# Why Quiz Showdown works

The research basis, on one page, for school and district decision makers.

## What the research says

- Retrieval practice. Recalling information strengthens memory more than rereading it. Students who practiced recall remembered more two days and one week later than students who restudied the same passages (Roediger and Karpicke, 2006).
- Practice testing and spacing. A review of ten common learning techniques rated practice testing and distributed practice as the two most useful (Dunlosky et al., 2013).
- Spaced review. Spreading review over time improves long-term retention, and the best gap between reviews grows with how long the learning must last (Cepeda et al., 2006).
- Feedback. Feedback is one of the strongest influences on learning, and its effect depends on how it is given (Hattie and Timperley, 2007).
- In everyday lessons. Agarwal and Bain (2019) show how teachers build retrieval practice, spacing and feedback into ordinary classroom routines.

## How Quiz Showdown puts it into practice

- Retrieval: every question asks each student to recall, from the class's own textbook or lesson.
- Immediate feedback: after each question every student sees the right answer, and the teacher sees the most-picked wrong answer and why students pick it.
- Spaced review: the teacher reruns a quiz days or weeks later, or re-asks the most-missed questions in one tap.
- Full participation: every student answers on their own device at the same time; no one waits for a turn.

## Logic model (ESSA evidence level 4, "demonstrates a rationale")

1. Activity: short live quizzes from the class's own curriculum, used regularly in lessons, with reruns of the same quiz after a gap.
2. Short-term outcome: more correct answers on the rerun of a quiz, and fewer students choosing the same wrong answer.
3. Longer-term outcome: better retention on unit tests and end-of-course assessments.
4. Evidence collected: class-level before and after results from each pilot, in the Pilot Results Report.

## Using Quiz Showdown in a grant

A grant that funds Quiz Showdown needs an evaluation component. The Pilot Results Report can serve as that component: for each pilot it shows, at class level, the outcome each teacher set, the games played, and before and after results on the same quizzes, with no student data.

## Sources


- Agarwal, P. K., and Bain, P. M. (2019). Powerful Teaching: Unleash the Science of Learning. Jossey-Bass.
- Cepeda, N. J., Pashler, H., Vul, E., Wixted, J. T., and Rohrer, D. (2006). Distributed practice in verbal recall tasks: A review and quantitative synthesis. Psychological Bulletin, 132(3), 354–380.
- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., and Willingham, D. T. (2013). Improving students' learning with effective learning techniques. Psychological Science in the Public Interest, 14(1), 4–58.
- Hattie, J., and Timperley, H. (2007). The power of feedback. Review of Educational Research, 77(1), 81–112.
- Roediger, H. L., and Karpicke, J. D. (2006). Test-enhanced learning: Taking memory tests improves long-term retention. Psychological Science, 17(3), 249–255.
- U.S. Department of Education (2016). Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments.


What we do not claim: Quiz Showdown has not yet measured results in schools. Pilots report class-level before and after results, and we will share them as they come in.