

I. ENGAGEMENT PROJECT OVERVIEW

Over the last two years, Stanford University's Project for Education Research That Scales (PERTS) has worked with over two hundred educators and with leading motivation scientists to develop a new suite of practical measures and best-practice recommendations that empower educators to build more motivating learning environments—learning environments that support student engagement and success. In the Engagement Project, teachers work in teams to iteratively assess and improve three learning conditions that have been linked to student engagement and achievement across numerous studies:

- **Teacher Caring:** Students' perceptions that their teachers care about them (e.g., Sakiz et al., 2012; Wentzel, 1997; Velasquez et al., 2013).
- **Feedback for Growth:** Students' frequently get constructive feedback and understand that the feedback is intended to help them reach a higher standard (e.g., Hattie & Clarke, 2018; Cohen et al., 1999; Yeager et al., 2014a).
- **Meaningful Work:** Students' see how schoolwork is relevant to their lives and goals (e.g., Hulleman & Harackiewicz, 2009; Paunesku, 2015; Yeager et al., 2014b).

The short practical measures used for this work (3 questions for each learning condition) were developed by PERTS in collaboration with Professors Carol Dweck and Camille Farrington, and they were refined through interviews teachers and cognitive interviews with students. A recent set of pre-registered analyses confirmed that these new, practical measures are significant predictors of students' academic outcomes ($p < 0.001$), and this relationship held even controlling for race, gender, and grades in other classes. For example, students who rated learning conditions in their math class as positive were 30% more likely to earn an A or B in that math class.

Additional analyses revealed that the learning conditions were also significant predictors of belonging and growth mindset: When teachers managed to improve the learning conditions in their classes, their students also became more likely to endorse a growth mindset and a sense of belonging in school. This is important because a sense of belonging and a growth mindset have each been associated, through substantial scientific literatures, with stronger and more equitable motivation and achievement (for reviews, see Dweck et al., 2011; Farrington et al, 2012; Nagaoka et al., 2015). Last but not least, students' ratings of the learning conditions in a given week were also strongly associated with the effort they put into work in that week. For example, in the weeks when students felt like their classwork was more relevant or like the feedback they got was more supportive, they also reported putting more effort into their classwork. Together, these findings affirm what was already expected on the basis of prior research: That students' academic motivation—and the achievement it enables—are cultivated by learning environments that exhibit certain conditions.

Of course, the goal of developing practical measures of learning conditions was not merely to confirm that these learning conditions matter for student motivation and learning—it was to create measures that would enable teachers to (1) get rapid, formative feedback that enables them to recognize opportunities to create a more motivating learning environment and (2) to test the motivational impact of any changes they make to their practice. To support teachers in using these practical measures for continuous improvement, PERTS built them into an easy-to-use, web-based program that accompanies formative feedback a change package containing

related best-practices. For example, educators who learn that their students do not perceive their feedback as constructive are pointed to a change package containing concrete recommendations for providing wise feedback, see perts.net/conditions-feedback-for-growth.

In order to implement the Engagement Project (EP), teachers use the Copilot platform, which uses intuitive work flows and check-lists to guide their activities through three or more cycles of inquiry ¹and action. The EP process starts with a launch convening, during which teachers form teams and learn about some of the conditions and practices that support student engagement and success. Thereafter, teachers start a series of improvement cycles. Each cycle starts with a brief (~10 minute), confidential student survey. Within a few days, teachers receive an easy-to-read report that shows them the results of that survey and points them to a library of resources for improving learning conditions (see perts.net/engage/report). Teachers then meet as a team to discuss results and to plan what changes they want to make to their practice. Finally, teachers document their personal reflections and plans for improvement. Then the process repeats itself in another cycle.

Results from the first two years of Engagement Project (EP) pilots suggests that the combination of rapid, formative feedback and relevant best-practices cohere into a potent formula for improving learning conditions. Whereas research consistently finds that motivational conditions decline over time (Allensworth et al., 2018; Eccles et al., 1991; Alspaugh, 1998; Gallup, 2012), 70% of teachers who participated in the Engagement Project managed to improve the motivational conditions in their classes on one or more key dimensions. When teachers used the Engagement Project software with ongoing support from school administrators, results were even stronger. For example, 27 of the 29 teachers who implemented the Engagement Project in Fremont Union High School District improved learning conditions, and the average improvement was 14 percentage points across all three conditions. See perts.net/stories to learn more.

Finally, the benefits of the Engagement Project were experienced disproportionately by members of underserved groups including, Black and Latinx students and students attending Title I schools. The fact that the implementation of the Engagement Project improved engagement (which is disproportionately important for members of marginalized groups) and that it benefited members of those groups disproportionately implies that the Engagement Project represents a promising way to build teachers' capacity to create learning environments that are more engaging and more equitable.

¹ PERTS recommends at least three cycles but it is possible to conduct cycles every 3-5 weeks

II. CO-PILOT PLATFORM

Provides Structured Workflow for Practical Measurement to Support Continuous Improvement

The screenshot shows a navigation menu on the left with options: CLASSES, REPORTS, DOCUMENTS, and STAGES. Under STAGES, there are buttons for Orientation, Team Setup, Cycle 1 (selected), Cycle 2, Cycle 3, Add Cycle, and Conclusion. The main content area is titled 'CYCLE 1' and features a 'PREVIOUS' button on the left and a 'NEXT >' button on the right. The current step is 'INTRODUCE STUDENTS & PARENTS', which includes a text block explaining the importance of introducing the project, a list of links for 'Sample Student Letter', 'Parent Letter (English)', and 'Parent Letter (Spanish)', and a 'Mark Incomplete' button. A progress bar shows '100% Teachers Completed' with a green bar extending to the 100% mark. Below this is a 'SET CYCLE DATES' section and a 'Captain' profile icon.

Provides Reporting by Learning Condition Connected to Potential Recommendations

Learning Condition: Feedback For Growth
 Students learn more effectively when their teachers recognize and encourage progress, and offer supportive and respectful critical feedback to help them improve. To learn more, visit perts.net/conditions-feedback-for-growth.

+31% on average since starting: **Amazing progress!** Overall, 21 more students now see this class as more supportive of their growth.

Feedback For Growth Over Time

Class	Cycle 01 (Feb. 29)	Cycle 02 (Mar. 11)	Cycle 03 (Mar. 29)
Dream Team	~55%	~65%	~75%
Jones English Period 2	~50%	~65%	~75%
[Unlabeled]	~50%	~65%	~75%
[Unlabeled]	~50%	~65%	~75%

Accompanying text boxes for the charts:
 - Top right: "This week, my teacher challenged me to learn as much as I can."
 - Middle right: "This week in class, I thought about ways to improve the quality of my work."
 - Bottom right: "This week in class, I got specific suggestions about how to improve my skills."

III. OPPORTUNITY FOR NETWORKS FOR SCHOOL IMPROVEMENT

In the Spring and Fall semesters of 2020, PERTS will work with interested Gates NSIs or their designees to pilot the Engagement Project. PERTS will support these pilots by offering a package of wraparound customizations and implementation supports (listed below) to each of *five pilot communities* in total. PERTS will be able to support up to two simultaneous pilot communities in Spring 2020 and up to four simultaneous pilot communities in Fall 2020 (see table below).

Support capacity is expressed in terms of pilot communities rather than NSIs, schools, or teachers because the primary cost drivers for PERTS are the trainings and customizations that we intend to offer at the pilot community level. Each pilot community can consist of up to 20 improvement teams and up to 100 teachers who will implement the EP in a given semester. A community's teams and teachers can be drawn from multiple schools or multiple districts, but they must be centrally coordinated by a single *community lead* — a centrally positioned individual or team who will support implementation and coordinate community members' participation in the pilot. For example, the community lead would be responsible for ensuring that all community members attend a community-wide in-person training session so that only one such training session is required for the whole community.

A community lead will ideally be an NSI hub staff member who can coordinate improvement work across multiple NSI schools. However, there may be situations where it would be more efficient for school or district staff or site teams to take on the role of community lead. For example, if two districts within a given NSI each require their own trainings and customized implementation support, they would each be established as a separate pilot community, and, in that case, it may be advisable for their school staff or site-team staff to take on the role of community lead. If demand outstrips supply, PERTS will invite the Gates Foundation to decide how pilot communities should be formed and who should take on the role of community lead.

PERTS will support each pilot community with the following supports in each semester during which they participate:

- One or two live, in-person* or virtual EP demos for whatever community members the community lead assembles.
- A customized implementation plan for the community that PERTS staff will co-develop with the community lead or their designees. For example, PERTS will provide technical support for creating teams, tracking progress, selecting practical measures questions, and accessing data.
- An expert-facilitated virtual or in-person* training in the science of motivation for community leads and whatever community members they can assemble at the same time.
- Access to the Engagement Project software for all pilot community members (up to 100 teachers, plus any affiliated school, district, and NSI staff).
- Technical support for troubleshooting and implementation questions for all community members.
- Quarterly or monthly virtual coaching and design check-ins with community leads. These check-ins will enable lead to solicit guidance from PERTS and enable PERTS to solicit input from the leads on opportunities to enhance future implementations of Engagement Project.
- Assistance with the identification of “bright spots” (positive deviants) in the pilot community and with the documentation of the break-through strategies being used by that bright spot. Such documentation will take place through a video interview with the bright spot teacher or team, and it will be contingent on their willingness to share their strategies and identify. See perts.net/stories for examples of documented bright spots from prior Engagement Project pilots.