Promoting Learning Mindsets in Schools: Lessons from Educators' Engagement with the PERTS Mindset Kit

February 2016

Jacquie Beaubien
Laura Stahl
Rachel Herter
David Paunesku
Background

PERTS - the Project for Education Research That Scales - is an applied research center at Stanford University. We work with schools and researchers around the country to identify, evaluate, and disseminate scalable practices that shift students’ mindsets and increase academic motivation and resilience. Our goal in building the Mindset Kit – a set of free, online resources – is to help educators and parents understand what learning mindsets are, why they are important, and what practices and policies they can implement to develop learning mindsets in their students and children. Importantly, the Mindset Kit is an evolving resource based on a two-way exchange: We collaborate with teachers and with school districts to learn what is working, what is challenging, and what resources or knowledge are missing. The Mindset Kit is also designed to be interactive so that new practices being developed by educators around the country can be disseminated to other schools and teachers.

This report highlights what we have learned about how educators are using the Mindset Kit resources, what challenges they encounter, and what areas for future development have emerged. These findings may be of value to educators, policy makers, and foundations interested in supporting broad adoption of mindset supporting practices and policies.

Acknowledgements

The authors are grateful to the Raikes Foundation for supporting the creation of the Mindset Kit and the research that informs this report. We are also grateful to the educators who participated in interviews and surveys and to the people and organizations that provided feedback, helped us get out the word, and helped us create content, including but not limited to: Khan Academy, Teaching Channel, New Teacher Center, Class Dojo, MENTOR, City Year, CCSR, Carol Dweck, Mari Montoy-Wilson, Chana Stewart, Camille Farrington, Ann Szekely, Mariel Triggs, Debbie Chanan, Julie Norton, the teachers and staff at Hawken School in Lyndhurst, OH, Eric Kellerer, David Bowman, Deb Gordon, Melanie Gardner, Janna Robin, Nick Vitale, Josh Maisel, Barbara Ransom, Debby Kasak, Casey Bardin, Justin Baeder, Christina Bifulco, Shannon Kephar, Jessica Uy, Teresa Draper, Dana Miles, Mandy Bendix, Greg Trimmer, and Mark Berkowitz. Last but not least, we would like to thank the PERTS staff who contributed to the development of the Mindset Kit, including Carissa Romero, Abby Howard, Chris Macrander, and Matt Kandler.
Executive Summary

The PERTS Mindset Kit officially launched in August 2015. This report shares highlights from the process used to develop the Mindset Kit, and it describes how educators are using the Mindset Kit and other resources to bring growth mindset into their classrooms, schools, and districts. We focus on the challenges educators encounter, what has helped them overcome these challenges, and key areas for further development.

Key Insights:

- Teachers are excited about integrating growth mindset practices into their teaching and are looking for more specific resources and models so they know they are getting it right and making an impact.
- Educators at all levels are sharing these ideas with others. They would benefit from more explicit guidance on how to frame messages and respond to misconceptions.
- Districts across the country are motivated to bring this work to their schools and to their communities. They are looking for resources that will interface smoothly with their local needs and existing infrastructure, help them develop internal capacity to deliver growth mindset professional development, and facilitate evaluation of their growth mindset initiatives.
- Educators at all levels are creating innovative resources and training materials. They are eager to share these resources, but they cannot afford to expend significant effort to do so.

Exciting changes are taking place in the education policy landscape that legitimize the importance of addressing students’ psychological needs. The new Every Student Succeeds Act (ESSA) and California’s new accountability plan (LCFF and LCAP) incentivize schools and districts to address school climate and student engagement. PERTS is eager to determine how we can best support this momentum and strengthen the bridges between education research and education practice. The findings in this report are intended to help guide this process.

Creating the Mindset Kit

To create the Mindset Kit, we talked with educators to learn what they need, and we co-created content in a variety of ways:

- **Focus Groups & Interviews** - We conducted focus groups and interviews with teacher champions, school and district leadership, and professional development experts.
- **Educator Fellows** - We hired five expert teachers to provide extensive input and feedback during the development process.
- **Content Testing** - New content was tested with educators in workshops and presentations for the New York City Department of Education, New Teacher Center, Los Angeles Unified School District, Baltimore City Public Schools, and at numerous conferences.
- **Content Co-Creation** - Content was co-created with Teaching Channel, Khan Academy, New Teacher Center, and MENTOR.
- **Literature Review** - Recommendations for facilitating growth mindset professional development were guided by a review of the literature on effective professional development practices.
Gathering User Feedback

**User Feedback Collection Process:** After the release of the Mindset Kit, we wanted to learn who Mindset Kit users are, how they use the Mindset Kit, how useful it is to them, and what challenges they experience understanding or implementing its recommendations. To do so, we collected data in the following ways:

- **Two Surveys** - We first conducted a survey of 252 Mindset Kit users who responded to a short survey. An additional, longer survey was completed by 33 users who provided more details on how they were using the materials and to offer feedback.

- **21 In-depth Interviews** - Interviews were conducted at multiple time points with education stakeholders at all levels to learn about their successes and challenges over time.

- **Mindset Kit User Observations** - We observed, both in person and through shared video recordings, Mindset Kit users implementing mindset-related professional development workshops and classroom practices in a variety of contexts.

- **District-wide implementation planning** - Several districts have engaged with us to explore strategies for district-wide growth mindset professional development implementation (e.g. Baltimore, MD; Los Angeles, CA; Mineral Wells, TX; Marsing, ID).

**Who are Our Users?** Our users include educators in urban, suburban, and rural contexts working at all levels including:

- Teachers across K-12 grade levels and in all content areas;
- Learning coaches;
- Department leaders;
- Principals;
- College and career readiness program staff;
- District professional development providers; and
- New teacher induction trainers.

**Feedback Summary**

The feedback has been overwhelmingly positive. Users love the content and are excited to bring this work into their classrooms, schools, and districts. As we learned about these users’ experiences, three broad areas of opportunity emerged:

1. **Teachers are open to changing their practices**
2. **Educators want to spread the word**
3. **District implementation is growing**

In the following sections, we explore some common challenges that educators face as they seek to take action on each of these opportunities.

“What is great is that Mrs. Lemos (filmed for an upcoming NOVA special) bought into the growth mindset perspective right after the workshop last October. She has been doing growth mindset activities for 5-10 minutes 1-2 times a week and reports that her students have changed the way they talk and respond to hard math problems. She said that it has “changed the way I teach.” She just does not throw words like that around lightly!”

- Ken Price - 21st CCLC Site Director, Marsing, Idaho
Opportunity 1 - Teachers are Open to Changing Practices

Most teachers who learn about learning mindset research see the value of helping their students and are initially motivated to change their practices.

Challenges

**Time** - Lack of time is the biggest barrier teachers identify. They may feel overwhelmed by competing initiatives or they believe that they don’t have enough time to plan implementation or to learn new ideas and strategies.

**Lack of Confidence** - Uncertainty about where to start, self-consciousness about how to use praise, or concerns about “getting it right” are common themes. Many believe they need expert training.

**Mistrust of Generalizability** - Teachers may doubt if recommended practices will work with their students. They often mistrust examples that are not of the same grade level, demographic context, subject area, or school type (e.g. charter versus district schools).

**Support** - Teachers operating alone or in high-turnover schools can become discouraged, especially if other teachers at their school respond negatively.

**Uncertainty About Impact** - Many teachers are unclear if they are having a positive impact. They want guidance on what to look for and how long the process will take. Not knowing can lead them to become discouraged if their expectations are unmet.

**Want to Target Specific Problems** - Teachers are often focused on addressing specific problems such as classroom management, attendance, or homework completion, and may not see how a growth mindset message will help.

**Teaching Practices That Convey a Fixed Mindset** - Teachers may not realize that certain practices can convey a fixed mindset. Teaching practices that influence students’ beliefs include: how students are grouped (by ability level or not); the kinds of goals that are emphasized (performance versus learning); the structure of learning tasks (open versus closed); and methods of assessment (summative versus formative). See Appendix 1 for a summary of this research.

Possible Solutions

**Provide a Road Map** - Provide a better road map for how to slowly integrate changes over time.

**Develop More Video and User Stories** - Highlight more user stories that address issues like implementation time, how growth mindset can affect specific problems like classroom management, that it’s normal to feel unsure of yourself at first, and what successful adoption looks like.

**Provide Feedback** - PERTS is currently testing the Diagnostic of Mindset Promoting Practices (DMPP) survey tool which, once validated, will help teachers know how well they are understanding growth mindset concepts and practices.

**Support Networking** - Provide information about the benefits of networking with other teachers and suggestions for how to form a professional learning community or advisory board. Perhaps, provide an infrastructure to make such communities easier to form effectively.
Opportunity 2 - Educators Want to Spread the Word

Many educators are motivated to share information about learning mindsets with their colleagues, with their students, and with their students’ parents.

Challenges

- **Fidelity Issues** - Educators sometimes create acronyms or metaphors that may be confusing or dilute the message. For example, changing “growth” and “fixed” to “open” and “closed” mindset.

- **Overemphasizing Effort** - Many overemphasize effort and conflate growth mindset with grit.

- **Message Framing** - Teachers sometimes depict mindsets, ironically, in fixed mindset ways. For example, describing individuals with a fixed mindset as lazy or unwilling to take responsibility. Consequently, the message can come across as uncompassionate and lead students to parrot mindset words and phrases without internalizing the key beliefs.

- **Tell Compelling Stories But Miss Key Points** - Many teachers and PD facilitators use personal stories to illustrate a growth mindset, but they often focus on their perseverance and downplay the support they got from others, how they tried new strategies, or how they learned from their mistakes.

- **Resistance** - Teachers can be resistant when it doesn’t make sense to them, when they don’t have evidence from their own context, or when they don’t understand how to implement the ideas. Misconceptions, like thinking growth mindset means “being positive all the time,” also get in the way.

- **Changing Parents’ Mindsets is Hard** - Many educators say that parents’ mindsets and community norms are challenging for them. They worry about evoking defensiveness and want more guidance on how to use the Mindset Kit for Parents.

- **Low Incentive to Share Practices** - Teachers are inventing great practices, but they lack the time and skill to effectively share them on the Mindset Kit. Many districts have accumulated vast, well-organized resources and are happy to share, but there is currently no easy way to do so.

- **Negative Media Attention** - Negative media can cause some teachers to lose confidence or become confused. Teachers may need support in making sense of negative or confusing media.

Possible Solutions

- **Tips for Message Framing** - Explain common misunderstandings and provide guidance on creating stories and messages that are both persuasive and true to the research findings.

- **Create Parent Outreach Materials** - Create materials that educators can use in conjunction with the parent kit to work with parents. Consider developing recommendations for tapping into local social networks based on CureViolence.org methodologies.

- **Improve Content Sharing Process** - This could include improving infrastructure and providing incentives to teachers and school districts.

- **Internal Research Support** - Improve the tools available on the Mindset Kit for schools and districts to evaluate the impact of implementing mindset initiatives.
Opportunity 3 - District Implementation is Growing

Many districts are excited about implementing broad growth mindset initiatives. These efforts tend to be more successful when a core team of passionate individuals implements effectively, obtains local evidence of success, and can then use evidence of effectiveness to inspire others.

Challenges

- **Needs Vary** - What schools and districts find useful depends on how far along they are in their implementation process and how they are structured. For example, those just starting may want more structured PD resources, while those further along may want greater flexibility.

- **Measuring Impact** - Many districts and schools have accountability needs such as those tied to ESSA funding. They often need ways to measure the impact of mindset initiatives.

- **Policy and Initiative Incoherence** - Certain policies, such as tracking, can send fixed mindset messages that conflict with explicit attempts to teach a growth mindset. Changing these practices can be politically and logistically challenging.

- **Turnover** - In high poverty schools especially, turnover makes gaining momentum difficult and can cause teachers and administrators to become discouraged.

- **New Teachers are Overwhelmed** - New teachers often have their hands full, so introducing new practices can be difficult. Yet they are often working in the most challenging environments where a growth mindset may be particularly helpful.

- **Fear of Data and Evaluation** - Changing teachers’ experiences of receiving feedback and using data to evaluate their practices is often difficult for districts trying to implement PD and PLCs.

- **School Support Staffs’ Mindsets** - School support staff often interface with students over their entire time at a school and can play a significant role (positive or negative) in influencing students’ beliefs.

- **Professional Development Credit** - Teachers and districts are often interested in being able to count mindset PD towards continuing education units or other district credit systems. Some districts have created a way to give credit, but there is currently no unified, scalable way to support this process.

Possible Solutions

- **Provide Flexible Resources** - Make resources that are easy to find and that can be easily tailored. Highlight activities that can also be used with students.

- **Create an Assessment Tool** - PERTS is developing a teacher formative assessment instrument (DMPP) and a multi-time point student survey. We are also exploring what improvement research resources might support mindset initiatives.

- **Develop Policy Recommendations** - Provide information on what research suggests are helpful policies and what school-level practices support a growth mindset.

- **Explore Systems for CEU Credentialing** - Micro-credentialing organizations such as Digital Promise may be one option. Research ways other organizations are addressing this need.

- **Provide Literature Review Text** - A review of mindset research could support districts in applying for grants to pay for teacher release time and other resources for implementing mindset initiatives.

- **New Teacher Induction** - Some districts such as Baltimore are now incorporating mindset training into their new teacher induction. Sharing their stories and processes could support other districts.
Building Momentum Nationally

The importance of addressing students’ mindsets has recently gained national attention and policy support through ESSA, which incentivizes schools and districts to address school climate and student engagement. In California alone, 40 districts including LAUSD have included integrating growth mindset into curriculum and professional development as part of their Local Control Accountability Plans. Below we highlight some exciting ways the Mindset Kit is supporting educators across the country to bring growth mindset practices into their schools and classrooms.

Over the past year, GEAR UP 4LA Directors Lois Bramwell and Micaela Vazquez-Hahn have embraced growth mindset implementation. We are excited to begin a 3-year, federally funded project to work with 20 teachers in six GEAR UP 4LA schools to iteratively improve the professional development resources on the Mindset Kit. Our goal is to better support whole-school implementation and sustainable professional learning communities. GEAR UP is a national college access initiative operating in 11 Los Angeles Unified School District (LAUSD) schools in the Promise Zone.

LAUSD has also incorporated Mindset Kit content into its socio-emotional learning (SEL) curriculum used to train lead teachers at 131 Core Waiver schools. These teachers recently participated in a growth mindset workshop. The district’s seven SEL Wellness Facilitators in the Division of Instruction will share insights on bringing this work to their district and suggestions for improving the Mindset Kit in an upcoming focus group.

Two teachers, Zachary Jaffe and Peter Heineman, along with the Executive Director of College and Career Readiness, Rudy Ruiz, have led a mindset revolution within Baltimore City Public Schools. Peter and Zach lead ongoing learning mindset professional development for the district and provided valuable feedback on content for the Growth Mindset for Educator Teams course. This past fall, Tina Jablonowski in the Office of Teacher Development and Support incorporated these materials into the training of over 300 new teachers and their mentors.

We have gained a deeper understanding of the needs of small, rural, high-poverty districts from Texas Superintendent Gail Haterius (Mineral Wells Independent School District – 70% Free and Reduced Lunch, FRL) and Idaho 21st CCLC Site Director, Ken Price (Marsing Joint School District -72% FRL). They have shown us that smaller districts can be great partners because their size enables them to rapidly implement and provide feedback on new materials. Both districts are now using materials from the Mindset Kit to train all their teachers on growth mindset practices. Marsing is also featured in an upcoming PBS NOVA special on districts implementing growth mindset initiatives.
Research examining the degree to which teachers influence their students’ mindsets has only recently begun. Preliminary findings, however, suggest teachers’ mindsets are not predictive of students’ mindsets. Using quantitative survey data and qualitative data, Sun (2015) built on prior seminal work by Jo Boaler (Boaler, 2013, 1998) to examine the relationship between teachers’ classroom practices and students’ beliefs about math ability. Here we offer an in-depth review because of the important contribution it makes to our understanding of how teaching practices influence students’ mindsets.

A total of 40 middle school math teachers from six schools and 3400 of their students were surveyed. Survey data revealed that teachers’ self-reported mindsets were not related to students’ mindsets. However, teachers who endorsed a multidimensional rather than one-dimensional view of math had a greater influence on shaping their students’ mindsets by the end of the semester. In other words, students were more likely to have a growth mindset about math ability if their teachers disagreed with statements such as, “Mathematics involves mostly facts and procedures that have to be learned,” or “There is usually only one way to solve a math problem” (p. 51). Indeed, the qualitative data revealed that while a number of teachers with one dimensional views of math paid homage to the rhetoric of growth mindset - for example, using the term “growth mindset” or encouraging persistence - their teaching practices often conveyed more fixed mindset messages.

To understand how mindset messages were being conveyed in the classroom and how teaching practices varied across teachers, Sun (2015) collected extensive qualitative data over one year. Classroom observations, two semi-structured interviews, and artifacts were gathered from seven teachers at four schools who held a mix of fixed and growth mindset beliefs. Each teacher was observed between 11-13 times over the course of one year and a selection 3-4 of both fixed and growth mindset students from each class were interviewed. The analysis revealed variations in teaching practices in four general categories between teachers with one dimensional and multidimensional views of math: 1) how students were sorted, 2) what classroom norms were set, 3) which types of math tasks were given, and 4) which types of assessment and feedback were provided. Within each category, practices were rated as more or less growth mindset promoting.

Fixed Mindset Classroom Practices

Teachers who held more one-dimensional views of math utilized practices that were categorized as more fixed mindset promoting. These teachers were more likely to group students together based on past achievement, and to convey high expectations for past high achievers and low expectations for past low achieving students. Low achieving students were typically seen as needing help but being incapable of offering help to others. Sorting students and displaying differential expectations signals to students that math ability is a fixed trait. High performing students were also more likely to be publicly praised or acknowledged for their success in accuracy and speed, which seemed to signal that these were the primary goals rather than emphasizing the goal of learning or productive struggle. When a student in a fixed mindset classroom was asked what happened when someone made a mistake, the student responded, “the teachers will tell us why it’s wrong, how we can fix it, and how it should be done” (p. 123). In other words, students were not encouraged to explain their thinking or to try to work through confusion or mistakes on their own. Students in these classes were also typically only given one opportunity to submit assignments or to take tests.

1 Excerpted from Growth mindset and achievement: Insights from mindset research for educators, by Jacquie Beaubien.
Growth Mindset Classroom Practices

By contrast, in the classrooms of teachers who held more multidimensional views of math, the teaching practices tended to align with growth mindset messaging. In these classrooms, teachers made explicit attempts to group students based on how each student might contribute to the group’s collective mastery of mathematics concepts; the classroom norm was that the contribution of all students was valuable.

The math tasks given in these classrooms often encouraged students to think conceptually rather than to use rote memorization of formulas to solve problems. Multiple methods of solving the same problem were also encouraged (e.g., “find 12 percent of the same number using different methods”). This legitimized different approaches to solving problems; thus it wasn’t always the same students being publicly acknowledged for their work. Feedback (praise) also tended to focus on the processes used, effort, and students’ ability to explain their thinking process rather than on producing the correct answer or solving problems quickly.

In many growth mindset oriented classrooms, a norm was explicitly set that intelligence is malleable and that the brain is like a muscle that grows by being challenged. Students were encouraged to embrace struggle, make mistakes, take risks, and persevere through confusion or frustration. They were expected to be able to explain their rationale for answers. These teachers were also more likely to utilize formative assessments to help students understand what they still needed to work on and to allow students to resubmit work or retake exams to improve scores. In these ways, students were trained to think of learning as a process and to understand that all students can be successful. Students in these classes were more likely to use conceptual language to describe the subject of math, whereas students in fixed mindset classrooms used more formulaic descriptions related to following set procedures.

Towards a Framework for Growth Mindset Professional Development

An important finding from Sun’s (2015) research is that teachers’ mindsets and even their explicit use of growth mindset language were often not aligned with their actual classroom practices and did not lead to their students developing a growth mindset. In fact, teachers who explicitly endorsed a growth mindset often engaged in practices that implicitly contradicted this message and produced more fixed mindsets in their students. This underscores the importance of teachers receiving effective training on the specific practices that reinforce adaptive learning mindsets.

References

