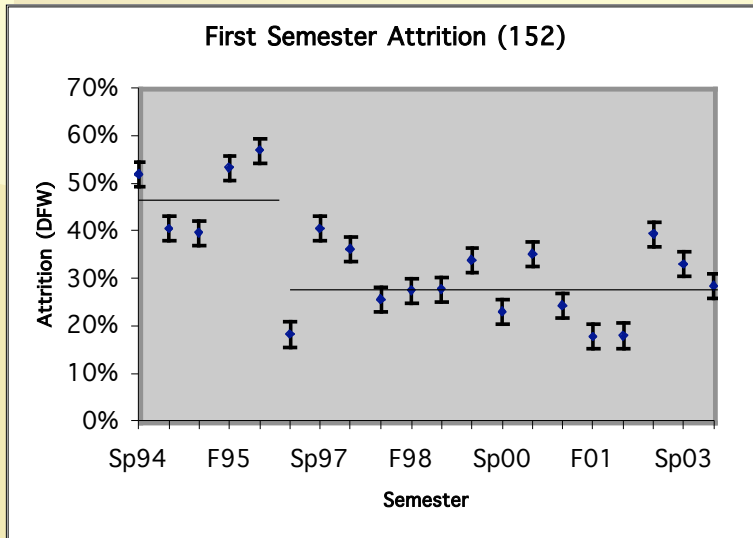
- **Retention rates in classes**
- **Client departments**
- **Student reports of study habits**
- **Final exam items paired to Warm Ups, traditional homework, other exercises**
- **Affective measures (surveys, focus groups)**
- **Teaching evaluations**

Assessment example I

- Q1 Do the WarmUps help you stay caught up?
- Q2 Do you “Cram” before tests in this course?
- Q3 Do you “Cram” in your other courses?

| N = 155 | 1- Yes | 2- Yes | 3- Yes |
|--------------|--------|--------|--------|
| “A” students | 85% | 14% | 43% |
| “B” students | 89% | 39% | 61% |
| “C” students | 89% | 47% | 68% |
| “D” students | 84% | 68% | 68% |
| “F” students | 92% | 58% | 58% |

Example II: Retention





Preview of breakout sessions

- **Adopting JiTT—what, how, and when**
- **Highly interactive**
- **Answers these questions**
 - What will my class really be like?
 - How can I develop good questions?
 - How do I grade?
 - How can I know this is working?
 - How much time is this going to take?
 - What technology can I use?
 - When do I begin?