

EVIDENCE IN PRACTICE

Classroom Teachers Using SeeMeTeach

Focus of Evidence and Impact on Classroom Teachers: How higher-resolution classroom evidence contributes to improving teaching and learning

Teachers can use their own classrooms as living laboratories. Through action research, they collect evidence about instruction, examine its effect on students, make purposeful changes, and gather new evidence to see whether those changes worked.

The three cases in this handout show how SeeMeTeach helps teachers turn classroom observation into an iterative improvement process. The strongest gains appeared when teachers completed multiple cycles of observation, reflection, adjustment, and re-observation.

The Improvement Cycle

1 Observe	2 Analyze	3 Adjust	4 Reobserve
Capture low-inference evidence	Identify patterns and priorities	Revise instruction deliberately	Measure change over time

What the Teachers Studied

- **Teacher A:** Whether deliberately increasing wait time would improve student engagement, including engagement among students with IEPs.
- **Teacher B:** Whether restructuring a lesson and adding new strategies would increase both the number of participating students and the number of contributions.
- **Teacher C:** How wait time, question type, and cognitive demand relate to the quantity and quality of student responses.

At a Glance

35% → 74% students responding	22% → 88% students with IEPs responding	12 → 24 students participating	3 → 16 student-to-student interactions
1-7 secs Increase in WT	39-57 total student responses	2 X more participating students	

The common lesson is straightforward: when teachers can see precise patterns in their own practice, they can target small changes and document meaningful growth.

CASE STUDY 1

Teacher A Increasing Wait Time

Four observation cycles show how a teacher used classroom evidence to refine wait time and monitor changes in student engagement.

Inquiry Focus

After reviewing video and completing a self-reflection, the teacher recognized that her wait time might be too short. She conducted four teaching episodes, analyzed the results after each lesson, and adjusted subsequent lesson plans with an explicit goal of increasing wait time.

Evidence Across Four Lessons

Measure	Jan 10	Jan 23	Feb 10	Feb 20
Wait time 1: teacher pause after question	1 sec	3 sec	5 sec	7 sec
Wait time 2: pause after student response	0 sec	0 sec	3 sec	4 sec
Wait time 3: teacher pause after own statement	1 sec	1 sec	3 sec	6 sec
Students responding	35%	29%	68%	74%
Students with IEPs responding	22%	29%	88%	88%

Results

1 → 7 sec wait time 1	35% → 74% all students responding	22% → 88% students with IEPs responding
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Across the four observations, wait time continued to improve and ultimately exceeded the 3.5 second threshold associated with positive classroom effects in the research cited by the teacher. Student engagement rose substantially, as did participation among students with IEPs.

For this teacher, the value of action research was experiential: reading that wait time matters is different from collecting one's own evidence and seeing how a teacher-controlled factor changes student participation.

CASE STUDY 2

Teacher B Increasing Student Engagement

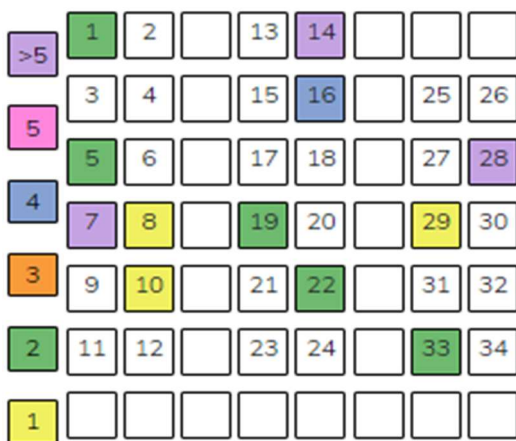
Seating-chart heat maps made changes in participation visible while counts documented the size of the change.

Inquiry Focus

The teacher was dissatisfied with student engagement. He gathered baseline data on the questions students answered, the questions they asked, and the comments they offered. He then restructured the lesson, incorporated new strategies, and collected a second set of evidence.

First lesson - baseline

Student Heatmap



Second lesson - revised

Student Heatmap



Documented Change

10 → 24

of 34 students participating

32 → 49

total student responses

2.4×

more participating students

The revised lesson engaged more than twice as many students. The SeeMeTeach seating-chart heat maps let the teacher visually compare participation distribution, while the response counts provided a quantitative measure of growth.

Together, the two forms of evidence answered both questions a coach or teacher would naturally ask: How much did participation change, and where in the classroom did that change occur?

CASE STUDY 3

Teacher C Connecting Wait Time Questions and Responses

A ninth grade biology teacher examined whether increasing wait time would affect student engagement and the cognitive level of student responses.

Study Design

- **Four observations:** Each lasted 25 to 45 minutes and occurred over 12 weeks in the middle of the school year.
- **Consistent lesson format:** All lessons used interactive lecture with content delivery and questions interspersed.
- **Baseline and intervention:** The first two observations captured typical practice. Before the final two, the teacher researched ways to increase wait time and improve questions at varying cognitive levels.
- **Video plus SeeMeTeach:** All four lessons were recorded, coded, and analyzed for wait time, student responses, student-to-student interactions, question type, and response level.

Observation Results

Observation	Wait Time 1 Events	Average Wait Time 1	Student Responses	Student to Student Interactions
1	39	3 sec	39	3
2	29	2 sec	34	5
3	50	3 sec	42	7
4	47	5 sec	57	16

Positive Results

- **Wait time increased.** Average wait time 1 grew from 3 to 5 seconds over 12 weeks.
- **Student contributions increased.** Total responses rose from 39 to 57.
- **Peer interaction increased.** Student-to-student interactions rose from 3 to 16.

The Four Wait Times Captured by SeeMeTeach

Code	Definition
WT1	Teacher action followed by a pause before student action
WT2	Student action followed by a pause before teacher action
WT3	Teacher action followed by a pause before another teacher action
WT4	Student action followed by a pause before another student action

CASE STUDY 3 CONTINUED

What Teacher C Learned

The analysis moved beyond average wait time to examine question type, response quality, and the interaction patterns that developed during classroom discussion.

Wait Times 2, 3, and 4

- **Growth in three categories:** Wait times 1, 3, and 4 increased from 3 seconds to 5 seconds between observations 1 and 4.
- **A remaining priority:** Wait time 2, the pause after a student responds, did not increase. The evidence identified a specific area for the teacher's next improvement cycle.

Question Type and Student Responses

As wait time increased, the number of student responses also increased, especially for questions that required speculation. Students were asked to think more deeply about the content, and the extra processing time supported more thoughtful, detailed answers.

- **More higher-level responses:** The increase was especially evident in responses that offered speculation.
- **More voices per question:** Teacher questions more often generated multiple student responses rather than a single answer.
- **More peer interaction:** As wait time 1 increased, **student-to-student** interaction also increased.

The Teacher's Conclusions

Increasing wait time gave students time to process a question, consider possible answers, and formulate a response. The total number of responses increased, as did the proportion of higher cognitive responses.

The teacher also observed a positive feedback loop. When students knew they had time to respond, they were more likely to listen to classmates, consult peers, and contribute to discussion. These patterns supported a more student-centered learning environment.

The teacher demonstrated that they could	Evidence
Collect targeted classroom evidence	SeeMeTeach captured wait time, question type, student responses, and interaction patterns.
Change a specific instructional practice	Wait time increased across the observation cycle.
Document effects on students	Engagement, speculative responses, and student-to-student interactions increased.

SYNTHESIS

What These Teacher Studies Show

Across all three cases, higher resolution evidence helped teachers move from general impressions to specific, measurable decisions about teaching.

Small Changes Can Produce Meaningful Effects

Learning conditions improved when teachers made focused changes to their practice. In Teachers A and C, adding only a few seconds of wait time was associated with substantial increases in student participation. Teacher B showed that restructuring a lesson could broaden participation across the classroom.

Measurement Directs Attention

Wait time is widely recognized as an important instructional practice, yet teachers may not know how consistently they use it. These cases illustrate the practical meaning of the principle, “What gets measured gets attended to.” Once a pattern became visible, each teacher could act on it and determine whether the intended change occurred.

Evidence Supports Reflection and Coaching

The teachers in these studies were experienced practitioners, but they had not previously gathered detailed evidence about their wait time, questioning, or student engagement. The SeeMeTeach data provided clear markers of practice that teachers and observers could use to identify an improvement target, verify implementation, and assess effects on students.

Implications for Teacher Education

The same approach can support teacher education programs, university supervisors, and future teachers. Objective classroom evidence complements professional judgment by making instructional development more visible and by grounding feedback in specific patterns rather than broad impressions.

Practical Takeaway

- **Choose one observable question.** Focus the inquiry on a teacher-controlled factor or a defined student outcome.
- **Collect a baseline.** Use video and SeeMeTeach to document what is currently happening.
- **Make a deliberate adjustment.** Select a manageable change that directly addresses the evidence.
- **Repeat the observation cycle.** Multiple cycles reveal whether improvement is sustained and what to study next.

Evidence does not replace professional judgment. It gives teachers and coaches a clearer foundation for using it.