

Adaptive Learning Market Acceleration Program Research Methodology

This document briefly describes the type of measurement and evaluation that is expected from grantees. As noted elsewhere, the objective of the foundation's measurement and evaluation efforts is not to stack rank individual vendor products or implementations, but to address broader questions about whether, how, and why different approaches to adaptive learning may improve student success. Outlined below are the common measures that we expect each grantee to collect and report, and evaluation design options for measuring impact.

Common Measures

Measure	Comment
Course Enrollment	Total and disaggregated by key demographics (race, Pell grant status) and educational characteristics (developmental education level, full/part time enrollment, course repeaters); number of course sections; number of campuses involved; and whether or not this is the first attempt at the course by a student
Student and Faculty Engagement/Satisfaction	We're flexible on how one might measure this. Consider benchmarking against existing student and faculty surveys where they exist; other possible measures include interviews with students to ascertain time online, frequency of online contributions; and both faculty and student satisfaction with the course, etc.
Course completion	Percent earning credit; total, and disaggregated by demographic and educational characteristics
Subject Matter Learning	Pre-post gains on an objective assessment instrument are preferred (because this accounts for variations in student's initial ability) but other options include common end of course exams, passing with a grade of $\geq C$, or portfolio assessment
Pace of Learning	We're interested in whether students achieve subject mastery more rapidly than in traditional course formats; this may be most appropriate where students progress after completing learning modules.
Cost	Cost per student enrolled and completing using a tool and methodology similar to the one developed by the National Center for Academic Transformation (see this link for more information on the NCAT course planning tool).
Subsequent Course Success (desirable but not required)	For adaptive learning courses that precede others in a sequence, we are interested in: 1) whether students enroll in the follow-on course; 2) performance on a pre-test or baseline assessment of knowledge; 3) course completion; and 4) subject matter learning. Note: The data capture and analysis of this measure is desirable, but not required.

Measurement Methods

To determine whether results for an adaptive learning course produce better outcomes, it is necessary to compare results with a concurrent non-adaptive or previous version of the course. ALL GRANTEES WILL NEED TO IDENTIFY A VALID COMPARISON GROUP, and measure core results (enrollment, completion, subject matter learning and cost) in the same way for both the adaptive learning course and this comparison group. Three acceptable options are described below in declining order of preference:

Comparison Group	Comment
Random assignment of interested students to adaptive learning or the same course taught in traditional manner	BEST--Known as the “gold standard” for measuring impact, random assignment is not always possible or feasible. Where it is, however, we encourage grantees to consider this approach
Students taught by the same instructor in the same course, but without adaptive learning, during the same or prior semesters.	BETTER-This approach accounts for differences in teacher quality, and yields stronger evidence than the option below.
Students taught in the same course but without adaptive learning, in the same or prior semesters.	ACCEPTABLE

Effect Size

The effect size is a measure commonly used by researchers when conducting meta-analyses or otherwise pooling results across sites that employ a variety of different measurement methods. To calculate an effect size, we expect grantees to report means and standard deviations for completion and subject matter learning outcomes.

Role of Evaluation Partner

The foundation intends to award a contract to a consulting firm with expertise to serve as an evaluation partner. The role of this partner will be to: 1) provide grantees with technical support and advice to improve and execute measurement plans; 2) compile and synthesize results across grantees; 3) undertake periodic surveys or interviews to obtain qualitative or supplemental information; 4) identify common themes and learnings; and 5) share results with the foundation, grantees, and other interested parties. IT IS THE GRANTEE’S RESPONSIBILITY TO COLLECT, ANALYZE AND REPORT RESULTS.

Other

- Grantees are expected to report results 3 times over the course of the grant--within 90 days of the end of each semester;
- The first semester is a pilot phase during which grantees will refine their approach to adaptive learning and also test the feasibility of the measurement plan; we’re less interested in actual measurement results for this time period than in ensuring high quality measurement once the adaptive learning course is well implemented.

- The basic measurement framework may not always fit every grantee. We are open to adjustments where needed.
- This appendix describes a plan to collect consistent information across the grant portfolio. Grantees may wish to supplement outlined data collection with additional measures appropriate to their work.
- The institutional research office can play a central role in the collection and analysis of data, and should be consulted in developing a measurement plan.
- Grantees are not expected to share data that violates individual privacy standards.
- Grantees are encouraged to perform their own data analysis and publish independent research in parallel with the efforts of the Gates-funded research partner.