

California Education Learning Lab

Terms and Definitions

Achievement Gap “refers to any significant and persistent disparity in academic performance or educational attainment between different groups of students” ([The Glossary of Education Reform](#)).

Adaptive Learning is defined by [statute](#) to mean “a technology-mediated environment in which the learner’s experience is adapted to learner behavior and responses.” Adaptive learning deploys technology to better understand learner experience/learner gaps and assets, and modifies learning environments, pedagogical approaches and/or available resources to be more inclusive and produce better learning outcomes. These solutions “take a sophisticated, data-driven, and, in some cases, nonlinear approach to instruction and remediation, adjusting to each learner’s interactions and demonstrated performance level and subsequently anticipating what types of content and resources meet the learner’s needs at a specific point in time” ([Definition adopted by Education Growth Advisors, now Tyton Partners](#)).

Equity Gap refers to disparities in educational access and attainment for historically underrepresented and underserved student populations that are the product of persistent social and institutional barriers to educational opportunities and educational success ([Lumina Foundation and USC Center for Urban Education](#)). From the perspective of the Learning Lab, this term is closely associated with achievement gap and opportunity gap. We can understand equity gaps, in part, as the achievement gaps that opportunity gaps created.

Learning Science is the study of how human learning takes place. It is interdisciplinary in nature, drawing from fields such as cognitive science, neuroscience, computer science, education, psychology, sociology, design studies and more ([The Cambridge Handbook of the Learning Sciences](#)). Learning science strives to understand how people learn, how to support learning, discipline-based learning, and the role of technology in enhancing learning and collaboration. This study of learning can cover how people process, gather, and interpret information; how they develop knowledge, skills, and expertise; or the extent to which social and physical context and design environments influence cognition ([What Do We Teach When We Teach the Learning Sciences?](#)). Scaffolding, inquiry or problem-based learning, collaborative learning, game and simulation-based learning, metacognition are all examples of how teaching methods and approaches to curriculum can be influenced by what we understand about learning. One of the principal goals of learning science and learning engineering is to create a positive feedback/continuous improvement loop between theories of learning and practice, which would result in improved student learning and advances the field of learning science ([The Simon Initiative Learning Engineering Ecosystem](#)).

Opportunity Gap “refers to the ways in which race, ethnicity, socioeconomic status, English proficiency, community wealth, familial situations, or other factors contribute to or perpetuate lower educational aspirations, achievement, and attainment for certain groups of students” ([The Glossary of Education Reform](#)).

STEM refers to the fields of Science, Technology, Engineering and Mathematics. Education researchers and education agencies differ as to which specific disciplines they classify as STEM. Some agencies use a broad definition of STEM that includes the social and behavioral sciences or particular disciplines from the social and behavioral sciences ([Congressional Research Service](#)). We generally follow the [National Center for Education Statistics](#) (NCES) and the [Consortium for Student Retention Data Exchange](#) (CSRDE) in using a narrower definition and identify the following as STEM fields: mathematics, the physical sciences, biological and life sciences, engineering and engineering technologies, and computer and information sciences. We limit our definition of STEM to these fields since they feature low rates of participation or completion among female and underrepresented minority students and/or include introductory gateway courses with high rates of student attrition, especially among female and underrepresented students.