

Your Question:

You asked for research on the impact of competency-based education on student outcomes.

Our Response:

We compiled the following annotated bibliography through a review of relevant research with an emphasis on meta-analyses and original research focused on student outcomes.

Annotated Bibliography

[Competency-Based Education in Three Pilot Programs](#), RAND Corporation (2014).

- The RAND Corporation conducted an in-depth program analysis of three district-wide mastery-based education pilot programs. The study addresses a wide-ranging set of research questions that were evaluated based on implementation, student experience and achievement outcomes. Data collected from the schools includes surveys with teachers and students as well as the results of student achievement assessments. The authors concluded that the results measuring student outcome were mostly inconclusive.

While there were not definitive results, the report authors acknowledge many of these issues will be corrected as the number of programs and accompanying research grows. Although there is insufficient evidence to make any casual inference, researchers did highlight some of the dynamics in each district as playing a significant role in the results. The authors note, urban and wealthier district's adoptions of competency-based strategies were the result of a preference for educational choice and, indeed, "the effects were generally more positive for sites that emphasized student choice and project based learning over flexible pacing mastery grading."

[Effects of New Hampshire's Innovative Assessment and Accountability System on Student Achievement Outcomes After Three Years](#), Education Policy Analysis Archives (2019).

- This study examines the impact of **New Hampshire's** Performance Assessment of Competency Education, on student achievement in math and language arts during the first three years of program implementation. Findings suggest that students in PACE schools tend to exhibit small positive effects on state achievement tests (grades 8 and 11) in both subjects in comparison to students attending non-PACE schools.

[Looking Under the Hood of Competency-Based Education](#), American Institutes for Research (2016).

- This study examines competency-based education implementation in three states to determine the impact of CBE on student "learning capacities," or the skills, behaviors and dispositions that students need to learn effectively. Researchers found no consistent or uniform approach to CBE implementation, but intrinsic motivation, clarity in understanding learning targets and self-regulation emerged through CBE implementation. Researchers also found a positive impact on math achievement as a result of some CBE practices.

[Making sense of K-12 competency-based education: A systematic literature review of implementation and outcomes research from 2000 to 2019](#), The Journal of Competency-Based Education (2021).

- This literature review analyzes various studies of competency-based education programs to identify factors that impact program implementation and provide an overview of the evidence on the impact of CBE on student outcomes. The authors found mixed results on the impact of CBE on academic achievement and progress, student engagement and motivation, and other academic outcomes, which is likely explained by variations in context and implementation.

Other Relevant Research

The following studies include an analysis of CBE implementation (without research on student outcomes) and studies of other forms of personalized learning that may be relevant to CBE.

- [Continued Progress: Promising Evidence on Personalized Learning](#), RAND Corporation (2015).
- [Exploring K-12 Competency-Based Education Implementation in the Northeast States](#), NASSP (2019).
- [Project-Based Learning Research Briefs](#), Lucas Education Research (2021).