CADRE

Catalyst for Actively Designing and Researching Equity

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2021 - 2022

Table of Contents

Project Overview

Catalyst for Actively Designing and Researching Equity (CADRE) is a Researcher-Practitioner Partnership (RPP) that collaboratively creates robust professional development (PD) materials for high school teachers to improve school and classroom practices to better support and broaden participation of culturally and linguistically diverse students in STEM+CS (science, technology, engineering, math, and computer science).

The RPP is ***not*** a traditional professional development workshop where educators listen to lectures from an expert. Instead, it is an active collaboration between experienced researchers and educators, sharing our expertise and testing our solutions together, and using computer science and computational thinking (CS/CT) techniques such as design thinking and continuous improvement to "debug" an inequitable educational system.

In applying CS/CT to educational equity, the goal is to infuse CS/CT into curricular and instructional materials to broaden participation in STEM+CS for all students. The RPP will co-create robust PD materials to support educators to make:

(1) Instructional improvements,
(2) Structural improvements, and
(3) Curricular improvements.

To do so, educators will conduct student empathy interviews, identify problems of practice, and test out solutions that develop each student's academic, cognitive, social, and emotional skills. The RPP will produce PD materials to support educators as they re-design lesson plans and materials to include CS/CT principles.

Acknowledgements

This project is funded by a grant from the National Science Foundation to the University of North Carolina Greensboro (NSF Award # 1837344). Dr. Ryoko Yamaguchi is the principal investigator.

Who We Are

Ryoko Yamaguchi

Ryoko has 30 years of experience in K-12 education supporting culturally and linguistically diverse students as a teacher, researcher, parent leader, and advocate. She taught middle and high school-aged students in residential, psychiatric, and special education classrooms (certifications in behavior disorders and learning disabilities). For 25 years, Ryoko has conducted research on school improvement and equity.

Cyntrica Eaton

Cyntrica has 20 years of experience as a computer scientist, with a focus on providing opportunities for faculty and students at HBCUs and MSIs to pursue technology-related research opportunities. She was a professor of computer science at Norfolk University in Virginia, teaching introductions to computer science to post-secondary students.

J. Michael Griffin

Michael has 25 years of experience as a K-16 educator. He is a combat veteran with eight years of active military experience. In between active combat duty, he taught computing, business, and English language in Ankara, Turkey. This led to a career in education (certifications in computer science and business, English learners, and educational administration). Michael was an assistant principal in Puerto Rico for DoDEA and is currently an English learner educator in Arlington VA.

Adam Hall

Adam has 24 years of experience in K-16 education, providing technical assistance to school districts, conducting research on school improvement and equity, and teaching writing and English to post-secondary students. For 15 years, Adam led qualitative research on teacher and principal development, school improvement, and programs to support culturally and linguistically diverse students.

Syllabus

Date	Topic	Pre-work
Dec	**Equity audit and centering student voice** - What is it like to be a diverse student at your school? Learn how to conduct an equity audit within your circle of influence. - If inequity is baked into a system, let's "debug" it. Learn how to use CS/CT principles to design equity.	**Read and reflect** - *School Talk*
Jan	**Curricular barriers to supports/ Dyad work** - Curricular barriers to supports: Content and activities that support the content - Learn and share: Use a critical friend protocol with your coach (Dyad work)	**Read and reflect** - *Street Data* - Meet with coach - Equity cycle #1
Feb	**Sharing bright spots** - Learn and share: Educator presentations and discussion	**Share** - Presentations
March	**Structural barriers to supports/ Dyad work** - Structural barriers to supports: Policies and procedures on how we "do" school - Learn and share: Use a critical friend protocol with your coach (Dyad work)	**Read and reflect** - *Grading for Equity* - Meet with coach - Equity cycle #2
April	**Sharing bright spots** - Learn and share: Educator presentations	**Share** - Presentations
May	**Instructional barriers to supports/ Dyad work** - Instructional barriers to supports: Supporting students through the learning pit	**Read and reflect** - *CRT & the Brain* - Meet with coach

Date	Topic	Pre-work
	- Learn and share: Use a critical friend protocol with your coach (Dyad work)	- Equity cycle #3
June	**Sharing bright spots/ Next steps** - Learn and share: Educator presentations - Next steps: Inculcate CS/CT	**Share** - Presentations
June - July	**Individual follow-up conversations** - Debrief with the research team to help us improve the CLT	**Reflect and share** - Interviews

Reading Materials

All materials are provided to CADRE members. Below are books provided at the start of each cohort.

- Hammond, Z. (2015). *Culturally Responsive Teaching and the Brain*. Thousand Oaks, CA: Corwin.
- Pollock, M. (2017). Schooltalk: *Rethinking What We Say About--And To—Students Every Day*. New York, NY: The New Press.
- Feldman, J. (2019). *Grading for Equity: What It Is, Why It Matters, and How It Can Transform Schools and Classrooms*. Thousand Oaks, CA: Corwin Press.
- Safir, S., & Dugan, J. (2021). *Street Data: A Next Generation Model for Equity, Pedagogy, and School Transformation*. Thousand Oaks, CA: Corwin Press.

Expectations of the Team

This Collaborative Learning Team (CLT) is an advanced-level course on educational equity and culturally responsive pedagogy. Educators in this CLT are expected to:

1. **Bring an equity-focused growth mindset.**
   Have a "beginner's mindset". Bring your curiosity, humility, and vulnerability. Ask, "Why?" Before we can think about solutions, we don't need to understand the problem. We know what the problem is—inequity. We need to understand the "why."

2. **Be fully engaged and present with each other and yourself.**
   Participate in synchronous discussions. This is especially important in virtual settings; engage in virtual synchronous discussions. Do not just come to listen.

3. **Commit to mindful practice.**
   Reflect on your practice, study the outcomes, and revise the system (your circle of influence). You will conduct a series of adaptive continuous improvement cycles and present your learnings to the CLT.

The emphasis of this CLT is to do—to enact equitable practices, to cycle through a continuous improvement process to improve the practices, and to expand your circle of influence to design equity across the system.

You are not alone! You will collaborate with your CADRE mentor as you learn about equitable practices, identify and remove barriers, and test out supports. More than half of the CLT meetings are dedicated to learning and sharing from your colleagues.

Learning Objectives

The CLT is grounded in various research on how people ***learn*** and how people ***improve***, synthesizing research from various fields such as neuroscience, social psychology, computer science and engineering, business, contemplative practice, and STEM+CS education research.

The learning objectives for this CLT includes:

- Educators will learn about computational thinking and computer science principles and how to relate these principles within their circle of influence.
- Educators will learn about the learning environment from students' points of view and students' lived experiences.
- Educators will learn about structural, instructional, and curricular barriers and how to develop supports.
- Educators will learn how to use "street data" to identify and remove barriers.
- Educators will learn the continuous improvement process.

Educators will learn these objectives through meetings with the research team and fellow CLT colleagues, readings, self-reflections, and testing out supports through at least two equity cycles of improvement.

Conceptual Framework of CADRE

Supporting students, whether your role as an educator is as a teacher, specialist, counselor, social worker, or administrator, is complex work that requires both technical knowledge and adaptive (and reflective) skills. Being an educator is more than relaying content to students, it is developing students' academic, cognitive, social, and emotional development. That responsibility is shared with all the grown-ups in the education system.

With technical knowledge, educators learn, re-learn, and extend their knowledge about:

- Content knowledge of your field whether it is core content, specialized content, counseling, and administration (including state standards, assessments, and district/school policies);
- Adolescent development (especially in the age if social media);
- Science of learning how to learn (cognitive psychology, social psychology, neuroscience, etc.); and
- Science of teaching (education research, social psychology, cognitive psychology, etc.).

The challenge that takes a lot of cognitive load is applying the technical knowledge into educator practice, being able to adapt and be reflective in one's practice while juggling a lot of technical knowledge.

In applying technical knowledge, educators are designers. Educators are creators. Educators apply the technical knowledge to create, design, and adapt:

- **Structures** for each student to be seen, valued, and supported in developing their academic, cognitive, social, and emotional development;

- **Instruction** for each student that develops trusting, authentic relationships that support students through the learning process; and

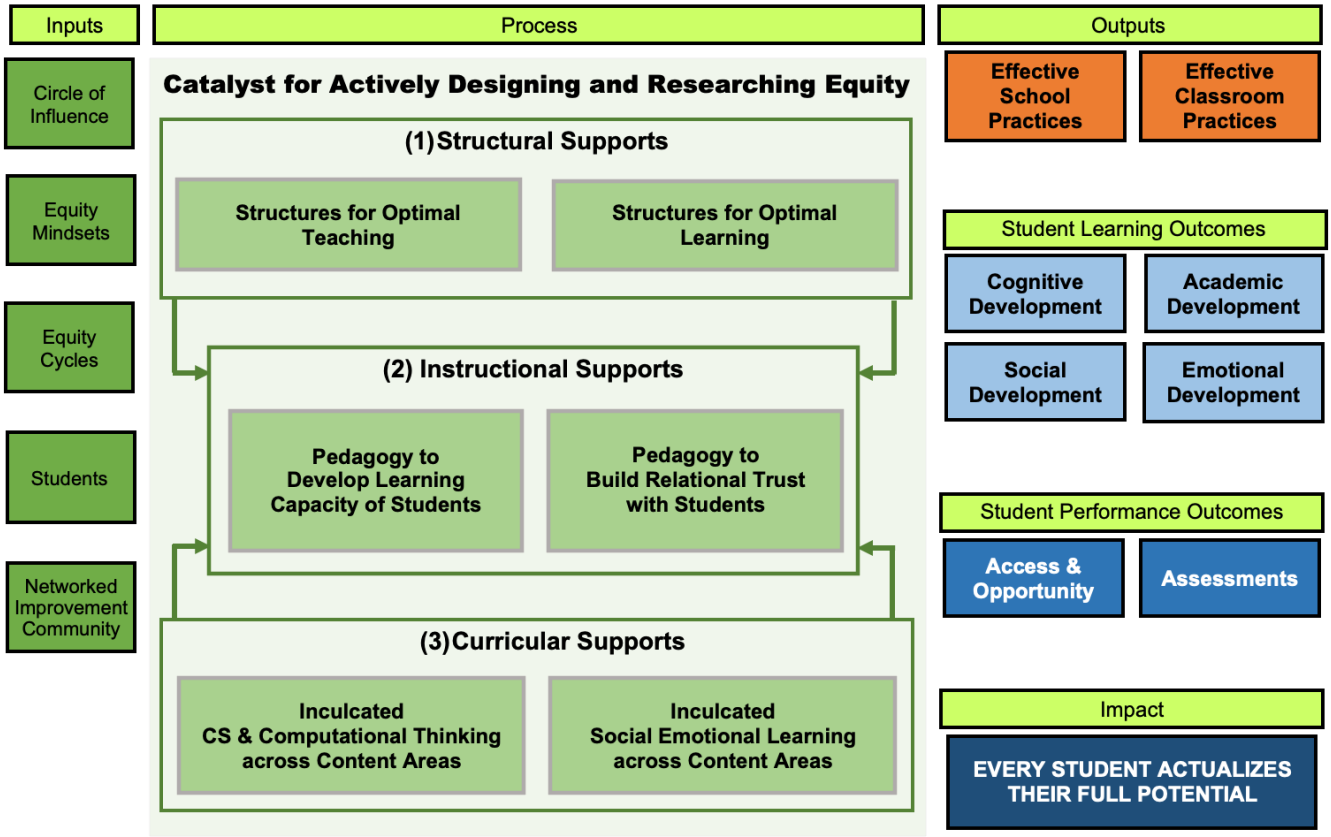
- **Curriculum** that ignites student engagement and learning.

When school quality is primarily defined and measured by student performance on standardized assessments, with research focusing on student gaps (e.g., Chetty, Hendren, Jones, & Porter, 2018; Dumont & Ready, 2020; Reardon, Robinson-Cimpian, & Weathers, 2008), it can make education leaders and stakeholders fixate on student demographic differences and perpetuate a deficit mindset. This narrative of school quality makes students (of color) the reason for a "good" or "poor" school (Freidus, 2020). Rather, there is an exigent need to look beyond students to see the system.

Within the K-12 education landscape, researchers and policy makers have noted that schools are inequitable by design (Fischer et al., 1996; US Commission on Civil Rights, 2018). To actively create equitable, supportive spaces for students (Love, 2019), we need to first measure the people creating equitable spaces—the educators.

Therefore, the measure of a quality school needs to focus on the educators (see **educator outcomes in figure 1**). This, in turn, supports students' cognitive, academic, social, and emotional development (see **student learning outcomes**). When students are primed to learn in an optimal and safe learning environment, students can experience success when provided the access and opportunities for rigorous courses and success in academic performance (see **student performance outcomes**). This is when we achieve equity, where every student can actualize their full potential (see **impact**). This is what equity is about. Equity benefits everyone. It means broadening participation of diverse students (cultural, linguistic, economic, and neurodiverse) in STEM+CS, in advanced-level courses, and in graduating high school college and career ready.

Figure 1: Conceptual framework



Designing Equity: Structural, Instructional, and Curricular Supports

Given that educational inequities are pervasive and pernicious, a learning ecosystem must be actively redesigned for equity (Chinn, Barzilai, & Duncan, 2021; Fischer et al., 1996; Gorski & Swalwell, 2015). Students of color, and Black students specifically, face structural, instructional and curricular barriers to accessing and engaging in STEM+CS (Peters-Burton, Lynch, Behrend, & Means, 2014).

Structural barriers to supports

Structural aspects of schooling are the organizing principles and mechanisms such as policies, programs, and procedures of how we "do" school. These include written formal procedures and policies and unwritten informal procedures and policies. In essence, structural aspects of schooling get at the organizational culture (Pollock, 2017).

Structures for optimal teaching: Structural aspects of schooling include organizing principles for educators in the system: educator performance and accountability procedures, educator pay scale and promotion procedures, central office supports, and procedures for within school and across school interactions with other educators. These organizing principles for teaching can create barriers in equitable school finance (Levin, Belfield, Muennig, & Rouse, 2007), hiring and retention practices of diverse highly-qualified educators (Lee & Sartain, 2020), and on-going educator training and supports (Penuel, 2017). For optimal teaching, we need structures that support educator growth and improvement.

Structures for optimal learning: Structural aspects of schooling include organizing principles for students in the system: grading policies; access and opportunity to participate in various instructional programs, extra-curricular clubs and sports, supplemental supports; and procedures and rules to follow. These organizing principles for learning have had well-documented negative impacts on student outcomes (Pollock, 2017), but it is important to note that these organizing principles greatly limit a school's ability to educate students (Grissom, Egalite, & Lindsay, 2021). For optimal learning, we need structures that support student growth and learning.

Instructional barriers to supports

Instructional aspects of schooling are the educator intent plus actions for equity to support students through the learning pit (Nottingham, 2017). Rather than just relaying standards-based content (Hammond, 2015; Ladson-Billings, 1995), effective pedagogy includes both developing the learning capacity of students AND building relational trust with students.

Students experience significant instructional barriers by way of implicit and explicit biases and lower expectations among STEM+CS teachers (Copur-Gencturk, Cimpian, Lubienski, & Thacker, 2019; Gershenson, Holt, & Papageorge, 2016). Unfortunately, improving culturally responsive pedagogy and practice through professional development is challenging (Johnson, Severance, Penuel, & Leary, 2016; Kennedy, 2016) with little impact on student outcomes (Conway-Turner, Fagan, Mendoza, &

Rahim, 2020). Further, within the area of STEM+CS, professional development efforts are often disjointed across district and school departments (Computer Science Teacher Association, 2013; Darling-Hammond, Hyler, & Gardner, 2017), inconsistently delivered, monitored and assessed (Lakhwani, 2019), with a need to include an equity-orientation within effective teaching in STEM+CS (Ryoo, Goode, & Margolis, 2015).

Pedagogy to develop learning capacity of students: This is providing intentional, formative feedback for learning and developing the learning capacity of students (academic, cognitive, social, and emotional development) (Hammond, 2015). In a learning partnership, effective pedagogy is about bringing students into the zone of proximal development while in a state of relaxed alertness so that she experiences the appropriate cognitive challenges with social emotional supports to go through the learning pit (Hammond, 2015; Nottingham, 2017). As part of supporting and coaching students through the learning pit, wise formative feedback is a way of giving feedback that reassures students that they will not be stereotyped or doubted as less capable (Hattie & Timperley, 2007; Steele, 2010; Yeager et al., 2014). In providing wise feedback, the educator conveys faith in the potential of the student while being honest with the student about the gap between her current performance and the standard she is trying to reach (Cohen & Steele, 2002; Cohen, Steele, & Ross, 1999; Hammond, 2015).

Pedagogy to build relational trust with students: This is building authentic learning partnerships with students and creating relational equity in classrooms and school (Boaler, 2008; Chval, Pinnow, Smith, & Perez, 2018; Pollock, 2017). Partnerships with students include educators planning toward both academic and social goals with their students, asking: Where am I going (what are the goals), How am I going (What progress is being made toward the goal), and Where to next (What activities need to be undertaken to make better progress) (Pollock, 2017). Further, educators must be well-versed and attuned to relational equity by actively supporting marginalized student voices in the classroom and school while supporting dominant student voices for equity (Chval et al., 2018; Juvonen, Lessard, Rastogi, Schacter, & Smith, 2019).

Curricular barriers to supports

Curricular aspects of schooling are content and activities that engage the content. Types of curriculum can include recommended, written, supported, tested, taught, learned, hidden, and excluded curriculum (Glatthorn, Carr, & Harris, 2001). Curricular aspects of schooling include content for educators, such as new teacher on-boarding content, teacher training content and materials, special education regulations and policies, high school graduation requirements, and state standards and subject-area content. Barriers for educators can include accountability pressures coupled with trying to make sense of the content to teach well (Frank, Kim, Salloum, Bieda, & Youngs, 2020).

Curricular aspects of schooling include content for students, from course content, social emotional learning, extracurricular clubs, high school graduation content. Curricular content and activities should support all types of learners to fully engage in and grapple with the material (Boaler, 2002; Hammond, 2015; Ladson-Billings, 2017).

Unfortunately, students experience curricular barriers by way of "curricular punishment" (Milner IV, 2020) where students are not exposed to enriching, engaging, and empowering curricular materials; a "Whiteness" lens in math (Battey & Leyva, 2016) and science curricula (Le & Matias, 2018) that advances a racial hierarchy of ability and intelligence; and reliance on "gimmicks" (Hammond, 2015) or focus on "heroes and celebrations" (Banks & McGee Banks, 2016).

Inculcated CS and computational thinking across content areas: Curricular supports are content and activities that foster problem solving for students by way of computational thinking. Rather than didactically lecture and relay content, inculcating problem solving into how students can engage in the content is an ideal way to ignite students to learn.

Inculcated social emotional learning across content areas: Curricular supports are content and activities that foster practice of social and emotional skills as students engage in the learning process. Social emotional skills are important in the learning process because it supports students to go through the learning challenge. To learn,

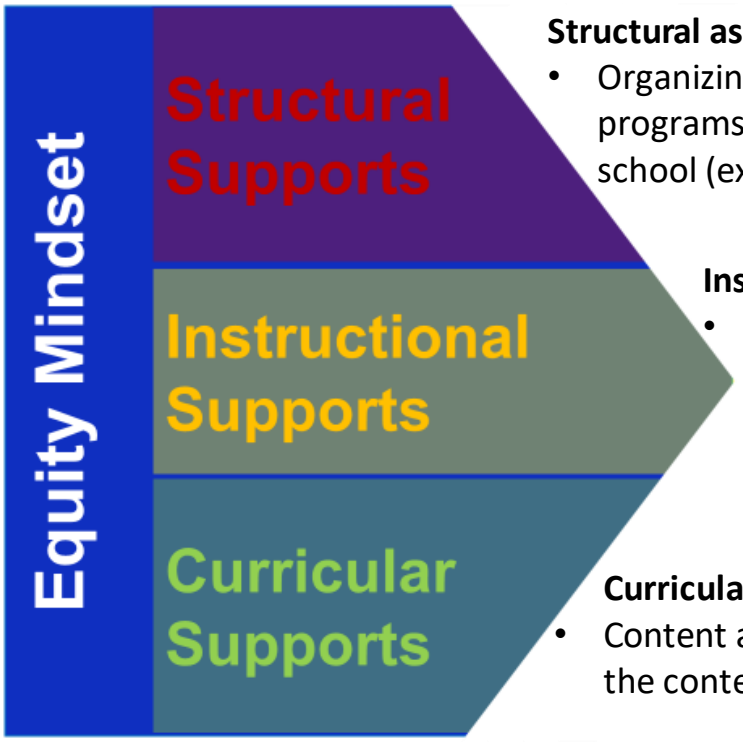
students must go through productive struggle. But for learning to take place, the productive struggle must come with skills such as self-regulation, self-awareness, collaboration, and communication skills.

How to Conduct an Equity Audit

The purpose of conducting an equity audit is to understand what it is like to be a marginalized student in your school. Often, that includes culturally and linguistically diverse students in your school. But an equity audit is not an analysis of performance gaps of student long-term outcomes (like state assessments). An equity gap includes:

- Activating an equity mindset in seeing the system of schooling (structural, instructional, and curricular aspects of schooling);
- Reflecting on how services (like schooling) are being received by students; and
- Conducting empathy interviews with the end-users (that's the students) to understand what it is like to be a student in your class, in your assigned cohort of students, and in your school.

Activating Our Equity Mindset



Structural aspects of schooling

- Organizing mechanisms such as policies, programs, and procedures on how we "do" school (example: Grading policies)

Instructional aspects of schooling

- Educator intent + actions to support students through the learning pit (example: Formative assessment)

Curricular aspects of schooling

- Content and activities that fully engage the content (example: Lesson plans)

Reflect and set our intentions for deep engagement, without judgement:

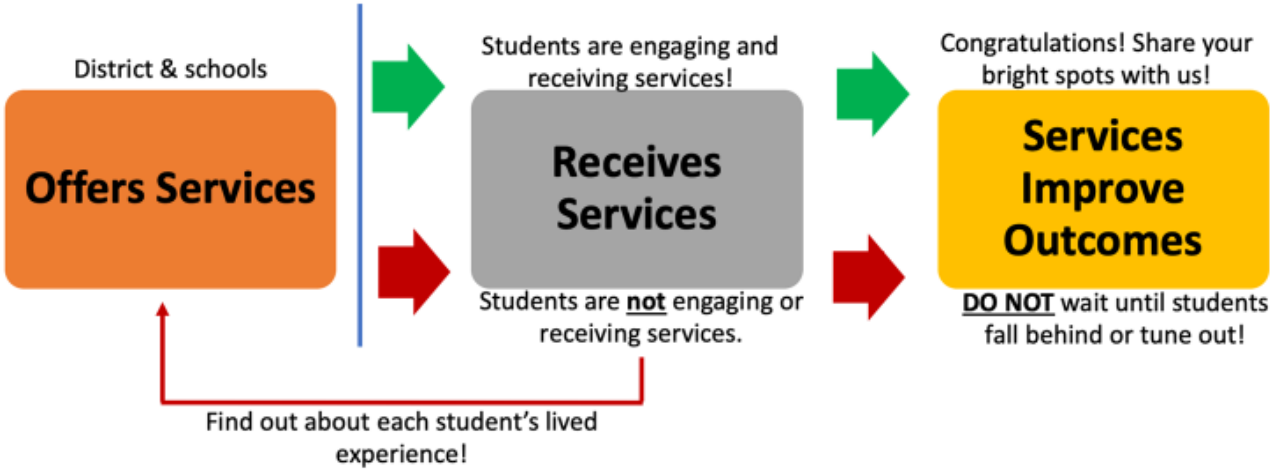
- ☑ How will my role as an educator be an **asset** to this discussion?
- ☑ How will my role as an educator be a **challenge** to this discussion?

When you activate an equity mindset, the system of school starts to have a different hue. It literally starts to look different. Let's take a look at the graphic, where an equity mindset is the blue hue that infuses everything in the system.

For structural supports, the status quo of the way we "do" school such as typical grading policies and procedures for requesting rigorous courses, will be, say, a red hue. When you bring an equity mindset (the blue hue), you'll notice that students face a lot of barriers within the status quo. When you bring an equity mindset, educators designing structural supports will have a purple hue instead. This can mean having a grading policy that focuses on students exhibiting social, emotional, and cognitive development, and not just academic development. The blue hue of the equity mindset will infuse instructional and curricular supports as well.

Reflecting on Receipt of Services

Once we bring an equity mindset with the blue hue, we have to go beyond just offering services, to making sure the services are being received as intended. We learn through a feedback loop of receipt of services through techniques such as empathy interviews and an adaptive implementation continuous improvement cycle. To learn to improve, we need the feedback loop with data.



Conducting Empathy Interviews

Empathy interviews with students are actually not about the students—it's about the person doing the interview. Empathy interviews are a part of design thinking, computational thinking, and computer science. The developer (that's the educator in our case) conducts empathy interviews with the end-user (that's the students) to better design and develop a product (that's equitable schooling). Here are the steps to conduct empathy interviews.

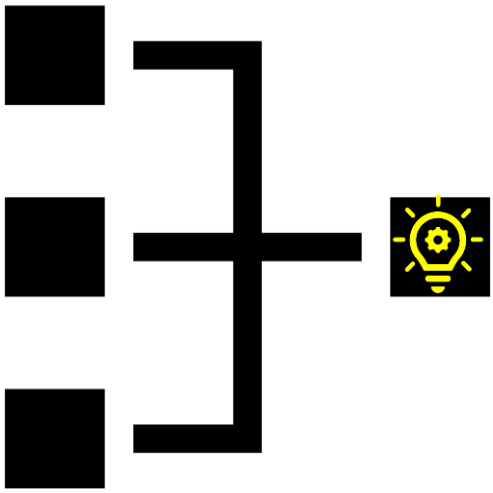
(1) Engage in a *conversation* with 2 students or your fellow educators.

An empathy interview should feel less like an interview for a research study and **more like a conversation with a friend**.

Empathy interviews are a great technique to *gather data*. Do not fall into the trap of thinking "quantity over quality" or "either/or" thinking. Data is only as good as how it is used to help us improve our thinking.

Why is an empathy interview important?

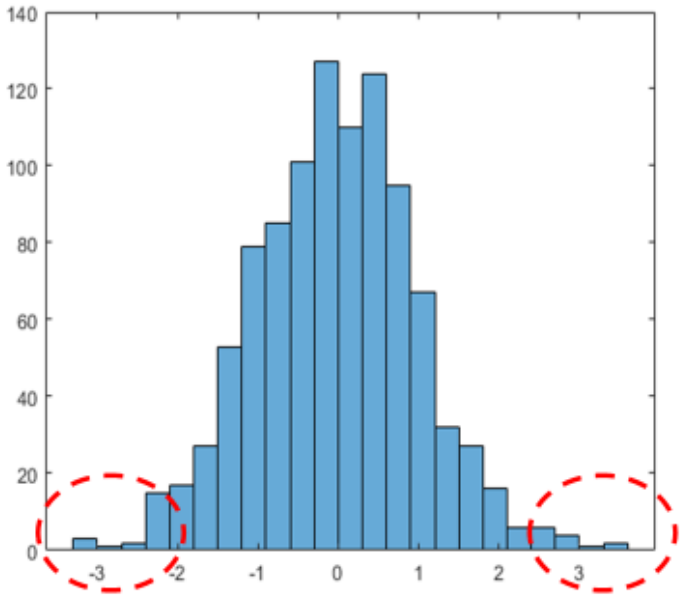
- Helps to understand students' thoughts, emotions, and motivations to determine **how to best support** them.
- Helps to **see the system** that the student is in.
- Helps to **identify needs and gaps** that students have.



(2) When selecting students for empathy interviews, *seek outliers*. Select students at opposite ends of a continuum on a variable of your choice:

- Assignment revisions—A student who always revises and resubmits work and a student who never revises and resubmits work.
- Office hour attendance—A students who always comes to office hours and a student who never comes to office hours.
- Virtual class participation—A students who always participates verbally and a student who rarely participates verbally.
- Video—A student who always has their video on during virtual class and a student who never has their video on.

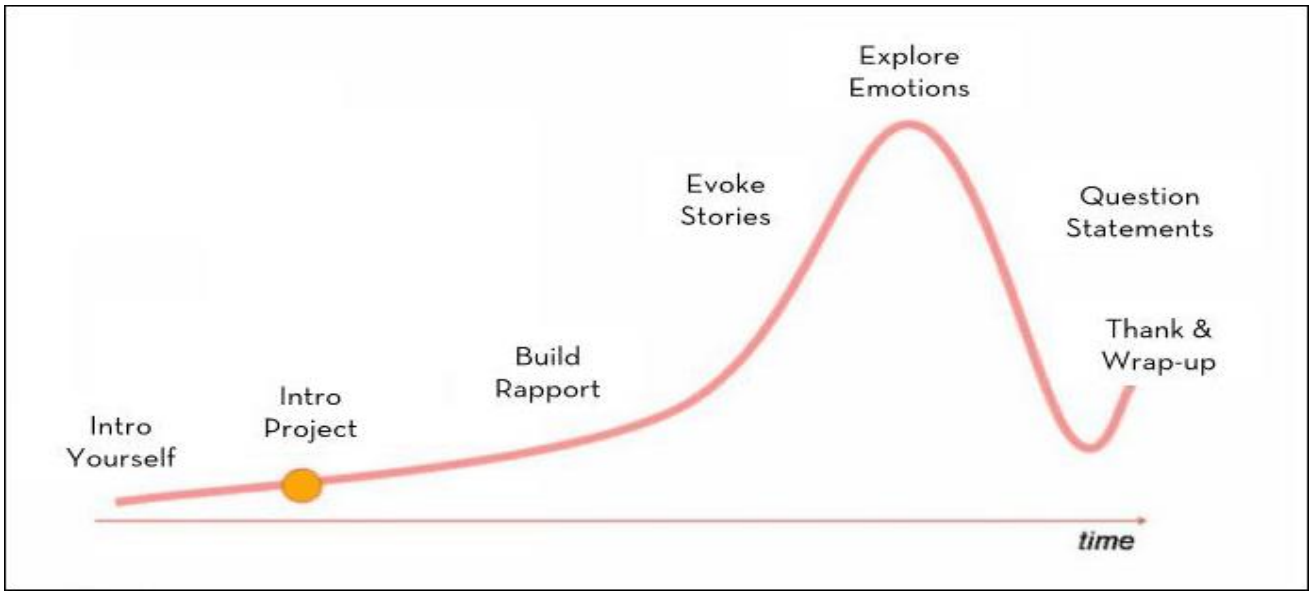
The value of outliers



- The story of outliers
- The story of best practices (Bright Spots)
- The story of challenges and lessons learned (What Not to Do)
- The story of the "real" problem and core goal

(3) Empathy interviews should *never exceed* 10-15 minutes.

The flow of an empathy interview



Source: http://dschool-old.stanford.edu/wp-content/themes/dschool/method-cards/interview-for-empathy.pdf

(4) Empathy interviews have 1-3 *open-ended questions*. Examples include:

- Tell me about the time a school or class policy ("rules" like grading or attendance, procedures like starting a club or getting extra help) worked for you.
- Tell me about the time a school or class policy did not work for you.

Example question starters

- Tell me about the time…
- Tell me about the last time …
- Can you help me understand more about…
- What are the best / worst parts about…

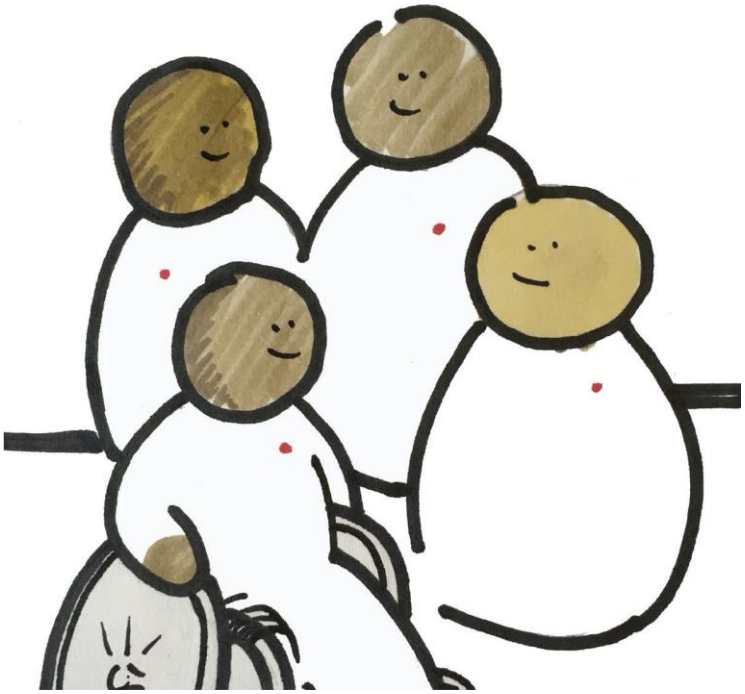
- Tell me more…
- Why was that?
- What were you feeling?

(5) Once you gather the *personal narratives*, create headlines by:

- Remaining descriptive. Do not extrapolate with your interpretation (e.g. bringing in bias).
- Sticking closely to the data, which centers the student's lived experience.
- Grouping student quotes into themes, with one theme per headline.
- Summarizing what the headlines are telling you:

What is it like to be a diverse student in your classroom and school?

(6) It is important to ensure *face-validity* (i.e., perform a reality check) by asking, "This is what I found, but does it make sense to you?" with your fellow educators or students.



Getting face-validity

- Seek liberatory collaboration
- Present your draft findings to diverse stakeholders and ask, "How does this sound to you?" or "Does this make sense to you?"
- You may need to go back to your data to revise your analysis, headlines, and narrative.

Interested in more information on empathy interviews? Check out these resources:

Stanford University Design School, Liberatory design:

- https://dschool.stanford.edu/resources/equity-centered-design-framework

Stanford University Design School, Empathy Interview Method:

- http://dschool-old.stanford.edu/wp-content/themes/dschool/method-cards/interview-for-empathy.pdf

Los Angeles Unified School District, Empathy Interview Protocol:

- https://achieve.lausd.net/site/default.aspx?PageType=3&ModuleInstanceID=45379&ViewID=C9E0416E-F0E7-4626-AA7B-C14D59F72F85&RenderLoc=0&FlexDataID=65278&PageID=12036&Comments=true

How to Center Students' Lived Experiences

After conducting an equity audit and are getting a better feel for what it is like to be a culturally and linguistically diverse student in your classroom and school, keep centering students' lived experience.

Have you noticed that educators are not really trained to center students? We tend to center ourselves. How do WE teach the material? How do WE engage students? How do WE grade students? How do WE follow the state standards for our performance evaluations?

Here's an example. When you look at this sales advertisement for a local nursery "**Shady Deal Week**", what comes to mind?

Option 1: If you were a gardener	Option 2: If you were a student
Great! I can get 25% off hydrangeas! I am going to the nursery to buy more hydrangeas!	How rude! Why would the nursery tell you that people are getting shady deals? We better not go there.

What would happen if we flipped our perspective to center students?

- Check out the video by **We All Count** about "Not Your Average Average" here: https://weallcount.com/2019/07/11/auto-draft/

- Check out **Students for Racial Equity**, an Arlington-wide student-led organization here: https://sr-equity.org/. They have student blogs that highlight student experiences in Arlington schools.

- Check out Winona Guo and Priya Vulchi's TED talk that culminated in their book, **Tell Me Who You Are: A Road Map for Cultivating Racial Literacy**, here: https://www.youtube.com/watch?v=Bs2Fv3YiSFM

How to Actively Design Equity

For educators, we are now going to learn something really new—computer science and computational thinking skills. We use these skills every day and not just when we are using computers or electronic devices. We problem solve to find the best way to commute to school, debug the commute to get rid of inefficient paths, and optimize the commute. But computer science (CS) and computational thinking (CT) skills are not just about learning to code a computer program or solve problems. CS and CT are also a way of thinking about information.

The Promise of CS / CT for Equitable Instructional Practice

We learned this the hard way during the global COVID-19 pandemic where schooling became virtual. Whether teaching virtually, creating on-line classrooms via Canvas, or communicating with students through various technology, CS and CT skills are ubiquitous to teaching and learning. In fact, computational thinking can be seen as an important component of 21st century learning (Batelle for Kids, 2019).

To inculcate CS and CT skills into the way we "do" school, let's first learn and use these skills to "debug" an inequitable system of schooling. We will use processes and techniques used in computer science, such as design thinking, to actively design equity into our structural, instructional, and curricular supports.

Once we are comfortable with applying the principles of computer science to design equity into our classroom and school, we will inculcate CS/CT skills into curricular materials for students. Hammond (2015) refers to building the intellectual capacity of students as the final part of culturally responsive pedagogy. Whether it is math and science class, English and history class, or requirements for high school graduation, computer science skills can help students become independent learners and develop their academic, cognitive, social and emotional skills.

On the pathway to becoming independent learners, students must become savvy consumers of information. CS and CT are ultimately concerned with information:

- What is information?
- Where does information come from?
- How do we store information?
- How do we sort and retrieve information?
- How do we use information?
- How can we make sense of information?
- How can we empower students to use information to reach their goals?

Supporting students to use information, and how technology can support students to efficiently access and use information, are the thrust of building the intellectual capacity of students.

Through CADRE, we will inculcate CS and CT skills in the following:

(1) Learn CS and CT skills and immediately apply them to "debug" inequity in our circle of influence through design thinking, equity cycles, and iterations.

(2) Design curricular materials to inculcate CS and CT skills within your content area.

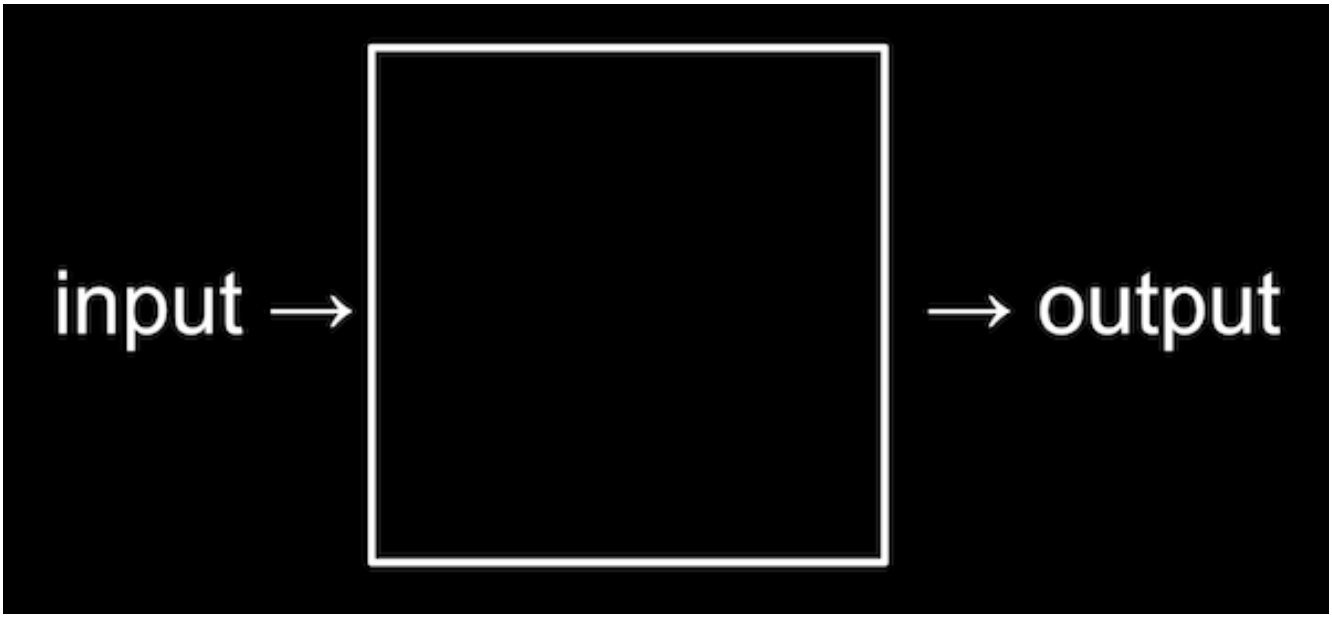
(3) Collaborate with CS experts and educators to expand CS and CT skills into your curricular and pedagogy, such as project-based learning and capstone projects.

What is computational thinking?

David Malan, a computer science professor at Harvard University, states:

> Computer science is fundamentally problem solving. We can think of problem solving as the process of taking some input (details about our problem) and generate some output (the solution to our problem). The "black box" in the

middle is computer science, or the code we'll learn to write (Malan, 2021. CS50 Week 0 Notes. Access https://cs50.harvard.edu/x/2021/notes/0/).



If computational thinking is about problem solving, educators as master problem solvers! We have a variety of inputs—academic content to teach, performance metrics and accountability, student daily moods and experiences. Given the inputs, we need to see outputs, such as educators pulling off effective teaching that leads to students learning.

So with this educator-scenario, what's in the black box of education?

That's us, the educators. Designing equity every day.

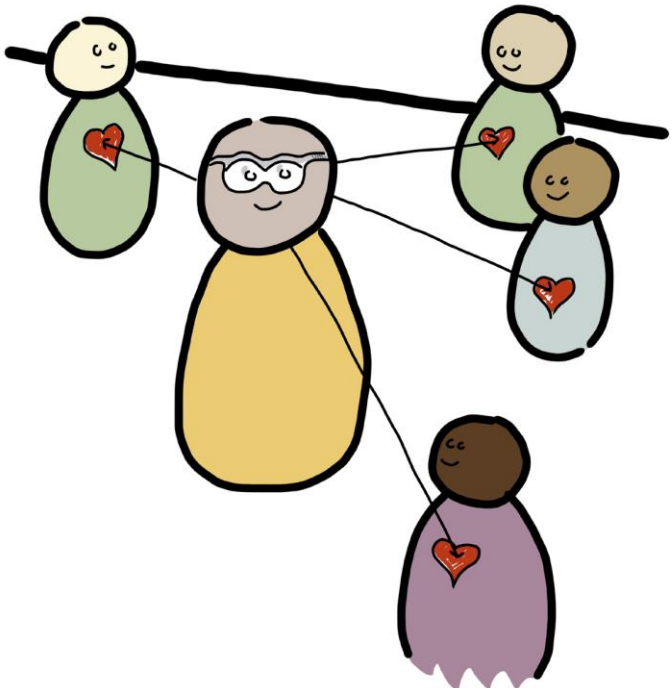
Liberatory Design

Liberatory Design is based on computer science principles of design thinking—a process that centers users in designing technology. It also uses best practices from fields like complexity theory, organizing, equity, restorative healing, and mindfulness.

Liberatory Design takes the problem-solving approach towards designing for equity. It is made up of mindsets and modes:

- **Mindsets** invoke stances and values to ground and focus the design practice,

- **Modes** provide process guidance for the design practice.



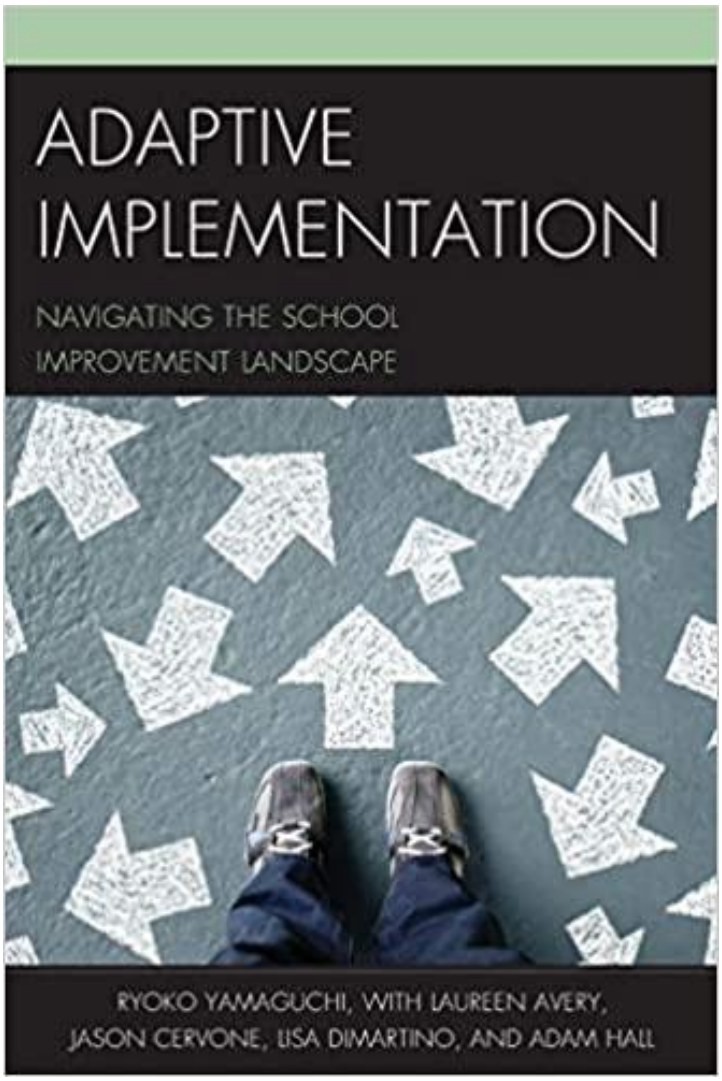
The goals of the mindsets are to:

- Bring self-awareness and intention to our schooling practices.
- Help us recognize oppression in how we live and work and realize alternate ways of being, doing, teaching, and learning.
- Expand our frame of reference for what is possible.
- Inspire creative courage and set a foundation for liberatory collaboration.

The goals of the modes are to better understand barriers in highly complex interconnected systems, to combat the status quo of the way we "do" school, and to test out supports that work. The modes include noticing, experimenting, learning, reflecting, and repeating.

Access the PDF for free at: https://www.liberatorydesign.com/

Equity Cycles



Equity cycles are adapted from the book, Adaptive Implementation. Adaptive implementation is a continuous improvement process that focuses on educators as the creator of innovative practice. The central theme is that effective educators always adapt. They adapt curricular materials, they adapt structural policies and practices, they adapt instruction student-to-student and moment-to-moment. Effective educators adapt all the time to meet the needs of each student, but those adaptations are never captured, reflected on, and shared. Adaptive implementation is a process to document our adaptations, document whether it worked, and to share our bright spots of effective instruction.

Equity cycles integrates a computational thinking approach to cycle through the improvement process centering student voice in identifying educator's problem of practice.

The core goal

The core goal of CADRE is to develop student's academic, cognitive, social, and emotional skills (**mid-term student outcomes** in the conceptual framework) so that they can succeed with provided access and opportunity and show their performance. Who does that? The educators. Therefore, the short-term educator outcomes are

effective classroom and school practices and effective instruction (conceptual framework).

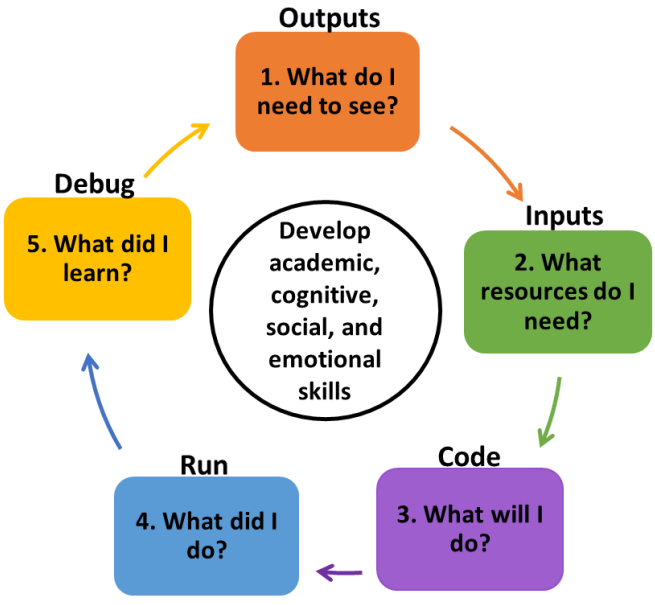
The problem of practice

To see measurable improvements in short-term educator outcomes (effective classroom and school practices; effective instruction), we know there are problems of practice to address.

- Reflect on your classroom (or school) policies and practices.

- Conduct empathy interviews with students or other educators.
  - Connect with your students or fellow educators to better understand how barriers are working in your class or school.
  - You just need two empathy interviews from either end of the spectrum.

- Identify a problem of practice—that is, a barrier to equity.
  - From the empathy interview data, identify one barrier.
  - The barrier you identify should come from the data. Do not identify one without data. Verify with data.
  - The barrier you identify should be within your circle of influence (Covey, 1989; Hammond, 2015).



Step 1: What do we need to see?

- This is the output in computational thinking.

- Think small wins. Small wins are concrete, complete, implemented outcomes of moderate importance that can produce visible results (Correll, 2017; Weick, 1984).

- Identify observable outcomes of you, the educator, to address the problem of practice.

Step 2: What resources do we need?

- This is the input in computational thinking.

- Resources can be money, people, technology, and materials. Think about what you have (resources), what you don't have (constraints), and what you could have (opportunities).

Step 3: What will we do?

- This is your code in computational thinking.

- This is a plan on what you will do to enact the observable outcome of you, the educator.

- Educators go straight to what students will do. That's what we were trained to do with student lesson plans. Here, challenge yourself to focus on what your behavioral changes will be and how you plan to enact your behavioral change.

- Don't forget to specify your data collection. The data is about you in offering services and can also include the student with the receipt of services.

Step 4: What did we do?

- This is where you run your code in computational thinking.

- Review the data you collected to show what you did, how that differed from what you planned, and what adaptations you made to your plan.

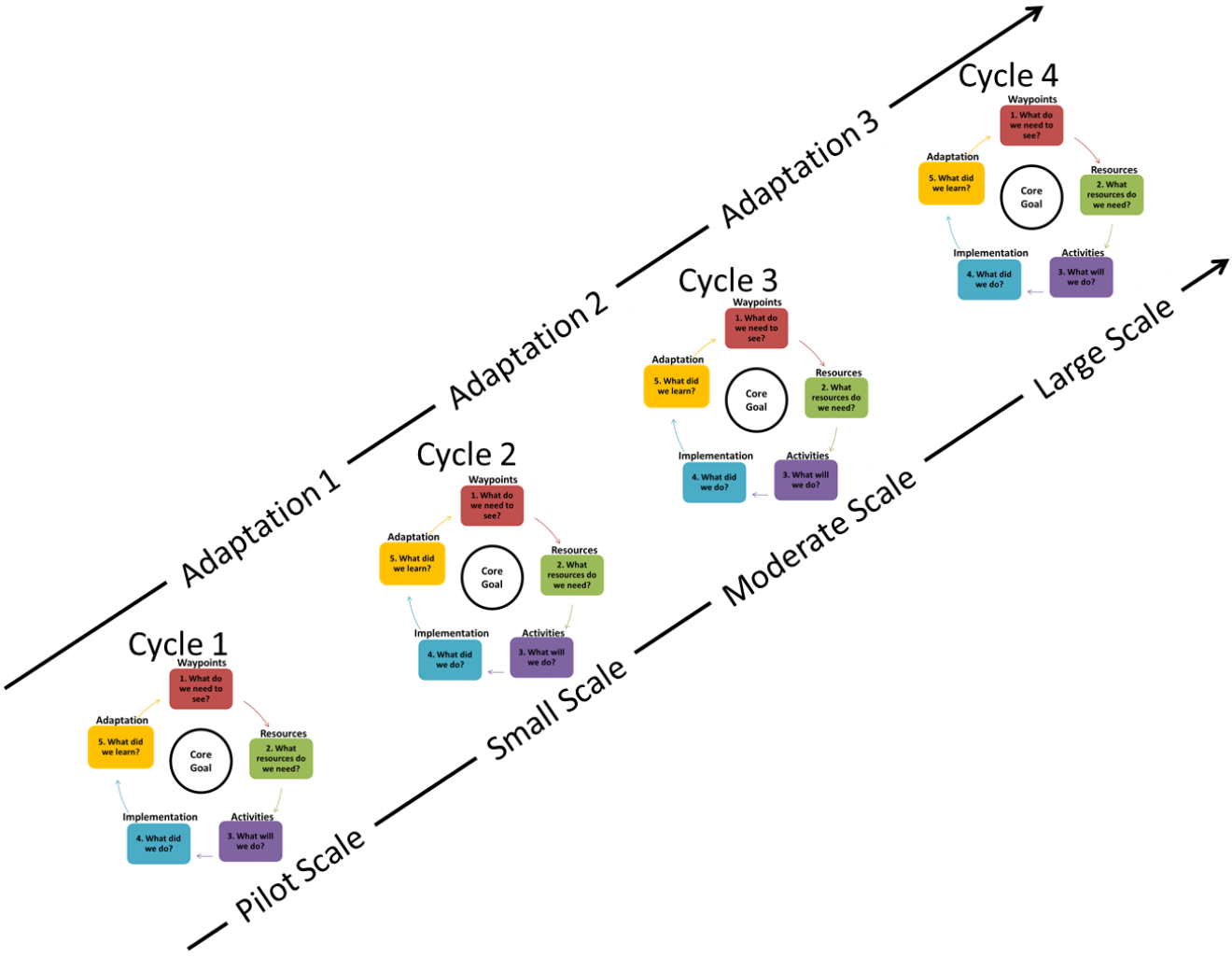
Step 5: What did we learn?

- This is where you debug your code in computational thinking.

- Reflect on your plan, implementation, and adaptations. What worked? What do you want to try again? What did not work and why?

- Because the waypoints are about short-term educator outcomes (that's behavior changes of you, the educator), reflect on your learning about yourself as an educator with: **I used to think [x], now I know [y].**

The adaptive implementation cycle is ongoing, where learning and improving does not stop with just one iteration. Each cycle can take a week to no more than 6 weeks (one quarter), where educators should cycle through improvement on a continual basis.



Source: Yamaguchi et al. (201). *Adaptive Implementation: Navigating the School Improvement Landscape*. p. 128.

Equity Cycle 1: Curricular Barriers to Supports

Concept of Focus: Curricular Aspects of Schooling

- Curricular aspects of schooling are **content and activities that engage the content**. Types of curricula can include: Recommended, written, supported, tested, taught, learned, hidden, and excluded curriculum.

- Curricular aspects of schooling include **content for educators**, such as new teacher on-boarding, teacher training curricula, IDEA regulations curricula, high school graduation requirement content, standards, and subject-area content, and so forth.

- Curricular aspects of schooling include **content for students**—subject-area content, social emotional learning content, high school graduation content, etc.

- Types of curricula can include:
  - Recommended: Derived from experts in the field.
  - Written: Documents specifying what is to be taught produced by the state, school system, school, classroom teacher, or counselor.
  - Supported: Complementary instructional materials such as textbooks, software, and multimedia resources.
  - Taught: Content that teachers actually deliver.
  - Learned: Content that students actually learn.
  - Hidden: Unintended curriculum of what students learn from the school's culture and climate.
  - Excluded: What is being left out intentionally or unintentionally.

For more information, check out the *ASCD Curriculum Handbook* (2001) chapter provided.

ASCD Curriculum Handbook

ASCD recommends allocations of curriculum functions—from state departments of education, districts (school division in Virginia), schools, and classrooms.

State Functions

- ☑ Develop state frameworks, including broad goals, general standards, and graduation requirements.
- ☑ Develop state tests and other performance measures in required academic subjects.
- ☑ Provide needed resources to local districts.
- ☑ Evaluate state frameworks.

District Functions

- ☑ Develop and implement curriculum-related policies.
- ☑ Provide fiscal support for curriculum.
- ☑ Develop a vision of a high-quality curriculum.
- ☑ Develop educational goals aligned with state goals.
- ☑ Identify the core program of studies for each level of schooling.
- ☑ Develop documents for a mastery curriculum for each subject including scope-and-sequence charts and curriculum guides. A mastery curriculum is one that specifies only those essential outcomes that are likely to be tested and require explicit instruction.
- ☑ Select instructional materials.
- ☑ Develop district curriculum-based tests and other performance measures to supplement state tests.
- ☑ Provide fiscal and other resources needed at the school level, including technical assistance.
- ☑ Evaluate the curriculum.
- ☑ Develop the structures to facilitate community and teacher input into the curriculum.
- ☑ Provide staff development programs for school administrators.

School Functions

- ☑ Develop the school's vision of a high-quality curriculum, building on the district's vision.
- ☑ Supplement the district's educational goals.
- ☑ Develop its own programs of study within district guidelines.
- ☑ Develop a learning-centered schedule.
- ☑ Determine the nature and extent of curriculum integration.
- ☑ Provide staff development for all teachers who will use the curriculum guide.
- ☑ Align the written, tested, supported, taught, and learned curricula.
- ☑ Monitor the implementation of the curriculum.
- ☑ Evaluate the curriculum.

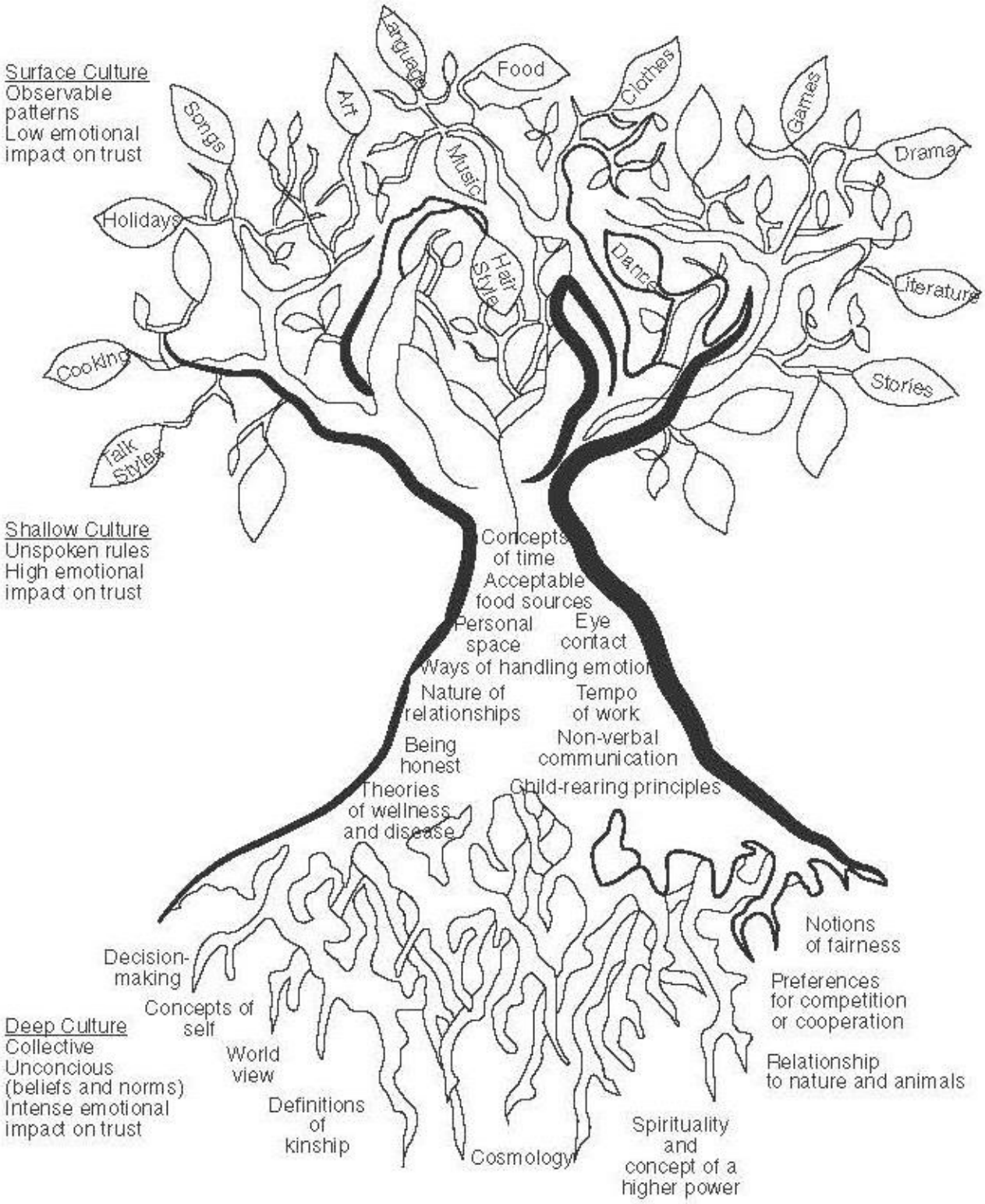
Classroom Functions

- ☑ Enrich the curriculum.
- ☑ Develop long-term planning calendars to implement the curriculum.
- ☑ Develop units of study.
- ☑ Individualize the curriculum.
- ☑ Evaluate the curriculum.
- ☑ Implement the curriculum, helping each student achieve mastery.

In your role as an educator, reflect on your circle of influence in curricular functions. For example, if you are a classroom teacher, you might have classroom functions, school functions, district functions, and possibly even state functions.

What functions resonate with you?

The culture tree: Surface, shallow, and deep culture

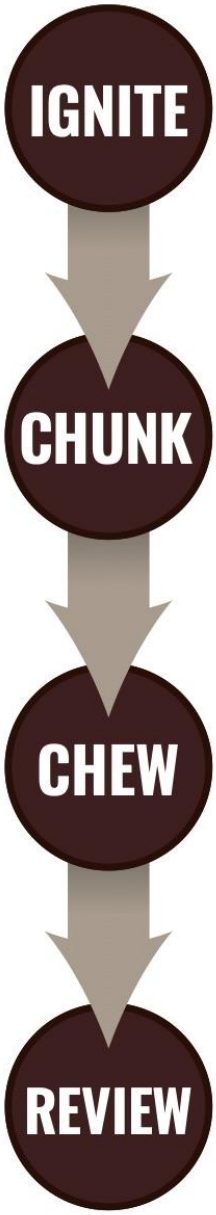


Source: Hammond (2015). *CRT & the Brain*. p. 24.

Curriculum should support the growth of dendrites

I.C.C.R.

AN ORGANIZING FRAME FOR LEADING, TEACHING, AND LEARNING



Curiosity, not compliance begins the cycle.

The beginning of information processing begins with getting the brain's attention and instigating intellectual curiosity.

Guiding Question: What is this?

New content becomes more "digestible" through recognition and relevance.

Once the brain is engaged and curious, it seeks to make content ready for processing by orienting it around current "cognitive hooks" in the brain.

Guiding Question: What do I already know about this content?

Thinking happens when we recognize and resolve cognitive conflict through elaboration.

This is the primary stage for active information processing. All new learning must be integrated into existing knowledge. The brain works to turn random facts, figures, events, and information into useable knowledge that leads to understanding.

Guiding Question: How do I understand this new content in relationship to what I already know?

Our new understanding becomes permanent knowledge through consolidation.

This final stage of information processing makes learning permanent. It moves new understanding to long term mental storage. Turns off the brain's natural "delete button". Helps speed up processing
(myelination) and makes new brain growth (dendrites) permanent.

Guiding Question: Can I find this new knowledge in my schema (cognitive tree) when I ?

Source: Hammond (2015). *CRT & the Brain*. p. 128.

Equity in curricular materials is about content and activities that engage in that content to support independent learning behaviors (academic, cognitive, social, and emotional development). In reflecting on the culture tree and the ICCR framework, shine a light on your learnings and ponderings with these reflection questions.

1. What are some **bright spots** of curricular materials (content and activities that engage in that content) in your school or district?

    a. Who created it?

    b. Reach out to them and ask them about it. Grow your networks by learning from these designers of equity.

2. What are examples of curricular barriers **in your school or district**? [Hint: Make sure you also ask students!]

    a. How can you go around the barrier?

    b. How can you get rid of the barrier?

3. What are curricular barriers **in your practice**?

Bright Spot #1: International Baccalaureate diploma tracker at WL High School

<Curricular supports definition: Content and activities that engage the content>

IGNITE:

- Students interested in the IB program can access information online and through information sessions offered face-to-face, by video, and through student showcases.

- See WL IB website: https://wl.apsva.us/international-baccalaureate-program/resources-for-prospective-students-parents/

CHUNK:

- To earn an IB diploma, there are components that need to be completed within two years.

- Access the IB diploma tracker here: https://docs.google.com/spreadsheets/d/1_0vQHPMQ2mfvl-Bj851Pa8swl-KZhItfBO1sdY49mMc/copy

CHEW:

- Students and parents can fill out the tracker continuously, go to face-to-face meetings (using paper sorts), and consult with the IB director.

REVIEW:

- Students continue to meet continuously with the IB director to keep track of their IB progress, with the CAS coordinator for their CAS components, and the Extended Essay coordinator for their EE component.

- Students also meet with IB teachers who mentor them throughout the program with the Extended Essay and internal assessment (IA).

In the example of the IB diploma tracker, reflect on how the diploma tracker digs out curricular barriers and plants supports. Use this example to inspire other ideas to try in your school or classroom.

< Curricular supports definition: Content and activities that engage the content>

1. Curricular barriers

2. Curricular supports

3. Ideas to try in my classroom or school

Study and Share: Curricular Barriers to Supports

< Curricular supports definition: Content and activities that engage the content>

1. Identify one curricular barrier.
   - The curricular barrier you identify should come from data, such as empathy interviews with students, your own cross-walk of your curriculum using the ICCR process, or reflection on hidden or excluded curriculum. Do not identify a barrier without data. Verify your thinking with data.

   - The curricular barrier you identify should be within your circle of influence—your curricular functions (see the ASCD book chapter).

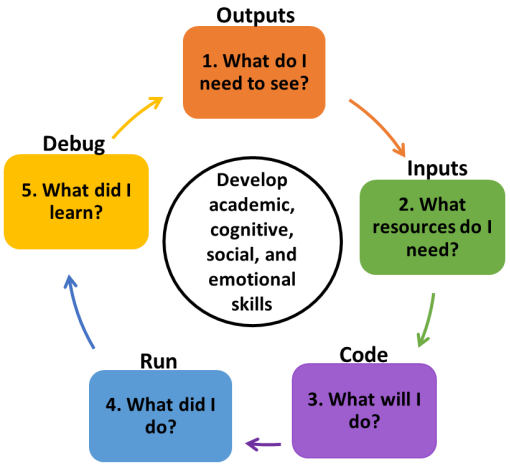
2. Strategize for one curricular support.
   - Think small wins. Small wins are concrete, complete, implemented outcomes of moderate importance that can produce visible results within weeks. Small wins should not take a whole school year to determine if it worked.

3. Test it out using an adaptive implementation continuous improvement approach.
   - The key to the process is using data to test an enacted practice and then to learn from it.

   - Try out the strategy for 2 weeks to see if you notice any observable changes. Ask students, “I tried this… What did you think? What would be even better?”

   - Follow the equity cycle worksheet on the next page.

Equity Cycle 1: Dig Out Barriers, Plant Supports



Goal: Develop <u>each</u> student's academic, cognitive, and social and emotional skills.

Problem of Practice (Barrier to goal): Identify a barrier within your circle of influence based on "street data" such as student empathy interviews, shadowing and observations, artifact review, and self-reflections.

1. **What do we need to see?** [Tip: Identify observable outcomes of you, the educator, to address the problem of practice.]

2. **What resources do we need?** [Tip: Reuse / repurpose what you have.]

3. **What will we do?** [Tip: Focus on small wins. Collect data.]

4. **What did we do?** [Tip: Quickly assess what you planned and what you did.]

5. **What did we learn?** [Tip: Leverage the ***I used to think x, now I know y*** approach.]

CLT Learn and Share Notes

Use the chart below to jot down your inspirations, thoughts, reflections, and ideas you want to try in your circle of influence.

Curricular Barriers	Curricular Supports
Ideas to test in my classroom or school	

Equity Cycle 2: Structural Barriers to Supports

Concept of Focus: Structural Aspects of Schooling

- Structural aspects of schooling are the organizing principles and mechanisms such as policies, programs, and procedures of how we "do" school. These include written and formal procedures and policies as well as unwritten and informal procedures and policies. In essence, structural aspects of schooling get at the organizational culture (Pollock, 2017).

- Structural aspects of schooling include organizing principles for educators in the system: educator performance and accountability procedures, educator pay scale and promotion procedures, central office supports, and procedures for within school and across school interactions with other educators. Note: Educators include core content teachers, specialists, counselors, and all the student-serving staff in schools.

- Structural aspects of schooling include organizing principles for students in the system (including parents/guardians): grading policies, access and opportunity to participate in various instructional programs, extra-curricular clubs and sports, supplemental supports, and procedures and rules to follow.

- Additional examples of structural aspects of schooling include:
  - Grading policies and procedures.
  - Procedures, regulations, and policies for students to receive gifted services, special education services, 504 services, and English learner services.
  - School scheduling and student schedules such as block scheduling, recess, transition times, 4x4 schedules.
  - Procedures and processes for parent-teacher conferences and parent or student feedback.
  - School scheduling for teacher planning, development, and learning.

Grading for Equity by Joe Feldman

Joe Feldman (2019) says that grading is the "third rail" of schools. Reflect on the three pillars of grading and examples of grading practices for equity. Now think about your "web of belief" of grading (e.g., what is the purpose of grades).

PILLAR	DRIVING PRINCIPAL	GRADING PRACTICES
ACCURATE	Our grading must use calculations that are mathematically sound, easy to understand, and correctly describe a student's level of academic performance.	Avoiding zeros Minimum grading 0-4 scale Weight more recent performance Grades based on an individual's achievement, not the group's
BIAS-RESISTANT	Grades should be based on valid evidence of a student's content knowledge and not based on evidence that is likely to be corrupted by a teacher's implicit bias or reflect a student's environment.	Grades based on required content, not extra credit Grades based on student work, not the timing of work Alternative (non-grade) consequences for cheating Excluding "participation" and "effort" Grades based entirely on summative assessments, not formative assessments (such as homework)
MOTIVATIONAL	The way we grade should motivate students to achieve academic success, support a growth mindset, and give students opportunities for redemption. The way we grade should be so transparent and understandable that every student can know their grade at any time and know how to get the grade she wants. Equitable grading distinguishes practices that build "soft skills" without including them in a grade.	Minimum grading & 0 – 4 scale Renaming grades Retakes and redo's Rubrics Standards scales Tests without points Standards-based grade books Emphasizing self-regulation Creating a community of feedback Student trackers

Feldman, J. (2019). Grading for Equity: What it is, why it matters, and how it can transform schools and classrooms. Thousand Oaks, CA: Corwin Press. p. 228.

SchoolTalk by Mica Pollock

Reflect on the School Talk figure below (Pollock, 2017). Notice all of the different educators, culture, and systems that a student has to navigate. Now think about what it is like for a culturally and linguistically diverse student to navigate the different educators, culture, and systems at your school.

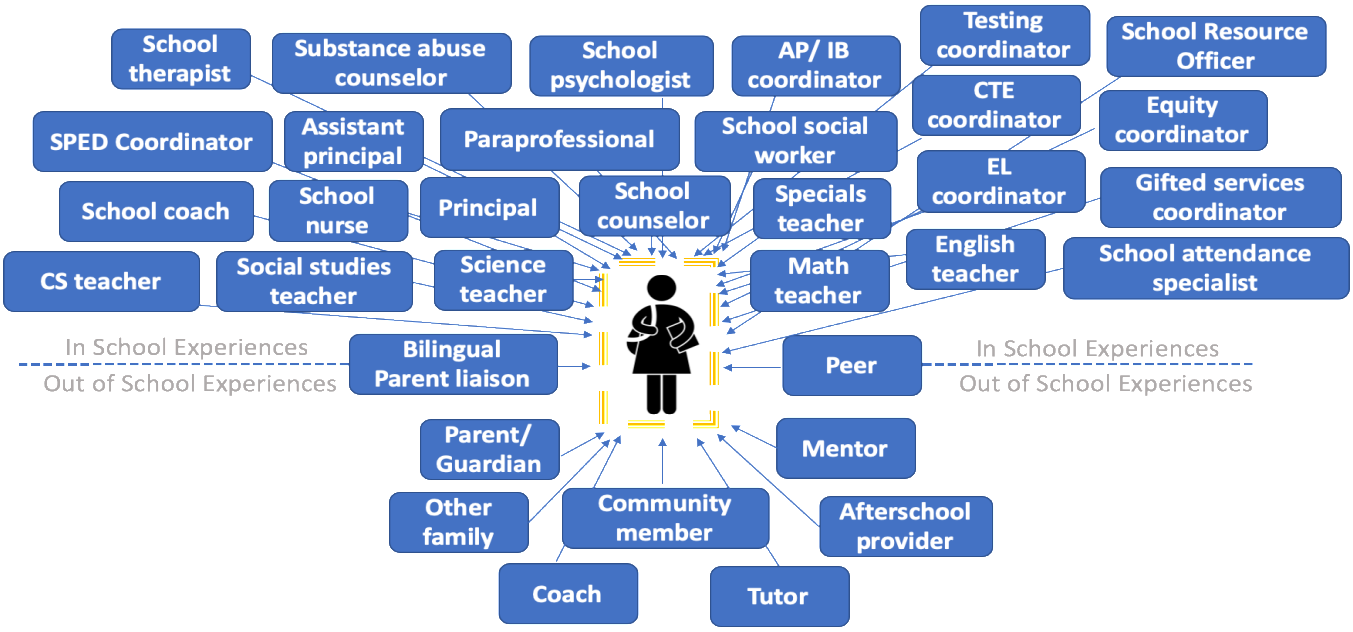


Figure adapted from: Pollock, M. (2017). *Schooltalk: Rethinking what we say about—and to– students every day*. New York, NY: The New Press.

Pollock, M. (2017). SchoolTalk. Thousand Oaks, CA: Corwin Press. p. 228.

Beware of Equity Traps and Tropes by Jamila Dugan

TRAPS AND TROPES	DESCRIPTION
DOING EQUITY	Treating equity as a series of tools, strategies, and compliance tasks versus a whole-person, whole-system, change process linked to culture, identity, and healing.
SILOING EQUITY	Locating equity work in a separate and siloed policy, team, or body.
THE EQUITY WARRIOR	Nesting equity with a single champion and holder of the vision.
SPRAY AND PRAY EQUITY	Engaging "equity experts" to drop in for a training with no ongoing plan for learning or capacity building.
NAVEL-GAZING EQUITY	Keeping the equity work at the level of self-reflection and failing to penetrate the instructional core and school systems and structures (such as instructional planning, student tracking).
STRUCTURAL EQUITY	Redesigning systems and structures (such as master schedule) without investing in the deeper personal, interpersonal, and cultural shifts.
BLANKET EQUITY	Investing in a program or curriculum, rather than building the capacity of your people to address equity challenges as complex and ongoing places of inquiry.
TOKENIZING EQUITY	Asking leaders of color to hold, drive, and symbolically represent equity without providing support and resources, nor engaging the entire staff in the work.
SUPERFICIAL EQUITY	Failing to take time to build equity-centered knowledge and fluency, leading to behavioral shifts without understanding deeper meaning or historical context.
BOOMERANG EQUITY	Investing time and resources to understand your equity challenges, but reverting back to recycled, status quo solutions.

Safir, S., and Dugan, J. (2021). Street Data. Thousand Oaks, CA: Corwin Press. p. 32.

Study and Share: Structural Barriers to Supports

<Structural supports definition: Organizing principles and mechanisms on how we do school.>

1. Reflect on your classroom (or school) policies and practices.
   - Think about grading policies, attendance policies, referral policies (all referral policies from discipline to gifted services), student club policies, etc.
   - Think about practices for teachers, such as how planning time works, professional learning works, etc.
   - Think about practices for students, such as how to access counselors and teachers, how to navigate School Talk in and outside of school.

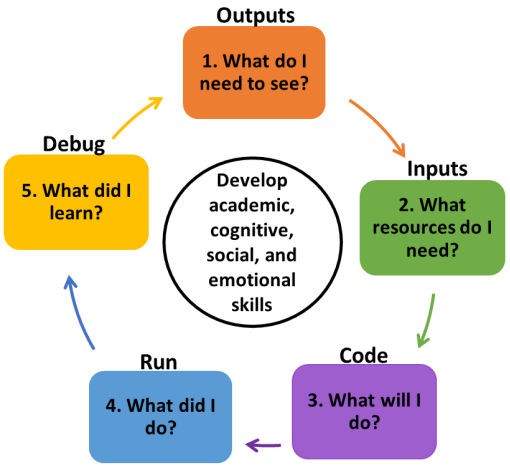
2. Conduct empathy interviews with students or other educators.
   - Connect with your students or fellow educators to better understand how structural barriers are working in your class or school.
   - You just need two empathy interviews from either end of the spectrum.

3. Identify one structural barrier.
   - From the empathy interview data, identify one structural barrier.
   - The structural barrier you identify should come from the data. Do not identify one without data. Verify with data.
   - The structural barrier you identify should be within your circle of influence (Covey, 1989; Hammond, 2015).

4. Strategize for one structural support.
   - Think small wins. Small wins are concrete, complete, implemented outcomes of moderate importance that can produce visible results (Correll, 2017; Weick, 1984).

5. Test it out using an adaptive implementation continuous improvement approach.
   - Refer to the Adaptive Implementation book (Yamaguchi, Avery, Cervone, Dimartino, & Hall, 2017).
   - The key to the process is using data to test an enacted practice and then learning from it.
   - Follow the equity cycle worksheet on the next page.

Equity Cycle 2: Dig Out Barriers, Plant Supports



Goal: Develop <u>each</u> student's academic, cognitive, and social and emotional skills.

Problem of Practice (Barrier to goal): Identify a barrier within your circle of influence based on "street data" such as student empathy interviews, shadowing and observations, artifact review, and self-reflections.

1. **What do we need to see?** [Tip: Identify observable outcomes of you, the educator, to address the problem of practice.]

2. **What resources do we need?** [Tip: Reuse / repurpose what you have.]

3. **What will we do?** [Tip: Focus on small wins. Collect data.]

4. **What did we do?** [Tip: Quickly assess what you planned and what you did.]

5. **What did we learn?** [Tip: Leverage the ***I used to think x, now I know y*** approach.]

CLT Learn and Share Notes

Use the chart below to jot down your inspirations, thoughts, reflections, and ideas you want to try in your circle of influence.

Structural Barriers	Structural Supports
Ideas to test in my classroom or school	

Cycle 3: Instructional Barriers to Supports

Concept of Focus: Instructional Aspects of Schooling

- Instructional aspects of schooling are the educator intent plus actions for equity to support students through the learning pit. There are two types of instructional supports.

  (1) Pedagogy to develop learning capacity of students: Providing intentional formative feedback for learning and building the learning capacity of students (academic, cognitive, social, and emotional development).

    - **Skim:** Hammond (2015). *CRT and the Brain*. Chapter 6 Establishing alliance in the learning partnership: Becoming an ally to help build students' independence (p. 88-107).

    - **Key takeaways:**
        - *Warm demander*: In a learning partnership, your job is to find a way to bring the student into the zone of proximal development while in a state of relaxed alertness so that she experiences the appropriate cognitive challenge that will stimulate her neurons and help her dendrites grow (p. 97).

        - *Wise feedback:* Claude Steele, who coined the phrase 'stereotype threat,' recommends providing wise feedback. Wise feedback is a way of giving feedback that reassures students that they will not be stereotyped or doubted as less capable. The teacher has to convey faith in the potential of the student while being honest with the student about the gap between her current performance and the standard she is trying to reach (p. 104).

    - **Skim**: Safir and Dugan (2021). Street Data. Chapter 5: Redefine "Success" (pp. 97-119).

    - **Key takeaways**:
        - Sifting from a pedagogy of compliance to a pedagogy of voice (p. 109).

	FROM A PEDAGOGY OF COMPLIANCE	… TO A PEDAGOGY OF VOICE
PRIMARY FORM OF DATA	Tests and quizzes (traditional assessments)	Street data (formative assessments, performance-based assessments, empathy interviews, artifacts)
CORE BELIEF	Hierarchy of power: Teacher wields expertise and distributes "content"	Democratization of power: Teacher and students build knowledge together
CORE INSTRUCTIONAL APPROACH	Lecture-style dissemination of information and "content"	Active learning through inquiry, dialogue, projects, simulations, etc.
ROOTS IN CRITICAL PEDAGOGY	Freire's banking model of education	Freire's problem-posing model of education
ROOTS IN CULTURALLY RESPONSIVE EDUCATION	Rests on invisible norms of dominant culture (quiet, compliant, task oriented, individualistic) Views marginalized students through a deficit lens: What gaps can I fill?	Rests on foundation of collectivist cultures (collaborative, interdependent, relational) and includes students' cultural references in all aspects of learning Views marginalized students through an asset lens: What gifts do you bring?
VIEWS STUDENTS AS…	Vessels to fill with information and "content"	Culturally grounded critical learners

Source: Safir, S., & Dugan, J. (2021). *Street Data*. p. 109.

(2) Pedagogy to build relational trust with students: Building authentic learning partnerships with students and relational equity in classrooms and school.

- **Skim**: Pollack (2015). *School Talk*. Chapter 6 Life Talk (p. 257-305).

- **Key takeaways**:
  - *Core tension:* Much of the education field wrestles with the core tension of diversity work of relating to students from diverse groups and good teaching of content (p. 271).

  - *Academic and social goal planning:* Researchers emphasize the critical importance of students and educators planning toward both academic and social goals, asking: Where am I going (what are the goals), How am I going (What progress is being made toward the

goal), and Where to next (What activities need to be undertaken to make better progress). In a chapter called "What a Coach Can Teach a Teacher", Jeff Duncan-Andrade and Earnest Morrell describe building such goal-focused Life Talk into a basketball program for girls (p. 289).

- **Skim**: Safir and Dugan (2021). Street Data. Chapter 7: Make Learning Public (pp. 147--165).

- **Key takeaways**:
  - *Improving practice takes practice*. Safir and Dugan (2021) advocate for **intentional practice** (versus routine practice). To support intentional practice, the authors outline five core elements of public learning (meaning, educators learning to improve their practice):

    1. *Begin with curiosity.* Shines a light on the experience of learning and promotes a listening stance by openly inviting the presence of uncertainty, complexity, curiosity, vulnerability, and wonder.

    2. *Uncover student experiences.* Centers the voice of the adult learner (educator) on understanding students' learning experience through relevant street data.

    3. *Build space for sense-making and challenging bias.* Acknowledge the messiness of making sense of what success looks like and where the students are in relation to the goal, and the unavoidable presence of implicit bias, which is made visible through inviting multiple perspectives.

    4. *Acknowledge that learning is social and emotional.* Insists upon collective, explicit reflection on the social and emotional aspects of adults learning (educator learning) to continually deepen and strengthen the learning practice.

    5. *Value learning at a systems level.* Sits inside of a system that values practitioner learning and knowledge building. This value is an essential part of fueling the motivation to continually learn while carrying out the challenging work of teaching. (pp. 157).

- *Pursuing the spirit of public learning.* Safir and Dugan (2021) also note important pitfalls for leaders when supporting educators in intentional practice and public learning (of improving practice):

    1. *The magic is in the mindset.* The heart of strong and effective teaching is an equity mindset.

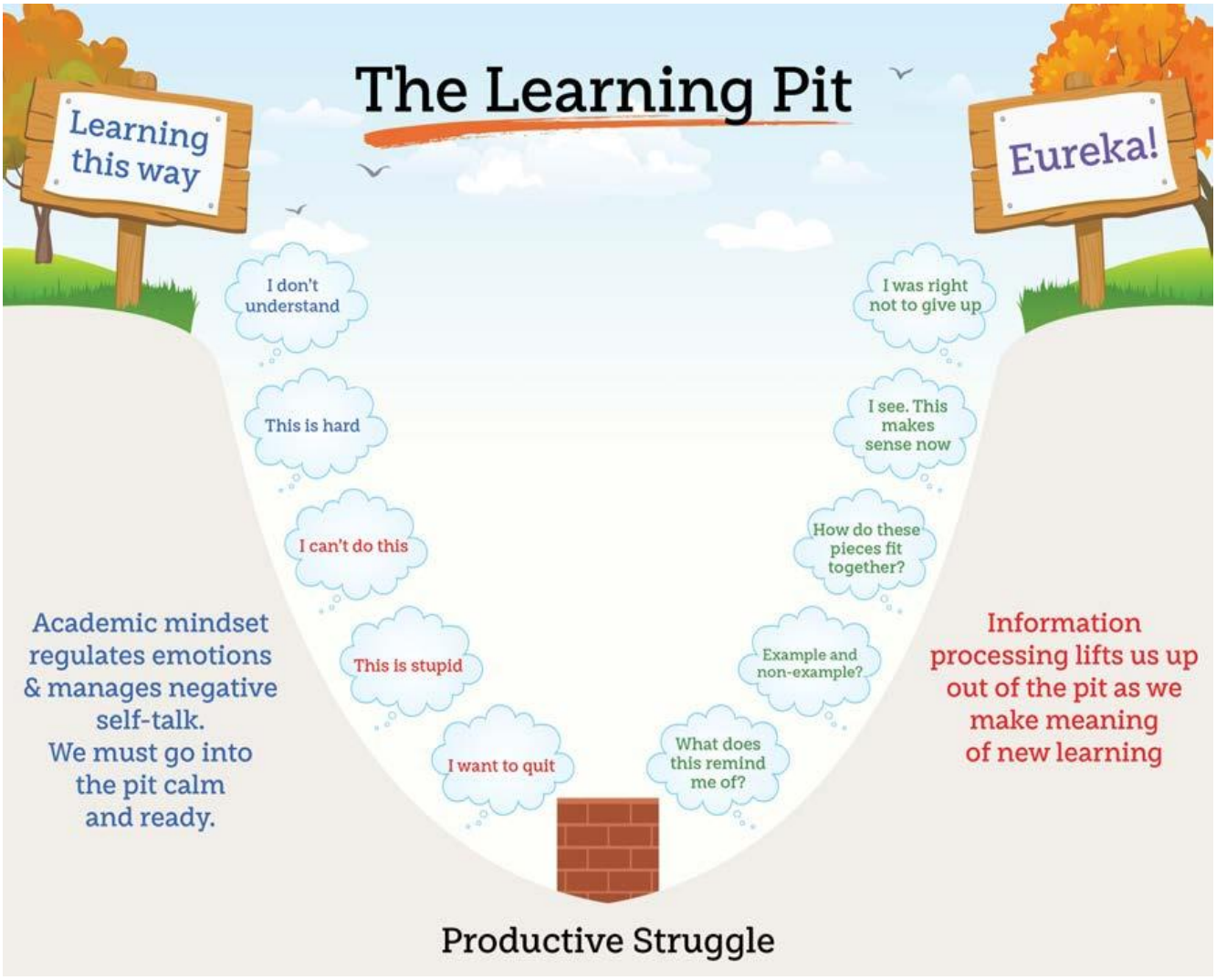
    2. *Be careful not to make this one more thing.* Trying out the practice should be communicated in a way that illustrates alignment to the school's vision of equity for student learning and professional growth for teachers.

    3. *This is a learning practice NOT an accountability tool.* Improving is not connected in any way to educator evaluation and performance reviews.

    4. *Safety in public learning is not equally accessible to all people.* It is far less risky for some people because of position, gender, or race to name what they don't know. Acknowledge and name the reality of this inequity.

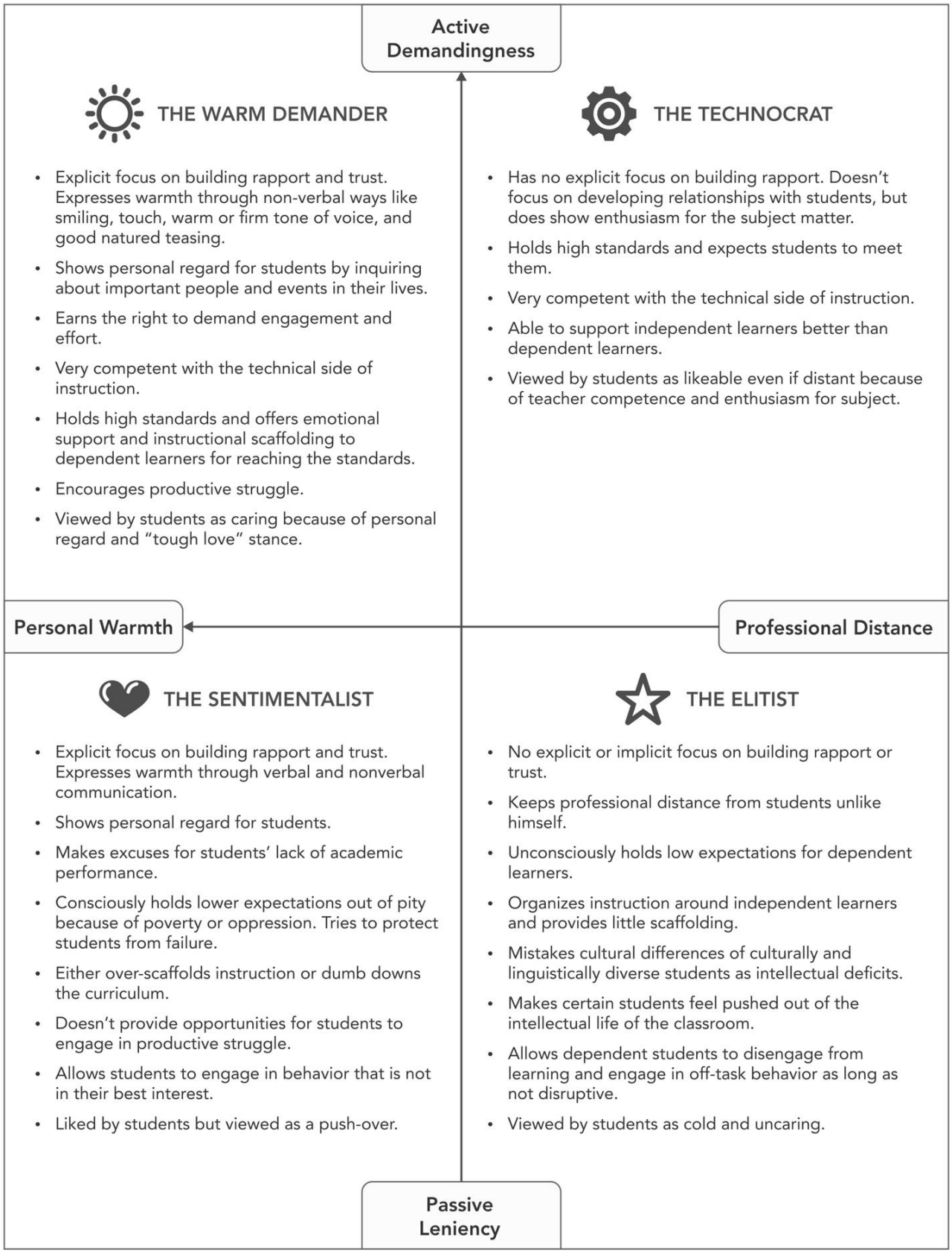
    5. *Continue to bring attention to the mindsets, process, and feelings.* There is resistance to repeatedly slowing down inside of an overworked system of doers. Balance the time spent on cultivating intentionality and metacognition around the practice with time spent doing the practice. (p. 163-164)

Nottingham's learning pit



Source: Nottingham (2017). ***The Learning Challenge: How to guide your students through the learning pit to achieve deeper understanding.*** **p. 44.**

Hammond's warm demander chart



Source: Hammond (2016). *CRT & the Brain*. p. 99

Hammond's dimensions of equity

DIMENSIONS OF EQUITY

As equity-focused educators, it is important to distinguish between three key areas in education: *multicultural education, social justice education,* and *culturally responsive teaching.* Too often the terms are used interchangeably when they are not. Below is a simple chart to help you understand the distinctions between them. A key point to remember, only CRT is focused on the cognitive development of under-served students. Multicultural and social justice education have more of a supporting role in culturally responsive teaching.

MULTICULTURAL EDUCATION	SOCIAL JUSTICE EDUCATION	CULTURALLY RESPONSIVE PEDAGOGY
Focuses on celebrating diversity	Focuses on exposing the social political context that students experience	Focuses on improving the learning capacity of diverse students who have been marginalized educationally
Centers around creating positive social interactions across difference	Centers around raising students' consciousness about inequity in everyday social, environmental, economic, and political aspects of life	Centers around the affective & cognitive aspects of teaching and learning
Concerns itself with exposing privileged students to diverse literature, multiple perspectives, and inclusion in the curriculum as well as help students of color see themselves reflected.	Concerns itself with creating lenses to recognize and interrupt inequitable patterns and practices in society.	Concerns itself with building resilience and academic mindset by pushing back on dominant narratives about people of color.
Social Harmony	**Critical Consciousness**	**Independent Learning**

Wise formative feedback

Formative Assessment is often thought of as "just" exit tickets, quizzes, or grades. Instead, let's think of formative assessments as wise formative feedback (Steele, 2010). **Wise formative feedback** is feedback loops for educators and students to develop students' academic, cognitive, social, and emotional development. As such, artifacts resulting from the formative assessment process should not be graded.

Wise formative feedback is a great tool for equity. It helps educators work with each student and support each student's meta-cognitive, social, emotional, and academic needs.

Formative Assessment

Answers three questions for learners

Where am I going?	Where am I now?	Where to next?

Begins with a positive, safe learning environment, an environment that promotes ongoing improvement

Clarity about learning expectations		Evidence gathering	Responsive action
Teacher: • Identifies clear learning targets and performance criteria aligned to standards. • Selects/develops student task(s) aligned to both content and cognitive demand of standards. • Communicates learning expectations to students. • Builds relevance of new learning with students. • Clarifies: Why is this content/skill important to learn?	Student engages with new learning	Teacher: • Formulates a plan for evidence gathering (when/how during instruction). • Probes student thinking to ascertain student understanding and/or misconceptions. • Administers checks for understanding (individual task, writing prompt, exit ticket, ungraded quiz, etc.). • Documents student progress.	Teacher: • Determines best instructional next step for student learning. • Provides descriptive feedback and/or additional instruction. • Groups students as needed for reinforcement/extension of learning. • Provides time for students to take individual action. • Moves to summative assessment activities (after responsive action loop is complete).
Student: • Internalizes learning expectations through discussion with teacher and peers, reviews anchor and exemplar artifacts. • Connects prior knowledge of topic to expected new learning. • Finds personal connection and relevance with topic.		Student: • Participates in peer feedback activities. • Tracks own progress toward learning targets. • Participates in self-assessment activities. • Reflects metacognitively on learning successes and challenges.	Student: • Takes action based on teacher and peer feedback (self-regulation). • Revisits own progress toward learning targets. • Requests help as needed. • Prepares for summative assessment.

Source: Dempsey, Kathleen (2018). Formative assessment quick check chart. Resource developed for use with high school instructional coaches. McREL International. Denver, CO.

Study and Share: Instructional Barriers to Supports

<Instructional supports definition: Educator intent plus actions for equity to support students through the learning pit.>

1. Identify one instructional barrier.

    - The instructional barrier you identify should come from data, such as empathy interviews with students, your assessment or cross-walk analysis of your lesson plans, or self-reflection on your pedagogy and practice. Do not identify a barrier without data. Verify your thinking and self-assessment with data.

    - The instructional barrier you identify should be within your circle of influence (i.e., in your classroom, with your students, with your PLC / CLT, etc.).

2. Strategize for one instructional support, like using **wise formative feedback**!

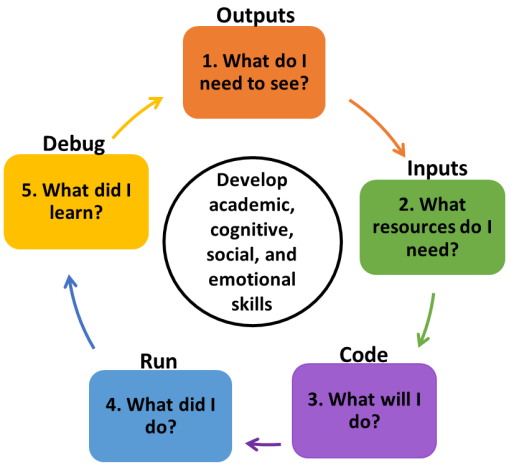
    - Think small wins. Small wins are concrete, complete, implemented outcomes of moderate importance that can produce visible results within weeks. Small wins should not take a whole school year to determine if it worked.

3. Test it out using an adaptive implementation continuous improvement approach.

    - The key to the process is using data to test an enacted practice and then to learn from it.

    - Follow the equity cycle worksheet on the next page.

Equity Cycle 3: Dig Out Barriers, Plant Supports



Goal: Develop <u>each</u> student's academic, cognitive, and social and emotional skills.

Problem of Practice (Barrier to goal): Identify a barrier within your circle of influence based on "street data" such as student empathy interviews, shadowing and observations, artifact review, and self-reflections.

1. **What do we need to see?** [Tip: Identify observable outcomes of you, the educator, to address the problem of practice.]

2. **What resources do we need?** [Tip: Reuse / repurpose what you have.]

3. **What will we do?** [Tip: Focus on small wins. Collect data.]

4. **What did we do?** [Tip: Quickly assess what you planned and what you did.]

5. **What did we learn?** [Tip: Leverage the ***I used to think x, now I know y*** approach.]

CLT Learn and Share Notes

Use the chart below to jot down your inspirations, thoughts, reflections, and ideas you want to try in your circle of influence.

Instructional Barriers	Instructional Supports
Ideas to try in my classroom or school	

Appendix A: Equity Cycle Templates

Waypoint Assessment Tool (for Step 1)

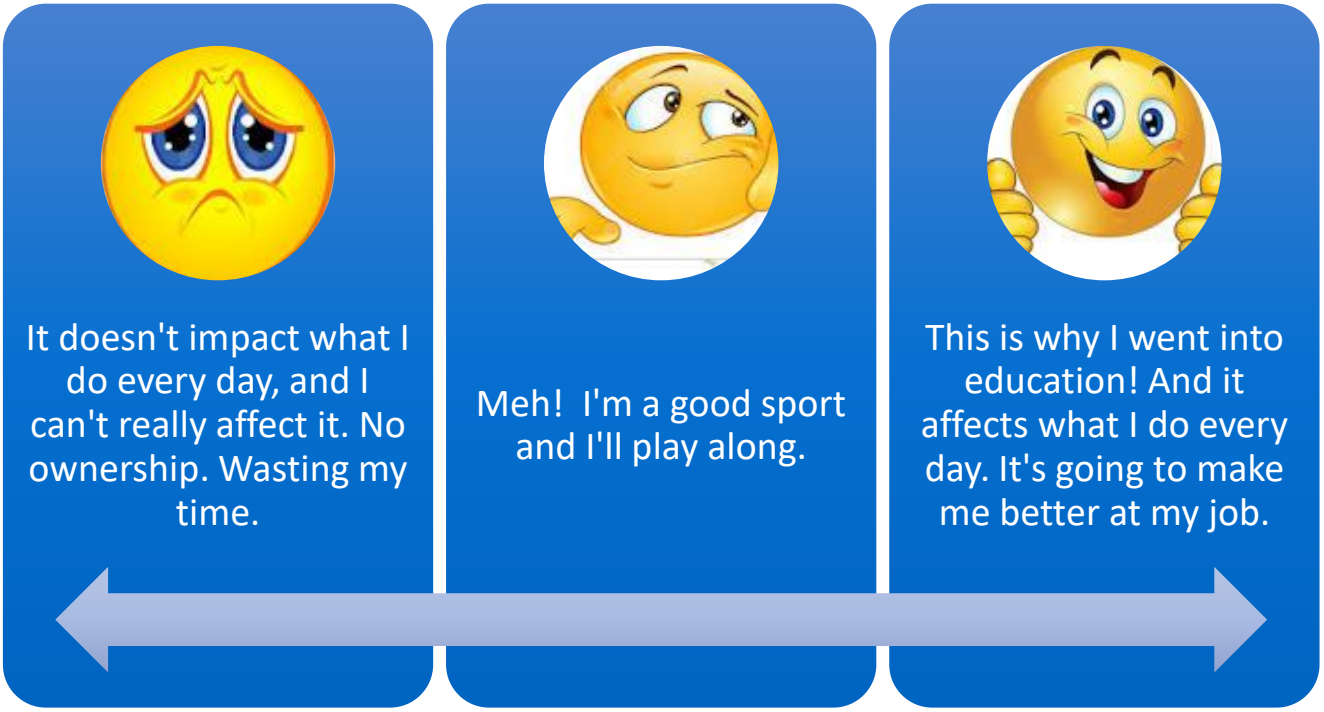
Waypoint:_____

_____

_____

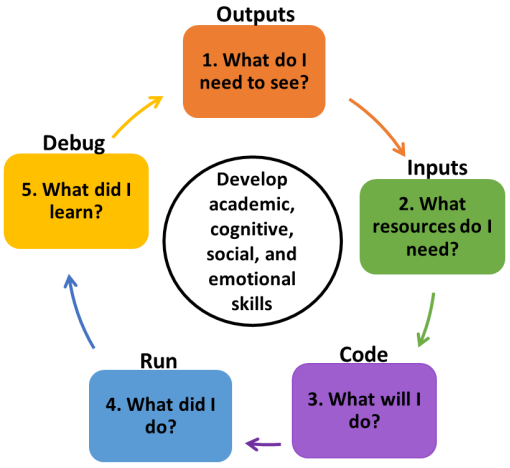
_____

_____



Source: Yamaguchi et al. (2017). Adaptive Implementation. p. 88.

Equity Cycle: Dig Out Barriers, Plant Supports



Goal: Develop <u>each</u> student's academic, cognitive, and social and emotional skills.

Problem of Practice (Barrier to goal): Identify a barrier within your circle of influence based on "street data" such as student empathy interviews, shadowing and observations, artifact review, and self-reflections.

1. **What do we need to see?** [Tip: Identify observable outcomes of you, the educator, to address the problem of practice.]

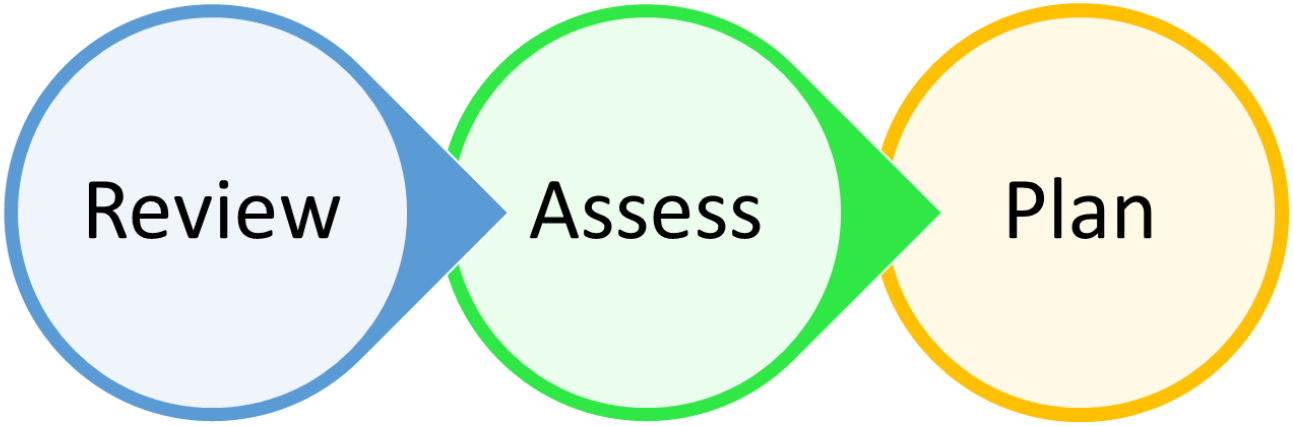
2. **What resources do we need?** [Tip: Reuse / repurpose what you have.]

3. **What will we do?** [Tip: Focus on small wins. Collect data.]

4. **What did we do?** [Tip: Quickly assess what you planned and what you did.]

5. **What did we learn?** [Tip: Leverage the ***I used to think x, now I know y*** approach.]

Discussion Protocol Tool (for Step 5)



Questions for Review	Questions to Assess	Questions to Plan
1. What resources were used?	1. Will we do this again?	1. What is the timeline?
2. What did we plan to do?	2. What's our purpose? (Improved outcomes, scale down, scale up)	2. Who is responsible for each task?
3. What did we actually do?	3. What will we do differently?	3. When is the next meeting?
4. What worked? How do we know it worked?		

Source: Yamaguchi et al. (2017). Adaptive Implementation. p. 96.

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