

THE OBSERVATION FEEDBACK LOOP: USING CLASSROOM OBSERVATION DATA TO IMPROVE STUDENT ENGAGEMENT

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GOAL:

Improve student engagement in large classes

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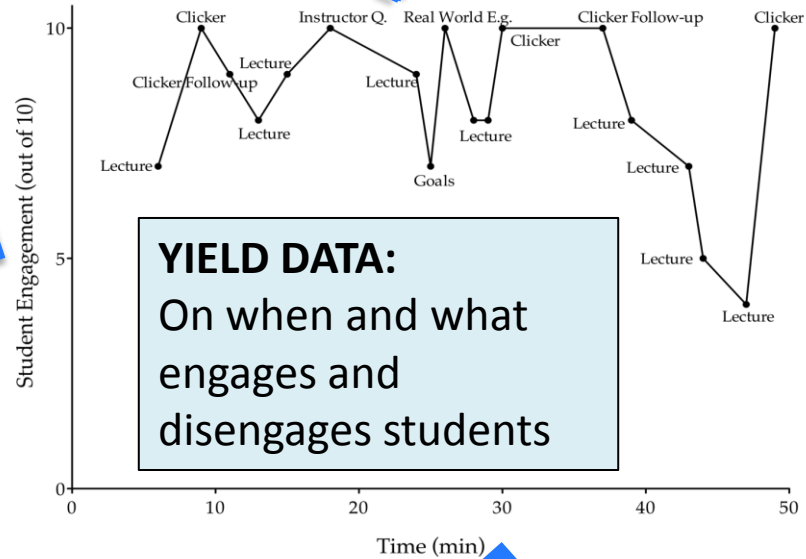
OBSERVE:

Student time on task throughout class period

2
6

YIELD DATA:

On when and what engages and disengages students



5

3

TARGET:

Lectures based on engagement data

4

PROVIDE:

Strategies to improve time on task

OBSERVATION PROTOCOL

- Developed a classroom observation protocol for quantitatively measuring student engagement in large university classes
- Tested this protocol on several courses with different instructors and teaching styles
- Excellent inter-rater agreement (96.5%) with less than 2 hours of training for observers

METHOD

- Divide large classroom into sections
- Sit amongst students, daily changing sections
- Each day: select 10 students to observe.
 - Criteria: an unobstructed view of each student's face, computer screen, and notes
- Every few minutes: observe each student for 2-10 seconds and record:
 - Time/Slide #
 - Classroom activity (e.g. clicker, in-class discussion, lecture)
 - Instructor actions (e.g. Socratic questioning, humor, real-world examples)
 - Number of students engaged (see table 1 and 2)

Table 1: Descriptions of student in-class behaviours that indicate they are engaged.

Engaged	
Listening	Student is listening to lecture. Eye contact is focused on the instructor or activity and the student makes appropriate facial expressions, gestures and posture shifts (i.e. smiling, nodding in agreement, leaning forward).
Writing	Student is taking notes on in-class material. The timing of which correlates to the instructor's presentation or statements.
Reading	Student is reading material related to class. Eye contact is focused on and following the material presented in lecture or pre-printed notes. When a question is posed in class the student flips through their notes or textbook.
Engaged computer use	Student is following along with lecture on computer or taking class notes in a word processor or on the presentation. Screen content matches lecture content.
Engaged student interaction	Student discussion relates to class material. Student verbal and non-verbal behaviour indicates they are listening or explaining lecture content. Student using hand gestures or pointing at notes or screen.
Engaged interaction with instructor	Student is asking or answering a question or participating in in-class discussion

Table 2: Descriptions of student in-class behaviours that indicate they are

Disengaged	
Settling in/ packing up	Student is unpacking, downloading class material, organizing notes, finding a seat or packing up and leaving classroom
Unresponsive	Student is not responsive to lecture. Eyes are closed or not focused on instructor or lecture material. Student is slouched or sleeping and their facial expressions are unresponsive to instructor's cues.
Off-task	Student is working on homework or studying for another course, playing with phone, listening to music, or reading non-class related material
Disengaged computer use	Student is surfing web, playing game, chatting online, checking e-mail
Disengaged student interaction	Student discussion does not relate to class material.
Distracted by another student	Student is observing other student(s) and is distracted by an off-task conversation or by another student's computer or phone

INSTRUCTOR FOLLOW-UP

- Provide observation data to instructor
- Discuss with instructor ways to improve student engagement
- Target parts of the lecture where engagement was low the next time this class is taught and more generally in future classes
- Re-observe class, using unchanged sections of the lecture as controls
- Analyze if there was an improvement in student engagement

EXAMPLE OF DATA FROM TARGETED CLASS

