Building a
Culture of Mastery

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Introduction

Developing a culture of mastery is exciting and complex. It requires:

- a careful surfacing and analysis of the routines, beliefs, values, and assumptions that support the current culture
- creative new imagining of what is possible, and the culture needed to support it
- accommodations to the policy constraints that surround your learning community
- strategic planning for a rollout
- an ever-attentive, evolving rollout that supports members of the learning community in shifting their mindset, routines, practices, values, and beliefs, while also developing new skills and practices to support students as they begin to develop mastery

This companion to the Idaho State Education Department's Staging Guide provides an introductory exploration of the work of developing a Culture of Mastery (the first bullet above, with a few opportunities to engage with bullet two: THE STAGING GUIDE itself, addresses the additional bullets).

To support your exploration, you will have the opportunity to work with:

Resources for further exploration

This is an opportunity to personalize your pathway. Click into the learning resources that are most relevant and interesting to you.

Exercises

This is an opportunity to apply new learning through a learning activity. These will vary in scope: from a short-written reflection to an action research cycle in your classroom or institution.

Major concepts

Here we signal to you that we are discussing a major concept of the course.

We've also included a Journal (.docx format) that you can use to jot down your thoughts and ideas as they develop. Make a copy for yourself!

Let's begin with your own experience:

Take a moment to reflect on your current understanding of Mastery Learning (also referred to as competency-based, proficiency-based, and performance-based learning or education).

Consider taking a few minutes to sketch a simple concept or mind map of Mastery Learning *[**#0.1** in the Journal]*. What comes to mind when you think of "Mastery" and "Mastery Learning"? What is it? What makes it different from traditional school models? What does it mean for teacher practice, and for the student experience?

Often, when we think about mastery learning and mastery learning frameworks, we focus on shifting pedagogy and curriculum, assessment and policy. What is easy to overlook is the fact that our current practice and approach to these elements is grounded in a particular set of widely accepted cultural beliefs and norms--supported by laws, regulations, and policies--many of which were not specifically designed to support students in mastering skills, concepts, and practices, or what we might describe as the work of helping students "become really good at things." Throughout this module, we will work to surface the beliefs, practices, and norms that do underpin our current system, and then articulate and explore those that could better support an orientation around mastery learning.

This module takes as a starting point the notion that culture is never monolithic, at any level: within families and neighborhoods, towns and cities, states and regions, there is wide variation. And, at the same time, there are touchstones that are reified across communities, making it possible to say "I know that's a school, or a classroom, or someone studying." Throughout this module, you will have the opportunity to think about the specific cultural norms of your classroom, school and district, as well as larger cultural influences, vis-a-vis the work of supporting students in "becoming really good at things."

WORDS FROM THE FIELD: CORE PRINCIPLES FOR DESIGNING A CULTURE OF MASTERY

Summarized from two Aurora Institute (formerly "iNACOL") publications: Quality Principles for Competency-Based Education (2018); Designing for Equity: Leveraging Competency-Based Education to Ensure All Students Succeed (2018).

- **Develop a shared purpose**: Work with the school and broader community to define student success with an orientation around transferable skills, lifelong learning skills, deep thinking about academic knowledge, and personal well-being; invest heavily in relationships between students, teachers, leaders, and the community; ensure students have opportunities to apply their learning in ways that are personally meaningful (*Quality Principles*, pp. 31-36).
- **Commit to Equity and Inclusion**: Commit to **all** students succeeding; nurture a culture of relational belonging by actively promoting trust, empathy, collaboration, and social learning across all elements of diversity; interrupt inequitable practice; challenge conscious and unconscious bias and stereotypes (*Quality Principles*, pp. 37-41).
- **Nurture a Culture of Learning and Inclusivity**: Ensure that learning fosters collective responsibility for student success; view all members of the school community as active learners; draw on pedagogical practices grounded in the learning sciences, deeper learning, constructivist learning, and personalized learning to help students and adults learn and grow; commit to cultural responsiveness: respect, nurture, and embrace students' personal and cultural identities by ensuring that relationships, learning environments, and learning experiences are culturally attuned and relevant (*Quality Principles*, pp. 41-44; *Designing for Equity*, pp. 15-17).

The Idaho Mastery Education Network's description of Mastery Education brings these core principles to life in a succinct, bold, elegant way:

Mastery Education ensures all students have access to a learner-centered experience where success is the only option.

Here, the state explicitly commits adults and students to creating and participating in learning communities in which students cannot fail. Success is the *only* option. Taking this on requires a deep immersion in both the hallmarks of mastery learning *and* mastery culture-building; and close examination of any and all potential barriers to students' success at the classroom, school, district levels, state, and national levels. While the state and national levels are outside of your purview, identifying barriers to success is critical in developing effective adaptation strategies.

If you think about your own learning experiences, have you ever been part of a learner-centered experience? Was it part of your schooling experience?

Take a few minutes to reflect on how you, personally, develop mastery or competency: How do you undertake rigorous, meaningful, deep learning? How do you develop new skills? If possible, find a friend, family member, or colleague to have a conversation with, exploring some of these

questions. Or take a bit of time to write about your thoughts *[**#0.2** in the Journal is, of course, one place to do so. You will also find additional prompts there]*.

As a field, we now know much more about how people learn, effective pedagogy, the conditions that support engagement and motivation, and career-readiness skills. Organizing schooling around mastery (for adults and young people) is a powerful way to use current research to support the success of young people.

One of the first, and most difficult, challenges of developing a culture of mastery is developing a deep understanding of what mastery-oriented teaching and learning is, how schooling could be organized to support it, and what cultural norms, beliefs and values are critical for developing it. This is significant mindshift work.

Exploring mastery learning is challenging because it pushes against long-established cultural norms, beliefs and values about schooling and learning. It's tricky because as experienced educators we do not expect learning in our own sphere of expertise to create cognitive dissonance. Education is territory we know, it's territory that makes sense to us, it's territory we've been traveling since we were 4 or 5 years old. Mastery learning tilts this familiar territory on its axis: it's still there, it's still education, but it requires an entirely new map and compass.

The chart that follows describes some aspects of what the territory looks like when tilted on its axis. Take a look, and as you read, note both your internal dialogue, and your reactions: they are a sign of how your brain is using it's schema to process these ideas, while simultaneously organizing the ideas into a new schema. Ask yourself, which elements confirm my beliefs and understandings? Which ones cause me to take pause?

Key Shifts Towards Mastery Learning

from	to
Some people are smart (or talented, or gifted) and some aren't.	The brain is adaptable and flexible, always growing and learning. We tend to be very competent in some arenas, and less so in others. Over time our competence in any arena can increase with effort, efficacy, coaching, and practice.
Quick learning is evidence of intelligence and competency.	Mastery happens when it happens: people who learn more slowly are no less competent once they become competent.
As long as we learn at least 65% of the material we are ready to progress.	Mastering two-thirds of anything is a great start. Now let's figure out what's needed in order to become truly competent.
Composite course grades tell us what students know and can do.	To really understand what students know and can do, we have to look at their mastery of specific, research-based competencies, and their attendant skills. Course grades need to reflect what students have ultimately mastered, rather than an average of how well they have mastered things at moments in time.
Revising, retaking, and redoing is a sign that students haven't learned what they need to learn.	Revising, retaking, and redoing is practice: it is how everyone develops mastery.
Age-based cohorts meet learners' developmental learning needs.	Age is often unrelated to learning needs. In many learning situations, age does not determine one's progress towards mastery: mastery happens when it happens. For example, adults and young children can both learn new languages; we can become skilled bike riders, or readers, or leaders at almost any age; and some 7-year-olds are virtuoso musicians, as are some 17- and 49-year-olds. Cohorts that are committed and ready to learn similar skills will support the development of mastery.
The best learning happens when we are on task all of the time.	The brain learns in cycles of processing (12-20 minutes only!), followed by a period of cycling down to support consolidation (10 minutes, which typically looks like a lack of focus: even if the teacher is talking, the brain will stop paying attention (Z. Hammond, 2015: p. 126). The connection between learning and movement has been repeatedly documented: "...learning is most effective when the body is able to move: increasing oxygenation and blood flow to the brain, boosting neural connectivity and stimulating nerve cell growth in the hippocampus" (Edutopia, 2018).

Are you game to take on the mindshift? If so, let's jump in.

Our exploration begins with an exploration of the concept of culture. Why? Because our current beliefs, values, and assumptions about schooling, learning, rigor and success, are grounded in, grew out of, and create a particular (dominant) culture, while mastery learning will only thrive in a different cultural context.

PART 1: What do we mean when we refer to a "culture"?

Let's start by taking a few minutes to examine our own thinking about the concept of culture.

- *When you think of culture, what comes to mind?*
- *What do you mean when you use the word "culture"?*
- *What comes to mind when you think of the culture of a group of people?*

Jot down some thoughts on the prompt "*When I hear the term "culture," I think of…" [You can find this prompt at **#1.1** in the Journal]*.

Think of the students you serve. Identify one or more students who come from a culture different than your own (define culture in your own terms, here). Describe some of the things you know and understand about this unfamiliar culture *[You can find this prompt at **#1.2** in the Journal]*:

For our purposes, the framework for understanding and exploring the concept of culture is grounded in several pieces of research:

- Merriam-Webster dictionary definition[1] of culture, which focuses on what anthropologists describe as non-material culture;
- Wikipedia's definition[2] of culture, which elaborates on the elements of both material culture[3] and non-material culture;[4]
- The research and philosophy of Zaretta Hammond (Culturally Responsive Teaching and the Brain).
- The work of two cultural anthropologists who articulated several different dimensions of culture at the national and societal level: Edward T. Hall (Beyond Culture), Fons Trompenaars (Riding the Waves of Culture);
- The research of social psychologist Geert Hofstede, who articulated dimensions of organizational culture (Cultures and Organizations: Software of the Mind);

[1] Culture [Def. 1 and 2]. (n.d.). In *Merriam Webster Online,* Retrieved January 30, 2019, from http://www.merriam-webster.com/dictionary/culture.
[2] Culture. In Wikipedia, Retrieved August 12, 2019, from https://en.wikipedia.org/wiki/Culture.
[3] Material Culture. In Wikipedia,Retrieved August 12, 2019, from https://en.wikipedia.org/wiki/Material_culture.
[4] Non-material Culture. In Wikipedia,Retrieved August 12, 2019, from https://en.wikipedia.org/wiki/Non-material_culture.

First, the Merriam-Webster definition:

culture noun

cul·ture | \ ˈkəl-chər \

Definition of *culture* (Entry 1 of 2)

1a: the customary beliefs, social forms, and material traits of a racial, religious, or social group
also : the characteristic features of everyday existence (such as diversions or a way of life) shared by people in a place or time
popular *culture*
Southern *culture*

b: the set of shared attitudes, values, goals, and practices that characterizes an institution or organization
a corporate *culture* focused on the bottom line

c: the set of values, conventions, or social practices associated with a particular field, activity, or societal characteristic
studying the effect of computers on print *culture*
Changing the *culture* of materialism will take time …
— Peggy O'Mara

d: the integrated pattern of human knowledge, belief, and behavior that depends upon the capacity for learning and transmitting knowledge to succeeding generations

What resonates with you? Which aspects of this definition align with your own notions of culture? Clearly the Merriam-Webster's definition is a bit bare-bones, abstractly referencing ideas many of us are familiar with, but still leaving much to be articulated if we are really going to get our minds around the idea of a culture of mastery.

Wikipedia adds some needed details for the work we are undertaking. Take a look at the first three sections of the main entry (Description, Etymology, and Change). Then, read the descriptions of non-material culture and material culture (the first section and the one on Anthropology). You'll see that these include several helpful descriptors of culture that we can bring to bear to help us:

1. Understand the current culture of our classroom, school, or district;
2. Imagine some of the changes we could make to our current culture that would support a stronger culture of mastery (keeping in mind that classrooms, schools, and districts all operate within larger policy environments that are generally not mastery-oriented, which create a number of constraints to be worked around).

*[**#1.3.a** in the Journal includes a simple T-chart if you want to keep track of key concepts of culture, alongside your own insights.]*

The cultural norms that shape our identities, actions, and beliefs are largely connected to our racial, ethnic, sexual, gender, national, geographical, and/or religious identities: cultural norms are mostly developed within those communities. If we have not spent a lot of time outside of our own cultural communities, we may be unaware of our assumptions about material and non-material cultural dimensions because we take for granted that our beliefs, thoughts, and behaviors are the norm for everyone. This is just as true for the culture of schools, as for any other community we belong to.

Take a minute to return to your initial reflections on culture, as well as your thoughts about your students' culture, and highlight the elements of culture that you described that are included in both Merriam-Webster's definition and Wikipedia's description.
*[You can find this prompt at **#1.3.b** in theJournal*

Try applying your learning about culture (so far) to what you know about schools, which have their own powerful cultures, with both significant similarities and notable differences across communities, societies, and nations.

Take a look at this small collection of International Images depicting school life.

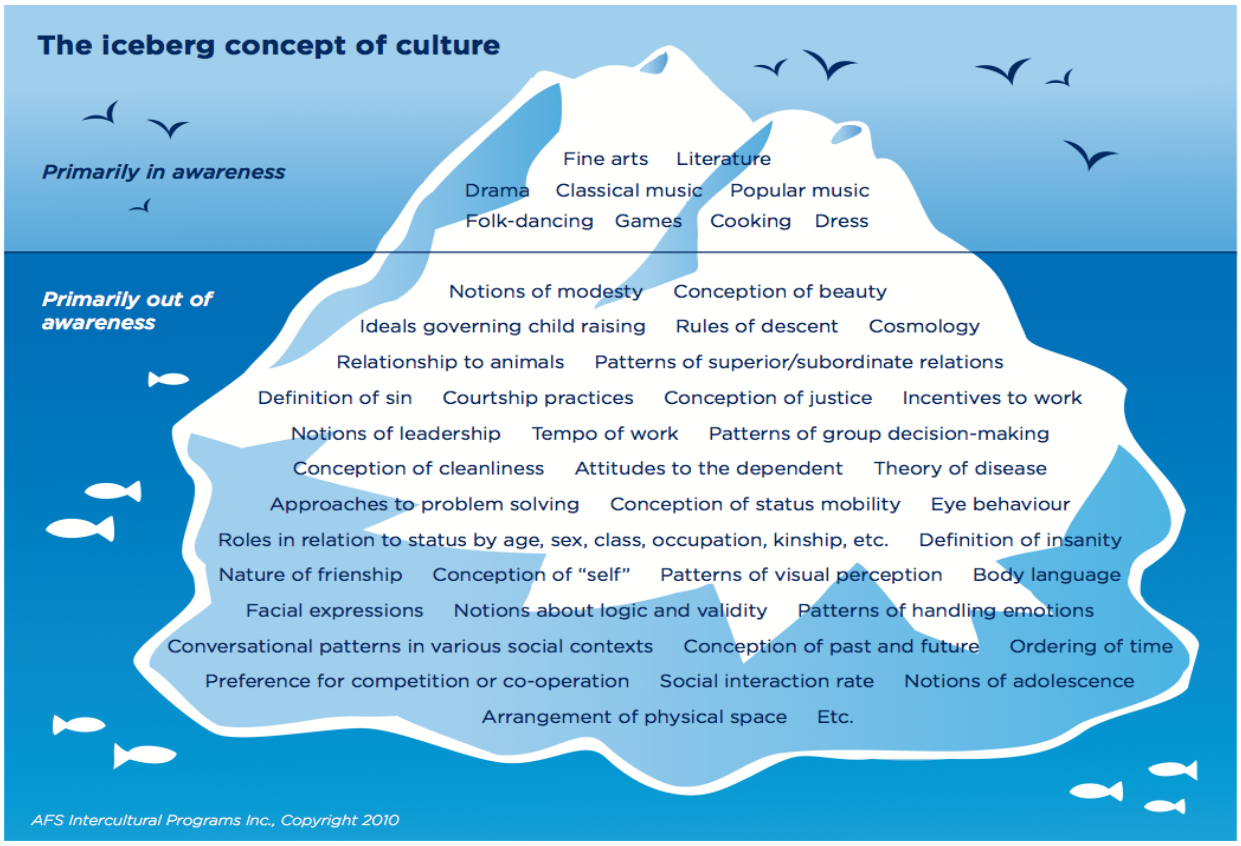
Using what we've been exploring, identify evidence of material and non-material culture. What cultural similarities do you notice (i.e., what do you recognize that allows you to "know" that the image is related to school)? What stands out as unique or unfamiliar? *[**#1.4** in the Journal includes a table to help organize thinking. **#1.5** provides an opportunity to reflect]*.

Brief Overview: Key Dimensions of Culture

For most of us, implicit manifestations of culture are challenging to discern and describe both in cultures that are familiar to us (because our own values, beliefs, and understandings are like the air we breathe: invisible, but deeply relied upon), and those that are unfamiliar (because we have little or no understanding of the underlying values, beliefs, customs, and understandings that undergird them). E.T. Hall is a cultural anthropologist who has developed one of the most enduring frameworks for understanding the many elements of culture, which he describes as The Iceberg concept of culture (image below).

Hall uses the metaphor of an iceberg to describe culture as having three layers:

- Explicit/Observable Manifestations of Culture: that which is in our awareness;
- Implicit Manifestations of Culture:
  - that which is primarily out of our awareness;
  - that which is almost fully out of our awareness.



This idea is explored in this 12-minute video, The Iceberg Concept of Culture.

*If you return to **#1.4** in your Journal, your earlier reflection on the International Images of School, you can take a few minutes to push your understanding of Hall's framework for culture by completing the third column of the table: determining which of the features you described are Explicit and which are Implicit. You might also choose to return to **#1.2** in your journal, and take a look at your reflection describing the culture of one or more of your students: How much of your cultural portrait focused on IMPLICIT manifestations of culture?*

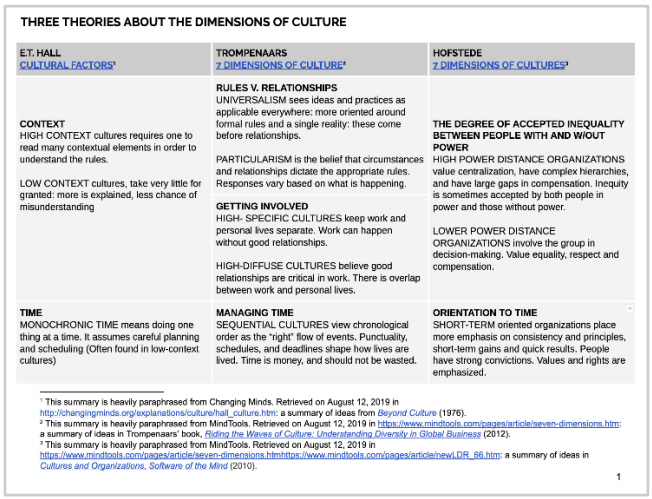
The work of developing a culture of mastery in our schools begins with a deep analysis of the current culture of our schools. Even small shifts in culture are difficult to make happen: think about a time when you tried to shift a cultural norm in your family, perhaps giving up one way to celebrate major events to try a new way; or encouraging your children to start or stop a habit they love or or start a routine that they do not look forward to. Nurturing and developing a culture of mastery requires ongoing attention to all of the features of the present culture, alongside an internal exploration of our deeply held beliefs, values, shared understandings, and the meanings and messages that underlie both the material and non-material aspects of our culture.

The opportunity of undertaking this personal and cultural study is the possibility of achieving Idaho's vision of a statewide education system where *success is the only option* for young people: where it's ultimately not possible to "fail" because because failure is really just a snapshot of a moment in time, along one's learning journey: the journey continues, with renewed efforts and opportunities. At its heart, Idaho's definition of mastery learning imagines creating a culture that is deeply grounded in beliefs about the centrality of equity, and an embracing of the full diversity of Idaho's young people: as learners, humans with different lived experiences, members of a broad range of communities, with significantly different cultural heritages. In a mastery-based education system, any barriers to success to any learner's increasing competency are examined and creatively addressed.

A few important resources on how people learn:

- Gholdy Muhammad. *Cultivating Genius: An equity framework for culturally and historically responsive literacy*. Link to an author interview.
- Zaretta Hammond. *Culturally Responsive Teaching and the Brain*. Link to a public talk.
- Mihaly Csikszentmihalyi. "Flow, the secret to happiness." Link to a TED Talk.
- Saul McLeod. Lev Vygotsky's Sociocultural Theory, Simply Psychology. Retrieved on June 7, 2020 from: https://www.simplypsychology.org/vygotsky.html.
- Todd Rose. *The End of Average*. Link to a TED Talk.

Let's begin the work of uncovering the features of the culture of schooling. To support this work, we'll place Hall's framework alongside the work of two organizational cultural theorists, Fons Trompenaars and Geert Hofstede: Three Theories about the Dimensions of Culture.



THREE THEORIES ABOUT THE DIMENSIONS OF CULTURE

E.T. HALL CULTURAL FACTORS[1]	TROMPENAARS 7 DIMENSIONS OF CULTURE[2]	HOFSTEDE 7 DIMENSIONS OF CULTURES[3]
CONTEXT HIGH CONTEXT cultures requires one to read many contextual elements in order to understand the rules. LOW CONTEXT cultures, take very little for granted: more is explained, less chance of misunderstanding	**RULES V. RELATIONSHIPS** UNIVERSALISM sees ideas and practices as applicable everywhere: more oriented around formal rules and a single reality: these come before relationships. PARTICULARISM is the belief that circumstances and relationships dictate the appropriate rules. Responses vary based on what is happening. **GETTING INVOLVED** HIGH- SPECIFIC CULTURES keep work and personal lives separate. Work can happen without good relationships. HIGH-DIFFUSE CULTURES believe good relationships are critical in work. There is overlap between work and personal lives.	**THE DEGREE OF ACCEPTED INEQUALITY BETWEEN PEOPLE WITH AND W/OUT POWER** HIGH POWER DISTANCE ORGANIZATIONS value centralization, have complex hierarchies, and have large gaps in compensation. Inequity is sometimes accepted by both people in power and those without power. LOWER POWER DISTANCE ORGANIZATIONS involve the group in decision-making. Value equality, respect and compensation.
TIME MONOCHRONIC TIME means doing one thing at a time. It assumes careful planning and scheduling (Often found in low-context cultures)	**MANAGING TIME** SEQUENTIAL CULTURES view chronological order as the "right" flow of events. Punctuality, schedules, and deadlines shape how lives are lived. Time is money, and should not be wasted.	**ORIENTATION TO TIME** SHORT-TERM oriented organizations place more emphasis on consistency and principles, short-term gains and quick results. People have strong convictions. Values and rights are emphasized.

[1] This summary is heavily paraphrased from Changing Minds. Retrieved on August 12, 2019 in http://changingminds.org/explanations/culture/hall_culture.htm: a summary of ideas from *Beyond Culture* (1976).
[2] This summary is heavily paraphrased from MindTools. Retrieved on August 12, 2019 in https://www.mindtools.com/pages/article/seven-dimensions.htm: a summary of ideas in Trompenaars' book, *Riding the Waves of Culture: Understanding Diversity in Global Business* (2012).
[3] This summary is heavily paraphrased from MindTools. Retrieved on August 12, 2019 in https://www.mindtools.com/pages/article/seven-dimensions.htmhttps://www.mindtools.com/pages/article/newLDR_66.htm: a summary of ideas in *Cultures and Organizations, Software of the Mind* (2010).

1

This summary chart will assist us in unpacking the complex explicit and implicit aspects of "school culture" in general, and the culture of your classroom, school, or district in particular, looking closely at all of the ways that mastery is currently well supported alongside examples of barriers that make achieving mastery challenging for students.

Using the Three Theories about the Dimensions of Culture as your framework, identify the aspects of culture that you believe would support someone in becoming an expert (scientists, professional musicians and athletes, chefs, poets, pilots, military generals, engineers, plumbers, carpenters, etc.): What do they value and need in order to improve and become experts? As you undertake this analysis, rely on what you know about how people learn, how people become experts, how people improve, and the supports needed to make powerful learning happen. *[**#1.6** in your Journal also describes this activity.]*

As you look at the three theories, you will notice that they present binary thinking: individualism vs. collectivism, high context vs. low context, etc. As you work with these theories to understand your own context, it may help to keep in mind these three tips:

The dimensions of a culture (and the culture itself) exist on a continuum: some cultures are more individualistic, others are more collective-minded, very few are located in either extreme. A school example can be seen in the difference between classrooms that prioritize independent work, but also allow for collaboration, and those classrooms whose primary learning mode is collaborative, requiring strong, interdependent relationships—and at times, learners are engaged in more independent study. In each classroom cultural norms have been established, with explicit expectations and routines, which require the development of a specific set of skills and dispositions.

Cultures are never monolithic: there are subcultures, people, and groups who join a community and adopt many of its customs, values, and beliefs, but maintain their own as well, sometimes only in private, sometimes more publicly. There are others who reject the dominant culture

outright, or explicitly reject dimensions of the dominant culture: teachers whose classrooms follow all of the school rules, but the culture in the room feels dramatically different than that of other classrooms in the school. Or administrators who don't ask for "permission" but instead take action and ask for "forgiveness" after the fact, because they have a strong sense that the policies and rules will stop them before they start; but if they are successful, they will be allowed to buck the organization's norms and practices.

Cultures do change. Where we sit on the continuum of any one dimension at this moment should not be viewed as written in stone. And as the positionality on one dimension shifts, it impacts positionality on other dimensions, often in unintended and unimagined ways. Developing a culture of mastery is a good example of this. A mastery orientation and mindset pushes us to significantly reorient our thinking about almost every aspect of our learning culture: how to approach time, our views on what's important, our perspective on status, the balance between rules and relationships, and our ability to handle uncertainty and anxiety in the classroom, as well as other dimensions.

Before digging more deeply into mastery learning, let's use the *Three Theories about the Dimensions of Culture* to analyze our own views on the current culture of schooling. You may want to think about this within the specific culture of your classroom, school or district, or more generically: thinking about how schools are portrayed in the media. As you use each dimension to think about the culture of schooling, it may be helpful to ask yourself specific questions, such as those below *[**#1.7** in your Journal provides a place to undertake this analysis.]*

Dimensions of Culture to Consider:

- CONTEXT: How important are rules and policies in your context? How is your context organized: who makes key decisions?
- TIME: How critical is speed and staying "on-pace" or "keeping up"? How much is learning scheduled, and how much is it open-ended?
- STATUS & ROLES: Who are seen as the "successful students?" How is success defined in the classroom: how much is success measured by how one handles time and rules when learning? What other measures of success are lifted up?
- SPACE, ENVIRONMENT AND ANXIETY: How is space allocated in your context? In the classroom do students have their own space? Are people more or less comfortable with stable structures that create certainty and predictability: young people? adults? How much is internal motivation and personal choice around learning encouraged, and how much are external incentives, praise and benchmarks prioritized?
- THE INDIVIDUAL AND THE GROUP: How much do the adults believe that the success of the young people is the

collective responsibility of the whole community: what does this look like? Are adults and young people intrinsically or extrinsically motivated? Do they prefer to work alone or with others? How interested are they in becoming competent?

- EXPRESSION: How is the expression of emotion experienced in your context: for young people and for adults? When is it okay to be emotional? Are their expectations around the expression of emotion: a sense of what's appropriate for young people and for adults?

Mindset/Mindshift Check: To wrap up this section, in your Journal [**#1.8**] review the *Key Shifts Towards Mastery* chart from page 6, and use the dimensions of culture to code each item in both columns, noting any patterns that begin to emerge. Then, check in on your reactions: What causes concern? What pleases you? What IS assimilating with your existing schema? What is pushing up against your beliefs and knowledge (schema) about learning and school? How are you responding to the items that are pushing against your beliefs and practices: accommodating them? Rejecting them? A combination? *[**#1.8** provides a place to reflect.]*

In the next section, we will dig into the concept of Mastery Learning, followed by an opportunity to think about what it might take to enhance a culture of mastery in your own classroom, school, or district culture.

PART 2: What is Mastery Learning?

At its core, Mastery Learning is about recreating our education system to truly provide rich, multifaceted, and numerous opportunities for all students to develop the skills, habits, and knowledge they need to thrive in college, careers, and life. Mastery Learning takes on the structural, systemic, and cultural inequities that bound and shape educators' and young people's experiences of learning in learning communities.

In this two-minute video, 12-year-old Adilyn Malcolm shows us one of her personal mastery-oriented learning projects. It's a deeply learner-centered experience, where she pursued a deep passion. She describes her learning and learning process with incredible detail, even going so far as to name Mlhaly Csikszentmihalyi's theory of Flow as "the optimal experience of deep enjoyment, creativity, and total involvement in life"[5] (she calls it her La La Land). Take a look.

[As you watch, think about responses to the prompts included in #2.1 in the Journal: imagine what Adilyn might say about how she achieved such impressive mastery].

Below is a set of additional videos of young people demonstrating a high degree of mastery. As you explore them, try to assume that these are not particularly gifted young people, but rather youth who have been able to participate in one or several cultures of mastery. Assume the mastery cultures they have been a part of have primed them to both assimilate and accommodate new learning, rapidly and effectively. What do you imagine were the values and beliefs in their cultures about young people, about learning, about mastery?

			
WATCH VIDEO: First National Youth Poet Laureate (18 yrs. old)	WATCH VIDEO: Preparing food over an open fire (~5 yrs. old)	WATCH VIDEO: Tween Bluegrass Trio (9, 12, & 13 yrs. old)	WATCH VIDEO: Teen Chess Master (13 yrs. old)

[5] Excerpted from Amazon's book description. Retrieved on August 16, 2019 from https://www.amazon.com/Flow-Psychology-Experience-Perennial-Classics/dp/0061339202/ref=asc_df_0061339202/?tag=hyprod-20&linkCode=df0&hvadid=270645996404&hvpos=1o1&hvnetw=g&hvrand=13349034244064829629&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9001985&hvtargid=pla-395221952060&psc=1.

As you watch--or shortly after you finish--the videos return to our *Three Theories about the Dimensions of Culture* to think about the cultures of mastery that could have surrounded these students: identify the dimensions of culture that you believe would support someone in becoming an expert (scientists, professional musicians and athletes, chefs, poets, pilots, military generals, engineers, plumbers, carpenters, etc.): What do they value and need in order to improve and become experts? *[#2.2 in your Journal also describes this activity.]*

To keep honing our skills in cultural anthropology, choose a couple of the videos to closely examine--again through the lens of each dimension of culture. Keep in mind that each of these young people grew up and participated in different communities with unique cultures, so it's likely that you will identify meaningful differences in several of all of the dimensions of culture. You also face the added challenge of having to infer much about the young peoples' cultures, as these videos focus on portraying their expertise, not their community values, beliefs and norms. *[#2.3 in your Journal provides a place to ponder what each of the dimensions of culture might have emphasized for each of the videos. It may help to ask yourself, "What cultural norms, enacted by their families and communities, do you imagine supported these young people in becoming so accomplished?"]*

Just as we did in our exploration of culture, let's begin by developing a shared framework for understanding Mastery Learning, how it is unique, and why it matters to educators who are serious about equity. In the following pages we'll explore four analogies that help uncover the concept of mastery: Building a Home, Undertaking an Apprenticeship, Learning to Drive, and Learning to Ride a Bicycle.

Mastery Learning: Building a Home

We begin with a short video featuring Salman Khan making the case for Mastery Education by comparing learning and assessment to constructing and needing to meet the building inspector's quality expectations.

In principle, it really is this simple. How could we continue building a house if we knew that we didn't have the necessary foundations in place? How could we knowingly progress in our construction process if we could clearly see there are structural issues to address? Why would we organize the building process based strictly on time, and not based on readiness to move forward by demonstrating mastery?

The impact of organizing around time and accommodating incomplete mastery are core cultural norms in our schooling system that are primarily outside of our awareness: this is how we do things.

INCOMPLETE MASTERY: In most schools and districts we accept course grades of C or D, or percentage grades of 60-75%. We generally don't know which specific skills and content were actually mastered by students and which ones weren't. If students have made it through the course during the school year—or with the addition of summer school or summer enrichment—they are promoted. The promotion itself is not necessarily the problem here, but rather the fact that when students move to the next course or grade level, neither the student nor the new teacher know where the student's gaps will be, and which gaps will make it challenging to continue to build mastery (not all gaps do). And, the assumed purpose of moving to the next grade level is that the student is ready for new content and skills learning. We do not have a cultural norm that suggests that the student and her new teacher could, and presumably should, pick up where the previous teacher left off: pursuing mastery on all essential learnings, whether they have been covered previously or are entirely new.

Similarly, if students are not allowed to move to the next course or grade level, they generally have to repeat the entire learning experience, nullifying the value of the skills and content that they actually did master, sending a powerful message that partial mastery has the same value as no mastery at all. We default to "holding students back" (this is literally what we call it) from moving forward, despite the research that documents how retention is highly correlated with the likelihood that a student will drop out of school.

Take a few minutes to compare this approach to developing competency to the responses of the young people in the above videos. How do they describe their actions in response to their own "incomplete mastery"? *[**#2.4** in the Journal provides space for noting the language used by these "masters" to describe an approach to "incomplete mastery."]*

TIME:

Our current orientation to time is bedrock in school culture, but that's all it is: a cultural artifact. The system's current time structures aren't research-based, they aren't oriented around Mastery Learning, and they aren't organized to support student health and well-being.

As Khan's video points out: incomplete mastery is an outcome of being organized around arbitrary time structures. Instead, try imagining a system in which the end of a semester or school year did **not** signal the end of a course or "grade level," but rather merely a break in learning, then students couldn't be "held back": there is always forward movement, always developing competence on the skills and concepts that need to be mastered, over the time period, and with an approach that works for each student.

The chart below describes a few additional examples of current cultural norms and values regarding the use of time to organize learning (these norms exist in the vast majority of US states, districts, and schools). Alongside the current cultural beliefs and norms around time, you will find research that suggests these norms actually hinder mastery, as well as some thoughts on how learning communities might reorient and restructure the use of time to support mastery.

TIME & LEARNING

CURRENT BELIEFS & NORMS	[CONTROVERTING] RESEARCH BASIS	MASTERY-ORIENTED ALTERNATIVES
School should begin in the early part of the morning, sometimes as early as 7:15 a.m, but rarely later than 9a.m.	Research into adolescent biorhythms is clear: the vast majority of teenagers are least likely to be alert and ready to learn in the early morning.[6] **CONCLUSION: Early morning start times are a barrier to adolescents' academic mastery**.	Create a blend of online and in-person opportunities to learn, with teachers available to offer online support between 7am-2am, and in-person offerings between 10am-8pm. Run in-person school sessions between 9am-8pm, with staggered staffing to accommodate student schedules. **YOUR IDEAS?**
Legitimate (i.e., "credit-bearing") learning largely occurs during a 6-7 hour period of time each day, over approximately 180 days of the year.	Research into how we develop competence documents that the more automatic a skill or process is, the less likely we are to "lose" it even if we aren't actively practicing it.[7] Learners who are working on increasing the number of automatic learning strategies and processes they use to become competent need to be engaged in the deliberate, ongoing practice of working with evermore complicated concepts, problems, and knowledge.[8] Research into Summer Learning Loss describes documentable loss of competence during extended closure.[9] **CONCLUSION: The typical school calendar impedes students' capacity to become competent.**	Reorganize the school year so that there are more frequent breaks throughout the year, with a much shorter summer. Provide opportunities to learn outside of school: the goal is to demonstrate mastery, not learn in classrooms. Provide a blend of online and in-person learning experiences that occur 24/7/365, with accompanying creative uses of staffing. **YOUR IDEAS?**
Learning is measured by time: annualized courses,	Research shows that "flow"—the optimal state of learning, synthesizing, and creating—exists	Create open-ended blocks of time each day, week, and month where students can continue

[6] G.P. Dunster et al. "Sleepmore in Seattle: Later school start times are associated with more sleep and better performance in high school students," retrieved 2020-05-20.

[7] J. Fischer, N. Schenck. "How long does it take to lose a skill?," retrieved 2020-05-20.

[8] M. Brabeck et al. "Practice for Knowledge Acquisition (Not Drill and Kill)," retrieved 2020-05-20.

[9] McEachin, Atterberry, A. "The Impact of Summer Learning Loss on Measures of School Performance," retrieved 2020-05-20.

seat time, a day broken into relatively brief periods of time focused on a single topic.	outside of temporal constraints (on a side note, flow-enhancing activities decrease adolescent "delinquency").[10] Research into the brain's functioning documents that constant interruptions have similar effects to the loss of a night's sleep, a fall in IQ, the need for an additional 3-5 minutes to get back on track, and the heightening of stress. School days and the school year are broken into short periods of time: course units, a year broken into arbitrary sections- (quarters, trimesters, and semesters), -and a day broken into short blocks of time interrupt deep engagement in learning, consolidation and synthesis of new learning, and the development of mastery. Time-based learning also assumes that every student needs the same amount of time to master something before moving on.[11] Developmental research has proven that there is a range of time for learning new activities: children learn to sit up between 4 and 13 months. They learn to walk between 8.5 and 20 months. There is no correlation between when a child reaches these milestones and their later performance.[12] The same has been documented regarding reading: there's no advantage in learning to read from age 5.[13] **CONCLUSION: Organizing learning around minutes and hours leads to interrupted learning, shortened opportunities for learning, and artificial limits on learning that do not reflect the amount of time individual students actually need in order to become competent.**	to engage in the learning they are engaged with. Organize the school calendar and schedule so that students have the opportunity to focus on a few things deeply, until they become competent, before they move on to the next topic. Create a blend of online and in-person learning experiences that allow students to learn deeply at all hours of the day and all times of the year. Staff learning opportunities in very flexible ways. Let students demonstrate mastery of skills and content when they are ready to, not at a single moment in time. If students haven't achieved mastery, create new opportunities and supports for them that allow them to continue learning and practicing for as long as needed. If students achieve mastery more quickly, ensure there are opportunities for them to move forward immediately, without waiting for peers who may need more time. Eliminate the final entry of course grades at specific moments in time: enter grades when students have mastered the material. **YOUR IDEAS?**

NOTE: The mastery-oriented alternatives included in this chart are all doable if larger systemic constraints are removed (union contracts, state and district policies that require a certain number of school days, an academic year calendar, a

[10] Csikszentmihalyi, Mihaly, "Flow, the secret to happiness," retrieved 2020-05-20.
[11] T. Rose. *The End of Average: How We Succeed in a World That Values Sameness*. 2016.
[12] Schweizerischer Nationalfonds zur Förderung der wissenschaftlichen Forschung. "Child development: Early walker or late walker of little consequence," retrieved 2020-05-20.
[13] D. Suggate. "Research finds no advantage in learning to read from age five," retrieved 2020-05-20.

specific designation of the length and start/end times of school days, etc.). We include them here because in order to begin to create a culture of mastery it's important to begin with an open field for creating solutions to current problems, for reimagining how a learning community could be structured in order to support student mastery.

While teachers typically have very little control over the way time is used over the course of a school day or year, one of the first places to think about how to orient the use of time is within class periods.

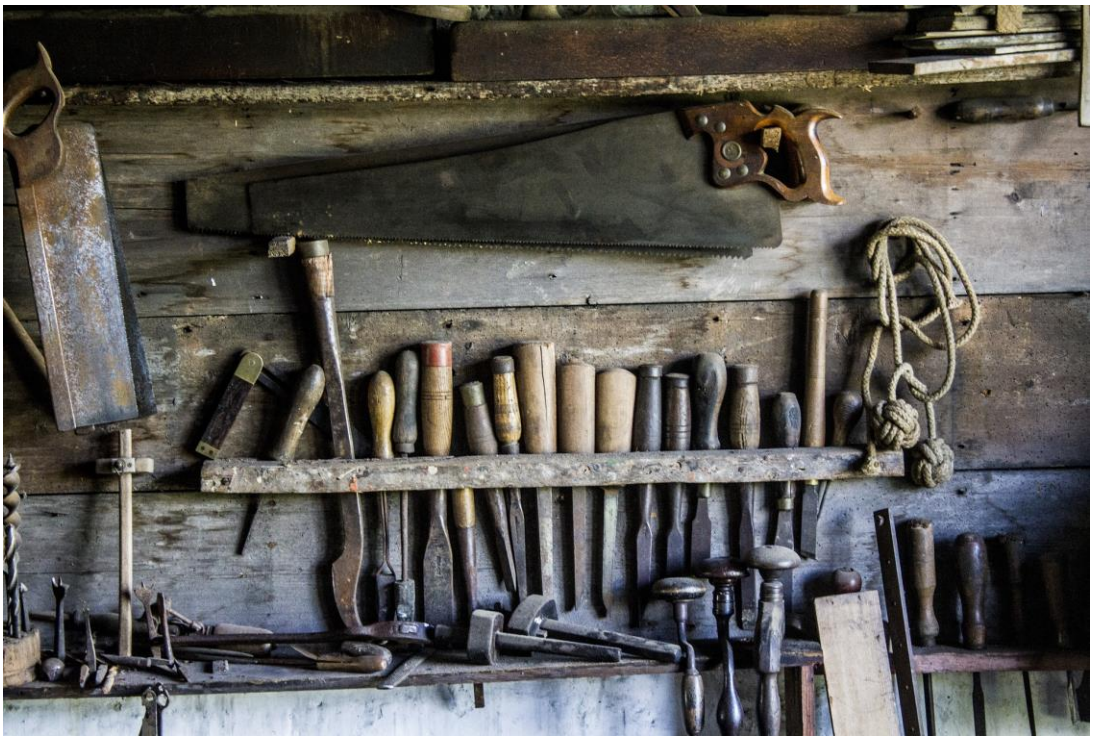
Think about the classrooms in your school or district, or your own classroom. Where do you see the organization of time working for and against mastery? Supporting and interrupting students' flow? Encouraging competence, or encouraging content coverage and speed? What are some of the specific norms and practices you have developed around time, and what are the underlying purposes of these practices? *[**#2.5** in the Journal provides space for exploring the norms and practices around time that exist in your classroom(s).]*

Mastery Learning: Apprenticeship

Apprenticeships date back to the Middle Ages, when young men would be bound to a master to learn a trade over several years. At the close of the apprenticeship, the apprentice became a journeyman (derived from the French word for day: journee), who would be paid by the day. After a lengthy period of gaining experience and developing his skills, the journeyman would submit one of his "masterpieces" to his trade's guild for assessment. If the piece was accepted, he could then set up his own workshop as a master craftsman, taking on apprentices to train.[14]

Historically, apprenticeships, overseen by guilds, were specifically organized to support the development of mastery: sons of merchants, professionals, and artisans were sent to live in the households of others of a similar station. Guilds ensured that apprentices were trained well, and that their rights were protected. Apprenticeships were the ultimate, immersive experience of job-embedded mastery-oriented training for adolescent and young adult males.

[14] "A Short history of Apprenticeships." *TEM: Technical Education Matters*. 2011. Retrieved on August 16, 2019, in https://technicaleducationmatters.org/2011/01/06/short-history-of-apprenticeships/



What would this look like in elementary and secondary education? The opportunity to design mastery-oriented teaching and learning experiences could include curriculum that focuses on authentic academic and professional projects and tasks; learning spaces where students are creating, problem-solving, designing, and developing alongside experts, who can be certified teachers, but won't always be. It can be a carefully developed career and technical education pathway or a makerspace, but it can also include academic pathways that are organized around mastery. The emphasis would be on higher-order thinking skills: analysis, synthesis, creation, evaluation, and strategic thinking. The products would mirror those found in actual professions, including academia. The work-time would include opportunities for learners to receive explicit skill and strategy instruction; ongoing feedback on their skill mastery and products; practice in higher-order thinking; frequent opportunities to apply new skills by creating, designing, engineering and developing; and continual practice and revision. It is possible to transfer the practices that we know help apprentices to first become journey"men" and then "masters" to the schoolhouse arena.

Collins, Brown and Holum wrote extensively about an apprenticeship model, for the academic realm: Cognitive Apprenticeship. It's well worth a read! After you explore it, you may want to explore this Tip Sheet on Principles for Designing Cognitive Apprenticeship Environments.

Many professions still include a form of apprenticeship in their pathways towards professional practice, but unfortunately, the notion of mastery through apprenticeship is less prominent in contemporary life. Pre-service teachers become student teachers for a brief period of time, and are certified if they undertake a specific number of hours in the classroom. Students enrolled in career and technical education programs may or may not ultimately receive a certificate

in their chosen vocation by the time they graduate from high school. Interns in professional organizations may strengthen and deepen their skills, but organizations do not take on the task of ensuring that interns achieve mastery of any particular skill set essential for success in the organization's work. An orientation around mastery provides new opportunities to rethink how we nurture and develop young people to become increasingly competent.

Below, we've profiled four programs that take an apprenticeship-like approach to learning and mastery, making strong connections to the professional world and current issues and problems. Take a bit of time to explore—the first one is located in Boise!

One Stone High School: ID	Nashville Big Picture Learning: TN	NuVu Studio: MA	Health Careers Academy: CA
Article with Video & Website	Article, Video & Website	Video, Article & Website	Video & Website + ConnectEd Website

After you've had a chance to explore each program, return to the *Three Theories about the Dimensions of Culture* and think about where each program would fall on the continuum associated with each dimension. Then, take a few minutes to THINK ABOUTthe beliefs, norms, and practices about learning and mastery that undergird each program. What role does the apprenticeship-like model play? What ensures that it is truly a powerful Mastery Learning experience? What are the fundamental values about learning and young people that are visible in these programs? How are they manifested? *[**#2.6** in the Journal provides space for thinking about apprenticeship-like values and beliefs, norms and practices.]*

Mastery Learning: Learning to Drive

STATISTIC: In the US, 43% of 1st year drivers, and 37% of 2nd year drivers are involved in car crashes.[15] Why?

[15] Tips for Safe Driving. Safety Insurance. Retrieved on August 16, 2019, in https://www.safetyinsurance.com/driversafety/tips_statistics.html.

Learning to drive requires the brain to execute and integrate many discrete skills rapidly and simultaneously: steering, using rear-view mirrors, attending to road signs, attending and responding to the quickly changing positions of cars, watching your speed, tracking where one is going, making decisions regarding acceleration and deceleration, and more. (And, unfortunately, the areas of the brain that are involved in the work of driving do not fully mature until we are approximately 25 years of age[16]). Beginning drivers can neither learn nor demonstrate these skills effectively at the same time; needing time to practice a few at a time—a version of scaffolding. For example, beginners might first learn to drive on a dirt road, with no other cars in sight; practicing a k-turn in an empty parking lot; and experimenting with parallel parking using cones instead of cars.

So, how do we know when a beginning driver is no longer a beginner? What are we looking for?

Ultimately, mastery of driving is the ability to integrate all of the skills, automatically, in real-time. AND, the capacity to effectively apply one's skills under many different circumstances: driving on black ice in the northeast, parallel parking facing both up and down on a steep hill, driving along hairpin turns in rain or snow, driving in heavy traffic around pedestrians and bikers, and on busy highways. According to the above statistic, only about 57% of first year drivers, and 63% of 2nd year drivers are competent enough to avoid accidents: it literally takes years for the majority of us to fully master driving. AND, the amount of time it takes is variable: some become competent relatively rapidly, others within a year, and others will take several years.

In Mastery Education we can say that someone has mastered something when they can successfully undertake it multiple times, across a number of contexts. For example, if we are asking students to learn to make an argument, we would want to see them make arguments in writing and speaking situations, for an authentic audience, and in different content disciplines. We might see students make multimedia presentations, write a blog or a letter to an editor, speak at a town hall meeting, etc. And, perhaps the statistics for driving and accidents will be similar for these more academic tasks: perhaps only 57% of students will successfully make a strong argument after practicing over a period of several months, and then the number will jump to 63% after another period of time. And ultimately, the number could reach 100%, or close to it at some point, if students are given enough time and opportunity.

[16] M. Arain, et al. "Maturation of the Adolescent Brain." *Neuropsychiatric Disease and Treatment*. 2013; 9:449-461. Retrieved on August 14, 2019, in https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3621648/.

Mastery Learning: Learning to Ride a Bike

Have you ever watched a group of kids learning to ride bikes together? Some learn very quickly, their body balancing on two wheels after only a few tries. Others take far longer, falling, putting their feet down to avoid falling, watching their peers, asking an adult to stabilize the bike with a hand on the seat. Eventually, they all learn to ride, and the amount of time it took them to learn ultimately has no bearing on how competent they eventually become: perhaps the child who learned to ride in 20 minutes will abandon bike riding at age nine, while the one who spent days practicing, failing, and persevering will eventually become a competitive biker. If you were to tell the competitive biker that she was a failure because it took her too long to learn to ride when she was five years old, the notion would be laughable. Similarly, if you told the adult version of the nine-year-old that he was an incredibly successful rider, despite the fact that he had abandoned biking, people would scratch their heads in confusion. Yet, this is a core cultural norm in American schooling. Taking time, needing repeated practice, failing and trying again, persevering: in our education system, these are typically signs of incompetence. They merit failing grades, retention, and, frequently, assumptions about poor intelligence and lack of grit.

This last analogy brings us back to the inherent problem of using time plus number of practice sessions as placeholders for mastery: retaking a test three times does not necessarily mean a student isn't trying or learning (one might say that retaking a test three times is the very definition of trying). It can mean that their brain is processing the learning at its own pace, in its own way. If the ultimate result is demonstrated competency on the skills and content that are on the test, then the student has mastered the content, and should receive a "grade" that reflects their competence at the end of that learning cycle.

To learn more, listen to Dr. Doug Reeves discussing toxic grading practices in this short video. Or listen to an interview with Joe Feldman on his book, *Grading for Equity*.

Think about a recent assignment or test that was given to students in your own classroom, or a classroom in your school or district. How much practice did students have in undertaking this kind of task before the task was given and graded? Were any students totally unsuccessful, or partially? What was the strategy regarding these students? What happened to those who were not able to demonstrate their competence? What could you imagine are the causes of those students' lack of success? How could these causes be addressed now? Will the students have the opportunity to become competent in the specific skills and content that were assessed?

Take a bit of time to reflect on the level of mastery your students achieved on a recent assignment or test, using the above questions as prompts as needed. Think specifically about the students who were unable to achieve mastery, and how shifts in the classroom culture might support them. *[**#2.7** in the Journal provides space for applying the mindset of the four analogies to your reflection.]*

Each of these analogies highlights different key dimensions of a mastery orientation to learning: a culture of mastery. Moreover, in different ways, they reveal the equity-grounded principles at the heart of mastery-oriented learning and assessment, thereby ensuring that inequitable outcomes for students are not baked into the culture of your classroom, school, or district. If you return to the *Three Theories about the Dimensions of Culture*, you will also notice that much of what is required in learning to ride a bike, drive a car, participate in an apprenticeship, build a house, and prepare for a thriving life beyond the k12 education system, require a learning culture that develops norms, practices, routines, rituals and celebrations that prioritize:

- strong relationships, a belief that we are first members of groups, cooperation, collective responsibility
- an orientation to time as polychronic and synchronic--valuing interaction over time, believing that multiple things can be worked on simultaneously
- an understanding of the power of one's own locus of control and self-efficacy, an embracing of learning for it's intrinsic rewards
- a capacity to accept ambiguity, change and innovation
- most authentic forms of expression, including those that can cause conflict or disrupt efficient use of time.

When we organize around learning and mastery in this way, all of the structures in our system begin to align around each and every student becoming competent.

MINDSET/MINDSHIFT CHECK: Which of the ideas about mastery resonate strongly with you and why? Which ideas (if any), cause concern or worry, and why? What do you think the biggest challenges would be for you to adopt any of these ideas in your context? *[**#2.8** in the Journal provides a place to explore your reactions.]*

PART 3: How can I take my first steps to cultivate a culture of mastery?

"Culture eats strategy for breakfast."
widely attributed to Peter Drucker

Although Mastery Education is fairly straightforward in principle, *learner-centered communities should always be organized to support **all** students in becoming increasingly competent*. When it comes to school or system design and implementation, Mastery Learning tends to be complex for several reasons. Our current system was designed for...

- **Efficiency and standardization**; we organize children by age because it's efficient, not because all 7-year-olds or 12-year-olds are capable of learning the same things in the same ways at the same time. Then, when 7-year-olds learn faster or slower than their peers, we generally continue to "teach to the middle" in order to ensure that material is "covered," rather than addressing specific learning needs as they arise, so that material can be mastered.
- **Affirming generalized notions of intelligence**, which legitimizes sorting and categorizing students as "smart," "standard," or needing "special" services. This assumes that people have an overall, fixed quotient of intelligence (IQ), rather than what research has proven: that the brain has a plastic quality that allows it to continue to learn and develop if given support and opportunity. No one is capable in all areas of life: we have jagged profiles of strengths and areas to improve. Providing richer, more rigorous opportunities for learning to some students, consistently over years, will result in those students appearing to be more gifted than their less resourced and academically challenged peers.
- **Assimilation** into the dominant culture, assuming that the culture is monolithic, and that one set of norms, values, and beliefs is far more valuable than others. This provides an advantage to members of the dominant culture, while placing additional burdens on those for whom the dominant culture is unfamiliar.

In addition, American values around individualism—pulling ourselves up by our bootstraps— work against creating a culture of collaborative learning that supports students right in their zone of proximal development, the place where learning is most powerful, but also generally requires guidance and support. So much of the current system sends messages such as getting help from others is "cheating;" if we can't do something on our own, we are weak; or if we need time to learn something we lack intelligence.

Mastery learning pushes hard against these built-in, systemic beliefs and inequities, instead asking us to organize all of our actions around the work of becoming competent. To help guide the field in developing a shared conceptual understanding about Mastery Education and what it means for practitioners, the International Association for K-12 Online Learning (iNACOL/Aurora Institute) convened thought leaders from the field in 2017-18 to develop a set of Quality Principles for Competency-Based Education. Here's the gist:

PURPOSE AND CULTURE

1. Student success outcomes are designed around preparation for college, career. and lifelong learning.
2. Districts and schools make a commitment to be responsible for all students mastering learning expectations.
3. Districts and schools nurture empowering, inclusive cultures of learning.

PEDAGOGY

4. Students receive timely and differentiated instruction and support.
5. Research-informed pedagogical principles emphasize meeting students where they are and building intrinsic motivation.
6. Assessments are embedded in the personalized learning cycle and aligned to outcomes including the transfer of knowledge and skills.

STRUCTURE

7. Mechanisms are in place to ensure consistency in expectations of what it means to master knowledge and skills.
8. Schools and districts value transparency with clear and explicit expectations of what is to be learned, the level of performance for mastery, and how students are progressing.
9. Strategies for communicating progress support the learning process and student success.
10. Learners advance based on attainment of learning expectations (mastery) through personalized learning.

—Sturgis and Casey. *Quality Principles for CBE*. iNACOL, 2018: p. 15-18.

Remember to incorporate equity-centered design principles introduced in the first section of this module from the two Aurora Institute (formerly "iNACOL") publications: Quality Principles for Competency-Based Education (2018); Designing for Equity: Leveraging Competency-Based Education to Ensure All Students Succeed (2018).

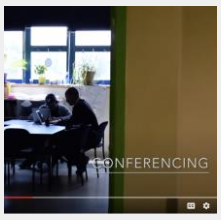
- **Develop a shared purpose**: Work with the school and broader community to define student success with an orientation around transferable skills, lifelong learning skills, deep thinking about academic knowledge, and personal well-being; invest heavily in relationships between students, teachers, leaders and the community; ensure students have opportunities to apply their learning in ways that are personally meaningful (*Quality Principles,* pp. 31-36).
- **Commit to Equity and Inclusion**: Commit to **all** students succeeding; nurture a culture of relational belonging by actively promoting trust, empathy, collaboration, and social learning across all elements of diversity; interrupt inequitable practice; challenge conscious and unconscious bias and stereotypes (*Quality Principles*, pp. 37-41).
- **Nurture a Culture of Learning and Empowerment**: Ensure that learning fosters collective responsibility for student success; view all members of the school community as active learners; draw on pedagogical practices grounded in the learning sciences, deeper learning, constructivist learning, and personalized learning to help students and adults learn and grow; commit to cultural responsiveness: respect, nurture, and embrace students' personal and cultural identities by ensuring that relationships, learning environments, and learning experiences are culturally attuned and relevant (*Quality Principles*, pp. 41-44; *Designing for Equity*, p. 15-17).

These are big, abstract concepts. Powerful and compelling ones, but hard to put one's hands around. For example, what exactly does practice look like in a classroom or school that "nurtures a culture of learning and empowerment"? We can describe what we observe, but often the foundational elements are not visible, like the studs that hold up load-bearing walls.

The six classroom videos linked below demonstrate a range of pedagogical practices and routines that support students in becoming increasingly competent. The practices are deeply grounded in a fundamental belief that most humans, of any age, can achieve far more than we have the opportunity to take on, given the "right" circumstances:

- a culture that encourages practice, revision, and learning from mistakes and failure
- content/skills that are meaningful and relevant to the specific learners in the community
- scaffolding that leverages the learning sciences and learners' cultural values, norms, and practices

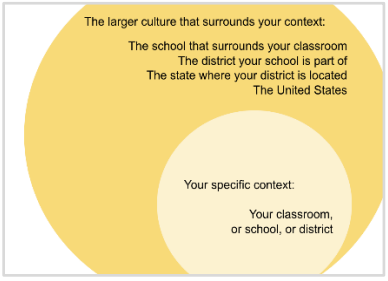
The remaining activities in this section ask you to study these videos as well as your own classrooms, school, or district, in an effort to make the dimensions of their cultures visible to you.

					
WATCH HS Math Class: Todd County	WATCH MS Tutoria: Mexico	WATCH 1st grade Portrait: Austin's Butterfly	WATCH Gr. 3-5 Student Self-Selection	WATCH Teacher Facilitation Modes	WATCH Middle School Self-Assessment

To begin, watch the videos and apply the *Three Theories about the Dimensions of Culture* (context, time, and space), working to understand the values, beliefs, norms, and practices that undergird each learning community. *[**#3.1** in the Journal includes a table to help you organize your thoughts.]*

Reflect on your noticings regarding the videos: Which dimensions of culture are similarly practiced in a number of the videos? What are some of the differences you observe around the dimensions of culture? One example: all of the videos emphasize the necessity of strong relationships to support a culture of mastery, but the manifestation of "strong relationships" is different across the videos. How would you describe the similarities and differences? *[**#3.2** in the Journal includes a T-chart to help you organize your thoughts.]*

Try using a version of the charts from #3.1 and #3.2 to think about the cultural norms, beliefs, values, and routines in your own classroom, or a classroom in your school or district. *[**#3.3** in the Journal includes a chart to support the analysis of your own context.]*



Then, apply the same *Three Theories about the Dimensions of Culture* (context, time, and space) to an analysis of the culture that surrounds the classroom. What are the larger-picture policies, norms, values, and practices that shape the extent to which a culture of mastery can be fostered? *[**#3.4** in the Journal includes a chart to support this analysis.]*

Let's close this exploration of culture in a mastery learning system with some final thought exercises and reflections.

As you look over the thoughts and insights reflected in your writing for 3.1, 3.2, 3.3, and 3.4, take the opportunity to imagine and describe a vision for a mastery-oriented culture in your classroom, school, or district, one that you could imagine coming into being over the next five years. Another option is to imagine an ideal culture of mastery, one that is unconstrained by larger policy and regulation requirements. *[**#3.5** in the Journal provides space for your vision.]*

Then, begin to identify and articulate a few steps towards building a culture of mastery that falls within your locus of control.[17] For example, a classroom teacher's locus of control does not extend to being able to overhaul a school schedule or calendar. However, it does typically include decisions about how time is used in their own classroom. As a result, one shift that they might experiment with is giving up using a timer when students are working in stations, saying instead, "Students can stay where they are while they are engaged in meaningful learning. Getting to every station every day will potentially hinder students from learning deeply."

	Describe a few cultural norms and practices that you might experiment in shifting that fall within your locus of control, whether it be in your classroom, school, or across your district. *[**3.6** in the Journal includes a chart to support your brainstorming.]*
	Synthesize and consolidate your learning from this module by creating a tip sheet for someone about some of the mindset and cultural shifts that will support a journey towards a culture of mastery.

Wherever you are in the processing of these ideas, we are so glad you jumped into this learning experience.

[17] R.B. Joelson. Locus of Control: How do we determine our successes and failures? Retrieved on June 8, 2020, from https://www.psychologytoday.com/us/blog/moments-matter/201708/locus-control.