TABLE OF CONTENTS

Preface xiii
Do I, or Do I Not, Take This Picture? xiv
What Is This Book About? xvi
To Whom Am I Speaking? xx

PART ONE Culturally Responsive Artmaking Teaching 1

ONE What Does It Mean to Think Like an Artist? 5

What Is Artmaking? 7
Social Learning 15
Notes on Artmaking: Influence and Inspiration 29
Chapter Notes 31

TWO Defining Equity . . . and the Problem of Fairness 35

A Problem of Fairness 37
Measured by Outputs 39
Quality and Effective 44
Difference ≠ Deficits 50
What Schools Can Do 60

COPYRIGHTED MATERIAL

Notes on Artmaking: The Heart of Equity 61
Chapter Notes 64

THREE Shifting Paradigms 69

Equity Problems of Practice 71
Race 76
Nonstarters 83
Notes on Artmaking: Layered Methodologies 88
Chapter Notes 92

FOUR Artmaking—As an Equity Issue 95

What Does It Mean to Understand? 97
The Role of Culture Relative to Achievement 108
Notes on Artmaking: Composition 127
Chapter Notes 128

PART TWO The Culturally Responsive Artmaking Teacher (In) You 131

FIVE 12 Days of Instruction 135

Seating Charts, Volcanoes, and Different Glimpses of Themselves 137
Week 1: Planning (Structure and Process) 142
Week 2: Superpowers, Not Hacks... 149
Week 3: From Compliance to Agency 160
"Something Has to Work Better . . ." 167
Notes on Artmaking: Ordinary Resurrections 169

SIX Improvisation 173

Make It into a Melody 175
Uncertainty 177
Imprint the Memory 179

Notes on Artmaking: Have Students Translate the Melody 181
Chapter Notes 182

SEVEN Story 183

Our Job Is to Be a Storyteller . . . 185
The Star of the Show 186
The Story Unfolds as a Question . . . 188
Notes on Artmaking: The Power of Story 189
Chapter Note 190

EIGHT Audience 193

A Captive Audience 195
A Good Classroom Is Supportive of New Ideas . . . 197
In Defense of Incentives 199
Notes on Artmaking: Incentives Are Not the Reward 208
Chapter Notes 210

NINE The Art of Culturally Responsive Assessments 211

A Culture of Responsive Assessments 213
Why Are Performative Assessments More Equitable Than Traditional "Standardized" Assessments? 215
Measure It Performatively . . . 221
Notes on Artmaking: "They Weren't Taking Cues Off of Me." 228

Afterword 231
Brilliance 232
Brilliant Teaching is Philosophizing 234
References 237
Index 255

CHAPTER 1

What Does It Mean to Think Like an Artist?

COPYRIGHTED MATERIAL

"The precise role of the artist, then, is to illuminate that darkness, blaze roads through that vast forest, so that we will not, in all our doing, lose sight of its purpose, which is, after all, to make the world a more human dwelling place."

—James Baldwin

WHAT IS ARTMAKING?

Technically, I am a consultant for Equity in education—but I'm not fond of the term *consultant*. I much prefer to think of myself as a *freelance teacher*. As such, I provide site-based, professional development with particular attention to pedagogy in schools and classrooms where there are Equity gaps. But I'm not fond of the term *professional development* either. It's compromised with the fiction that some outside *expert* can provide answers to teachers' problems of practice. In supporting teachers, I try very hard to thought-partner with them in developing a deeper understanding of our students and the contexts in which they are learning. It's a heuristic approach. Also, I enjoy thinking; and I find that the best answers to teachers' questions about Equity are usually those that empower them to be thoughtful as well.

So, in that vein, you should think of this book as one long thought experiment. Here's the scenario:

> Imagine that you are a teacher. You are a teacher in any grade you like, but you are teaching in the current year of your reading of this book. If you're a secondary school teacher, choose any subject area or discipline you want. You can be a teacher in any type of school you like. It might be an urban school, but it could also be suburban, or even rural. Doesn't matter. It can be a large school with several thousand students or a tiny school where you literally know every kiddo's name in the building. Any school, anywhere.
>
> Mind you, you are not just any teacher. You are a teacher who cares deeply and wants to teach brilliantly. Let's say that brilliant teaching closes Equity gaps in which case, it's really important to you that you are both brilliant and equitable in your teaching. . . .

Having established this as our premise, the central thought-experiment question is: What does Equity mean *in* your teaching? Or put another way, how do you *do* Equity?

Let's Begin at IKEA . . . Yes, You Read That Correctly—IKEA

My unrecognized and underappreciated talent is that I can always find a reason for a trip to IKEA. One should have a system for these types of things. Because I know what I'm doing, my IKEA routine *obviously* begins at the cafeteria, and my order is always the same—the Swedish meatballs. They're delicious . . . and it puts me in just the right mood to buy the three things I intended to purchase and the additional dozen or so items that mysteriously find their way into my shopping cart before I make it to the cashier.

Did you know you can buy those very same delicious IKEA Swedish meatballs to prepare at home? In fact, you don't even have to take a trip to IKEA. The recipe for making Swedish meatballs is freely provided on the internet by IKEA itself. Here's the thing though: you must follow the directions closely, or your meatballs are going to taste weird, which is the opposite of the goal of your project. You want your meatballs to taste just as if you were savoring them in an IKEA cafeteria. Your goal is to replicate. The good news is that if you acquire the exact ingredients and follow the instructions precisely, the Swedish meatballs you make at home will be basically just as tasty as they are at IKEA—better actually, if you factor in that you don't have to second guess all those impulse purchases from the kitchen section.

Let's consider that teaching is like making Swedish meatballs, and we want to make the most scrumptious meatballs possible. If every teacher was tasked with preparing the perfect dish of meatballs—that is, if every teacher were to teach brilliantly—it would also be true that every teacher would be responsible for something more than following the cooking directions precisely. An excellent *kitchen cook* pays careful attention to accurately repeating the steps for preparing a dish. To follow directions is an algorithmic approach to cooking and teaching; but in this analogy, the

teacher would require a skillset much more like that of a *chef* because the dining audience of every classroom is uniquely different than any other.

Chefs also know how and when to follow directions, but chefs think artfully. They exercise a kind of innovative autonomy and carry forward decisions with myriad variables, all of which—when arranged well—contribute to the serving-up of memorable and satisfying experiences for patrons in the culinary context (Haykir & Çalışkan, 2021).

If the teacher's task is to (metaphorically) make delicious meatballs—but each classroom is a distinct mosaic of students' backgrounds, interests, personalities, and ambitions—the teacher can't merely be expected to follow even the most detailed of instructions because each classroom is a qualitatively singular commixture of humanity. Rather, these teachers with the responsibility for managing many variables would have to be able to think like chefs, which is different than how kitchen cooks think. The teacher with a chef mindset is required to be innovative, to analyze and synthesize, to combine the available parts in the interest of a unique creation that is responsive to the dining audience. The goal is to create an *experience* of meatballs—but the steps taken in doing so are informed and influenced by the context in which the dish is being served.

There are, however, limits to this analogy. The work of teaching is not the same as preparing meatballs. Teaching is the work of developing students to have the capacities for intelligence; and to be clear, intelligence should be understood as something different than intellect.[1] I will return in greater depth to the discussion of intelligence in Chapter 4, but for now intelligence should be thought of as competencies that cultivate understandings. Intelligence is that which integrates reason and affect, that which speaks to the relationship of the parts to the whole, and that which expands students' awareness for accurate self-assessment and self-regulation. Intellect, on the other hand, is something related to intelligence but qualitatively different. Intellect, as I'm referring to it, references the accumulation of topic- and context-specific knowledge (facts, dates, phraseologies, and algorithms) that demonstrates a specialistic recognition of patterns and phenomena in particular fields. *Intelligence* and *intellect* are, of course, not mutually exclusive and can be complementary. Further, an intelligent person may

lack knowledge that an intellectual person cites readily, but it can also be said that an intellectual person is not necessarily intelligent.

In this book, I want to make the argument that teaching that closes Equity gaps is much more artful than algorithmic. Teaching is the art of empowering students with understandings. And further, the art of teaching is performed through learning experiences that position students in proximity to concepts such that their cultural fluencies are useful to them in integrating understandings into a schema of meaningful knowing.

There is an artistic sensibility in the work of teaching that is indispensable for Equity broadly and Culturally Responsive Education specifically. Artists—all artists—struggle with their art.[2] That's part of what it means to be an artist. The stories of struggle are epic and taken as evidence of the artist's commitment to their craft. The problems of Equity in education are complex and cannot be answered by an out-of-context algorithm or global program. Complex problems require adaptive and not technical solutions. It's important that we are willing to think deeply about teaching. The search for simple fixes to complex problems is more dangerous than the problems we seek to address; therefore, the approaches to solve must be more artful than algorithmic.

Making art is purposeful and integral to one's identity. In fact, those who make art can be said to be driven by a kind of philosophical directive more than a simple task-oriented impulse to produce something. And though artmaking is channeled through tools including the familiarity with certain algorithmic methods—artmaking draws from one's very sense of being in a way that following directions does not.

Artmaking and Philosophizing . . .

Teachers, like artists (and most people for that matter), are drawn to philosophy, by which I don't necessarily mean the philosophy of the Socrates, Diogenes, or Plato variety. The word *philosophy* is derived from the Greek word *philos* ("loving") and *sophia* ("wisdom") and etymologically means "the love of wisdom."[3] The balance of one's fundamental convictions about truth, right, wrong, good, bad, beauty, ugliness, work, family, concepts of god and spirituality, and the like can be said to constitute a personal

philosophy. Teachers and any persons who are moved to find meaning in life, those who question where they are going, why, whether it's all worthwhile, and so forth, can be said to be *doing* philosophy. And if we are thinking and feeling people, that kind of activity recurs throughout our lives. To be a thinking and feeling person is not without consequence. To think and feel condemns us to question, to take ruminative strides toward understandings, to unsnarl the complex forces which play upon us—in short, to *philosophize* (Tesconi, 1975).

To philosophize forms the basis of what human beings are inclined to do—to make sense out of our life situations, to find or create meaning in or out of them. To philosophize for teachers means to bring to one's own awareness the beliefs and assumptions that underscore how we approach our craft. It's not an anchor but rather a rudder that steers our thinking toward understandings that are useful and consistent with the highest goals of teaching. To philosophize is to engage cognitively, to compose a view of one's philosophy of life, and by extension for us teachers, a philosophy for our craft.

This implies that the responsibility of teaching bears with it the commitment to investigate our own relationship with the ideas and techniques of our craft. To carry this responsibility there must be the love of *understanding* and not mere learning for the acquisition of knowledge. In this way, philosophizing is an exercise in self-knowledge, and self-knowledge is more than superficial adjustment; rather, it is the capacity to understand one's own patterns of thought, including one's biases and blind spots, and it is the perception of how intelligence can be applied to the influence of one's existence. Of what value is knowledge to the individual if one continues in their confusion? The craft of teaching is too complex to take on uncritically. It demands careful and reflective thinking—an inclination for the philosophical as a companion to practice.

As I will discuss in Chapter 2, our understanding of Equity and what it requires of teaching is the result of a multigenerational, societal inquiry through which the central and essential purpose of schools has been clarified relative to the principles of American democracy. Put another way, Equity in education is a product of public philosophizing. The goal of

Culturally Responsive Education is to operationalize Equity in the classroom. Culturally responsive pedagogy that is effective in creating equitable opportunities for kiddos is more than knowledge. There is a difference between being knowledgeable (which strikes me as something more like a *technical* attribute) and artful (which though may rely in some way on technical knowledge is critically *adaptive* in nature).

Art, in general, is about the sharing of aesthetics, communicating meaning, and promoting the aspirations of a society. Teaching, especially in a culturally diverse context, is an artful endeavor intended to draw out a reaction (i.e., engagement) from the audience (i.e., students) while developing products for posterity (i.e., intelligence and understandings). Artful teaching entails the skillful presentation of concepts and the intentional design of conditions in which students can learn most effectively—and this art demands much of us.

Craft

Brilliant teaching, while encouraging the learning of knowledge and technique, should accomplish something of far greater importance; it should impart upon students the means of *how* to think rather than *what* to think. *How* to think is also a kind of artistic endeavor. If we accept that intelligence is the capacity for *how* to think, then we can also say that the intelligence we hope to develop through artful teaching yields students' understandings of their own relationships with and responsibilities within their intersecting and overlapping communities—not in isolated terms but as a total process. Taken together, these communities comprise society, and society is the relationship between each one of us and every other.

The craft of teaching should empower students to solve the many problems of existence at their respective levels. The interactional tools necessary for the solving of personal, community, and societal problems necessitate an intelligence that integrates specialistic knowledge (separated as it is into various categories) into a cohesive whole (Zimmerman, 1995). To approach problem solving otherwise indicates an utter lack of comprehension. By extension, brilliant teaching should empower students with the

intrapersonal capacities to understand themselves as whole beings constituted by the intellectual, emotional, psychological, and cultural parts in order to summon the agency to influence the circumstances of their existence. If school is to be perceived as relevant, then it should at the very least provide students with the tools to understand themselves as a total process of the various parts. This integrated understanding is required if there is to be any possibility for inward transformation through learning, and this manner of learning (i.e., intelligence) is essential because without it, life and all that can be studied become a series of themeless, threadless chaotic events—and meaning is difficult if not impossible to ascertain.

I think of culturally responsive teaching as a type of artistic expression that exists in concert with a kind of philosophical outlook. More specifically, culturally responsive teaching creates opportunities that close Equity gaps by engaging learners in rigorous thinking through the leveraging of culture in the interest of amassing understandings. I describe in greater detail what I mean by culturally responsive teaching in *Culturally Responsive Education in the Classroom: An Equity Framework for Pedagogy* (2019). Of course, there are technical and scientific principles, but be assured, this type of teaching doesn't make lessons, it makes art; and teachers who make art approach the craft from a fundamentally different philosophical outlook than teachers who make lessons.

Where brilliant art is created with paint or cameras or through storytelling or performance, brilliant teaching is created on the canvas of experience. Whether it be physical, emotional, or cerebral, it is through the compelling medium of experience that understandings are forged. In my vocabulary of effective teaching, I prefer the term *brilliance* over *mastery* because *brilliance*, in my view, is indicative of a more artful, dynamic, and ongoing process to build one's capacity to engage learners in rigorous and meaningful thinking.[4] There is no single expression of brilliance, and brilliance evolves. This could be said to be the critical difference between the proverbial one-hit wonder and an artist of generational significance. The generational artist is more likely to have evolved their craft and expression of their artmaking self so that they continue to create when the one-hit

wonder has exhausted their capacity to be brilliant in one, or very few, productions.

When I talk about brilliance, I don't mean to suggest that artmaking teachers bring some supernatural, inaccessible, genius-level insight to the craft. Brilliance, as I am describing it, is earned, not granted by the heavens. When the artist learns to incorporate their technical skill inside of a larger vision, their work takes on expanded dimensions. Similarly, when the teacher finds their voice and purpose, they can create from a higher level of perspective and with an intention tailored to match the specific context in which their pedagogy is performed. And once artists understand themselves as creatives, they must never stop evolving—or the most dangerous of fates awaits them . . . inertia . . . which is to no longer produce from a heartfelt purpose but rather to copy one's previous successes.

Artmaking involves skills and habits that can be learned, but scripts and simple directives just won't suffice. Our philosophizing habits can take us in a more (or less) fruitful direction, so it's important to pay attention to what those philosophical conventions are—to inquire if they're serving our purpose well or not. This is, of course, not such a mystery or a provocative thing to say. It mostly requires a certain discipline, an awareness, a reverence if you will, of the gravity inherent in what teachers do.

Like many who may be reading this, I am a person who seeks to understand myself in relation to the world in which I live. I see this as a kind of philosophizing; or said another way, I consciously try to live such that my view of the world—my beliefs and core values—is something more than abstractions but rather an operationalized expression of my being. I am not an ant driven only by instinct and group membership. I can and do think for myself, though often in error, but (nearly) always in pursuit of that which I can reliably claim to be justified beliefs based on some measure of epistemic demand. This requires that I have tools for vetting the quality and usefulness of ideas. I am too engaged to consume concepts without philosophical critique. That would betray the very awareness and sense of purpose I bring to my craft.

The central question of this book—*How do you do Equity?*—is only partially about the classroom methods and activities we choose; it's a

philosophical question we ask of ourselves relative to teaching. *What are my convictions about the craft? And how are these convictions operationalized in my pedagogy?*

SOCIAL LEARNING

Defining *Culture*

I am making the case that where brilliant art is created on easel-mounted canvases or on stages with the tools of paint, cameras, and/or performance, brilliant teaching creates through the medium of experience. This raises many questions beginning with: If experience is the canvas for the artmaking of teachers, then what are the tools? The tools for the artmaking craft of Culturally Responsive Education are revealed in the name itself. Education, of course, refers to the central pedagogical task, the effort to create fair and meaningful opportunities to learn. Responsiveness is a function of understanding, validation, and care (Reis & Clark, 2013; Reis, 2014). Culture, however, is the wildcard. Brilliant teaching leverages culture in order to engage students. Culture is what the artmaking teacher must take great effort to understand.

Culture resists a simple definition—*which is sort of the point of this book*. We must be willing to think rigorously in order to see the opportunities for employing our understanding of culture in the design of learning experiences. There are many definitions for culture.[5] For now, we can define culture as "information (i.e., ideas, beliefs, attitudes, and values) stored in human brains and social artifacts including its manifestations (i.e., norms, practices, techniques, motivations, heuristics, and institutions) that are commonly shared by a social group and acquired by new generations through what anthropologists and cognitive scientists call social learning" (Barrett, 2020; Gendron et al., 2020). I also appreciate an even more intuitive definition of *culture*: *culture* is how we do and think about things, transmitted by nongenetic means (Sapolsky, 2017).

The task of pinning down *culture* to a simple, static definition is so difficult precisely because of the immense role it plays in the human experience.

(It's the proverbial equivalent of explaining the concept of water to a fish.) *Culture* is human knowledge, skills, and any kind of mental state—conscious or not—that can affect individuals' behavior. It is acquired or modified through observation, imitation, inferencing, direct teaching, and other forms of social transmission (Boyd & Richerson, 1985). In the social and cognitive sciences, the collective of cultural information inherited through social transmission is referred to as the *cultural repertoire*. *Cultural variants* are specific elements (i.e., ideas, skills, symbols, beliefs, attitudes, and values) of the cultural repertoire, and the application of one's cultural repertoire employed within any particular social group is referred to as *cultural fluency* (Boyd & Richerson, 1985).

Our artmaking, philosophizing task of designing culturally responsive learning experiences requires a sophisticated understanding of culture in order to support pedagogy that is robust enough to close Equity gaps in the performance and achievement of our students. Our task is to facilitate our students' learning by providing opportunities for them to draw from their cultural repertoires in order to build understandings and show competence in academic spaces. This starts with both a nuanced understanding of culture and a healthy appreciation for the scope of its influence in the human experience. As we will discuss further in Chapter 4, every human culture contains an enormous amount of information. Humans leverage their cultural fluencies in all sorts of manners in their everyday lives (Boyd & Richerson, 1985; Morgan et al., 2012). No single story of any individual human can be told without reference to the fact of culture.

Culture and Learning

We humans are a cultural species. *But that statement only scratches the surface of the truth*. Humans are characterized by a profound dependence on the complex integration of culturally transmitted information gathered over time, information encompassing nearly every aspect of the human experience ranging from food preferences to beliefs about germs to rituals and traditions for mating (Brown, 2004; Henrich, 2016; Morgan, et al., 2012; Rendell, et al., 2011).

Culture is transmitted through social learning. The term *social learning* has a specific meaning and is a principal pillar in the arguments I make in this book. We can begin to define social learning as "learning that is facilitated by observation of or interaction with another individual or the products of other individuals' learning" (Hoppitt & Laland, 2013). When social learning occurs, naive (i.e., unlearned) individuals observe others in their environment, make inferences, and then develop their own beliefs, attitudes, ideas, and values that influence theirs and others' behavior. Social learning is a less costly process for acquiring valuable information than *individual learning*. Individual learning refers to self-directed, trial-and-error learning, and innovations stemming from first-hand experimentation (Rendell et al., 2011).[6] Innovation (in the sense of process) is the introduction of novel procedural variants into a population's repertoire and results in new or modified learned behavior. An innovation (in the sense of product) is a new or modified learned behavior yielding a particular outcome not previously found in the population.

Social learning, in the way I am using the term in this book, is unique to the human species. It isn't that other nonhuman animals, including our primate relatives, lack capacities for social learning, but rather that social learning in nonhuman species leads to the spread of behaviors that individuals could, and routinely do, learn on their own if they aren't already stored in the genes. And further, in many cases, the byproducts of nonhuman social learning are short-lived. Social learning limits the risks of individual learning by allowing individuals to interpret and respond to environmental and social cues selectively. This suggests that human social learning is not merely a downstream outcome of sociality and cumulative individual learning capabilities, but rather requires special-purpose mental mechanisms unique to the human species. In other words, our brains are built for learning culture (Hoppitt & Laland, 2013).

Humans can adapt to live in a wider range of environments than other primates because human culture allows for the rapid accumulation of effective strategies for successfully navigating many types of ecological spaces. Other nonhuman organisms speciate in order to occupy novel environments, whereas humans predominantly rely upon complex, highly evolved

cultural information. In this way, humans are distinct from all other known life forms. In fact, human cultures are so imbued with meaning, so permeated with symbolism, and so reliant on uniquely human qualities of cognition, that to liken them to the social habits of animals is nonsensically remedial and flatly misses the point.

Humans acquire rules of behavior in specific social settings through social learning. This means that the essence of culture isn't any observable behavior but rather the encoded information that consciously and nonconsciously prompts the behavior. As such, culture is fluid, meaning that any particular cultural rule may lead to different behaviors given different environmental contingencies.

Language also encodes and transmits tremendous amounts of cultural information about social roles and moral norms. Even before the emergence of written language, myths and stories were devices that conveyed vast quantities of ideas woven together into coherent cultural narratives. Language is both a function and reflection of culture. In all sorts of ways, language provides a kind of psychic structure for human sociality. Just as the syntax of a language is made up of a system of interdependent rules, so are the cultural meanings embedded in systems of kinship, traditions, and law to name just a few facets of humanity. These systems connect and facilitate social groups, and they require a variety of often complex, social institutions that together produce the *essential ingredients* of human societies—cooperation, coordination, and division of labor (Boyd & Richerson, 2008).

Social Transmission

The question of how culture is transmitted is, of course, a focus of great concern to us teachers. The classroom environment is a social space, and culture is shared through *social transmission* wherever humans interact.[7] In other words, social transmission is the process for the accumulation, refinement, and increased homogeneity of behaviors, norms, and traditions within social groups that no single individual could invent on their own. Further, the effects of social transmission extend beyond the period of the individuals' interactions exerting a lasting causal influence on the

rate at which other individuals acquire and/or perform said behaviors, norms, and traditions.

Our goal here is to understand the general principles of social transmission for two reasons. First, we should be knowledgeable of the influence of culture on society so that our classroom spaces (which are microcosms of our larger society) can be designed with greater intentionality for the distribution and norming of values and behaviors conducive to students' academic success—and second, so that our teaching can support the processes that best facilitate opportunities for every student's cultural repertoire to be useful to them in showing their competence.

Social transmission, in the way I am using the term, refers to any time an individual's learning is influenced by others, and it includes many kinds of psychological processes. Social traits and cultural variants can be transmitted in three primary means: observation, exposure to products, and through verbal or written instruction. In terms of observation, the process begins with the acquisition of a trait, as in learner A is able to perform the trait which is observed and acquired by learners B and C through their inferences about the meanings, motivations, and usefulness of these traits in the context of the social environment. When successfully incorporated into their own cultural repertoire, these newly acquired traits and cultural variants may prove to be an efficient shortcut to trial-and-error learning. Social transmission also happens when learners B and C acquire traits through exposure to the products left behind by learner A. Finally, the acquisition of traits and variants by learners B and C is also a function of instructions of learner A's performance of the trait (Bandura, 1985; Henrich, 2016; Hoppitt & Laland, 2013).

Social learning occurs when information in one person's brain generates some behavior that prompts information in other persons' brains to infer meaning and thus generate some similar behavior. (Though if we could look inside people's heads, we would find that individuals have different mental representations of the observable behavior even when they may seem to behave in the same way.) Most importantly for our purposes in designing quality and effective learning opportunities, social transmission allows individuals to avoid at least some of the costs of learning for

themselves while acquiring the locally preferred adaptations (Boyd & Richerson, 1985).

Environmental Niches and Cultural Inheritance

Here's a rather random question: Have you ever watched a newborn giraffe learn to walk? I can't precisely trace the YouTube rabbit hole that brought me to it, but I have! It's not very graceful, but it's super interesting because the baby giraffe isn't given lessons from the other giraffes as much as it's just given space to figure it out. This happens in the first hour of its life, and it's critical because in the giraffe's natural habitat, a baby giraffe is a tasty snack to a lion or hyena. Giraffes often don't have long stretches of time where a vulnerable infant is likely to survive if it can't move itself. But what's most interesting to me is that giraffes are born with this knowledge embedded in their DNA. It's just part of being a giraffe.

Humans, however, are not like giraffes. Humans learn how to *human (v)* from other humans.

Human infants are born with highly sophisticated brain hardware that requires the upload of the organizing software that enables its functionality. Though admittedly not as impressive as the feats of a newborn giraffe, it's pretty awesome to see how babies take in the environment as they begin to make sense of what it means to be human. Have you noticed that when an infant or young child encounters something with which they are unfamiliar in the environment, they will often look to some caregiver or other adult to check for the guidance of a reaction? If the attending adult shows an encouraging affect, they often proceed to investigate the novel object. If the adult seems to discourage the child, they back off (Henrich, 2016). Through a combination of speech, touch, pointing, expressions of emotion, and the back-and-forth switching of gaze—which cognitive scientists call sharing attention—more experienced humans alert the baby to which parts of the environment matter and which parts don't. Sharing attention teaches a developing mind to read, manage, and reliably reference its own environment based on what is relevant to its well-being and what can be ignored in the environmental niche (Barrett, 2020).

Cognitive scientists refer to an *environmental niche* or *cognitive niche* as the social space in which an individual accumulates the know-how, capacities for communication, familiarity with norms, shared values, and culturally encouraged motivations in order to navigate the networks of interactions necessary to sustain oneself and contribute to the well-being of one's social-groups (Barrett, 2020). Your cognitive niche is where you learn how to *human (v)*. One of the main unique characteristics of our species is the ability to use the environment in a way that is epistemically relevant. "In other words, human success primarily relies on the ability to gather and exchange information and knowledge from the environment" and on the ability to make use of what is learned in the interest of attending to various orders of human need (Bandura, 1985; Bertolotti & Magnani, 2016; Pinker, 2010).

We humans learn both through individual and social learning. The environments in which we share references and learn to make inferences from our observations offer a kind of template for *humaning*. Your character and personality, the ways in which you view and understand the world, the very essence of your humanity are derivatives of your cultural inheritance—the data downloads that fill your cultural repertoire. Despite how intuitive some of your inclinations may seem to you, and regardless of how deeply you may feel aspects of your identity, each of us learned how to *human (v)* through our cultural inheritance and in a cognitive niche.

The process of cultural inheritance is efficient and frugal because evolution doesn't have to genetically encode all our wiring instructions. We humans are able to out-source much of the encoding of our neurocognitive instructions to the social world around us (Boyd & Richerson, 2008; Barrett, 2020). I often ask teachers to imagine or remember a time when you were in a foreign country where you do not speak the language. You enter a coffee shop or some dining establishment: How do you know what to do to receive service? Should you rely on individual learning? The more prudent world traveler could greatly improve their prospects by observing the locals. Their behaviors are likely to reveal clues as to the social norms in the space.

It's important to make it abundantly clear that humans are immeasurably benefited by the cultural knowledge bequeathed throughout human history. It isn't even just that we are served by what we inherit by being better able to reason and solve problems. It's much deeper than that. While every human has their own individual dispositions and agency, we are all profoundly shaped by the cultures in which we learned to engage with other humans. Our cultural inheritance involves every aspect of our lives and informs how we think, what we like, and what we can make. Culturally acquired standards or values guide our efforts at individual learning, and as I will make note of in Chapter 4, social norms effectively supply training regimens that shape our minds and our literal brains in various ways—ranging from expanding our hippocampus to thickening our corpus callosum, the information highway that connects the two halves of our brains (Henrich, 2016).

Recall that *culture* is (mostly) information stored in human brains which gets transmitted from brain to brain by way of a variety of social learning processes (i.e., social transmission). We develop our schema for the causal structure of the world around us through social learning. As we humans engage in using our intelligence to communicate, reason, and problem solve, we draw on funds of accumulated knowledge that contribute to tasks as mundane as the preparation of a favorite meal to the complicated choices we make in parenting and just about everything in between.[8]

It's astonishing to stop and consider just how much cultural inheritance goes into the most trivial of human activities. Think about it this way: What have you done so far today? Have you had a cup of coffee or tea? Is a meal available to you at some point? Are you indoors? Will you move about in a motor vehicle of some kind? Each of these mundane circumstances is made infinitely easier by what you have inherited from the human brains that have preceded you. Every major technological advance in human history resulted in psychological shifts in the approach to the associated task.[9] Most of the readers of this book benefit from our cultural inheritance in ways beyond what might be routinely appreciated. Much of what I will do on the day of my writing this sentence is less a reflection of

personal accomplishment than it is an amalgamation of many integrated techniques, innovations, and motivations learned in my cognitive niches.

The "success" of our species—*success* here is defined by the capacity to survive in a range of ecological environments—is not due to any superior, raw, problem-solving, mental abilities in individual humans. Over time, useful skills and practices began to accumulate and improve, which favored the cultural learners who could more effectively tap into the ever-expanding body of adaptive information available. These cultural adaptations relate to every aspect of human existence: from sophisticated projectile technologies, to food taboos, to gender roles, language conventions and various packages of social norms. Cognitive scientists refer to these cultural variants and adaptations that are passed down through social groups as *cultural inheritance*. This is a central theme in the story of humanity (Barrett, 2020; Henrich, 2016; Odling-Smee & Laland, 2011; Whiten, 2017).

Thus, *learning is cultural*. Our capacities for learning from others are themselves finely honed products of an evolutionary process that far predates the origin story of any modern-day people group. We are adaptive learners who, even as infants, carefully select when, what, and from whom to learn (Bandura & Walters, 1977; Henrich, 2016). Caregivers curate a baby's abilities for navigating their environment by, as just one example, sharing attention to guide the baby's developing brain in learning their niche. The cognitive niches in which we learn to *human (v)* shape our sociality by influencing what we attend to, perceive, process, and value. Individual human brains are essentially optimized for the particular social and physical environment in which they are developed (Gendron et al., 2020). Our very sense of selves is filtered through our cultural inheritances.[10]

As I hope to make super clear in this book, for us teachers, it is culture that is the critical variable in our efforts to *do Equity* in the classroom. That doesn't mean that we ignore other aspects of the human experience like race, ethnicity, gender expression, and socio-economic status, but we must be able to think deeply about culture and use our knowledge of it in the artful design of learning experiences. Further, my claim is that our greatest

hope in the closing of Equity gaps is in the craft of teachers and not in policy mandates.

There is much to learn from the work of cognitive scientists, biologists, and also anthropologists, particularly in the field of cultural psychology. I find the research methodologies compelling and the data informative. I like to borrow from these fields to support our understanding of the role that culture plays in shaping humanity. We teachers, however, are most benefited by deepening our own sense of how culture influences the thinking and behaviors of our students in the here and now. In Chapter 4, I will offer a brief statement on what is interchangeably referred to as Gene-Culture Coevolution or the Theory of Dual Inheritance. These, I've concluded, are sufficiently beyond the scope of our work in the classroom, and therefore, while plenty interesting, not directly relevant to the central claims of this book. Our sociality is the driver of our humanity. We are human because we are social; and it is our sociality that is both fed and produced by culture.

Through social learning, we inculcate the essential ideas shared within our social groups including those moral and visceral notions regarding truth, right, wrong, good, bad, beauty, ugliness, work, family, concepts of God and spirituality—ideas so elemental to one's being that they can evade conscious recognition. In a species with cumulative cultural knowledge that raises the prospects for success, but only in such a species, faith in one's cultural inheritance often favors greater survival and reproduction (Henrich, 2016). Because of social learning, we have developed an array of mental dispositions that mold the individual's psychology in ways that allow them to engage with their culturally constructed, social worlds (Bandura & Walters, 1977). When we have an understanding for how these cultural processes influence our students' thinking, we are in a position to deliver much more brilliant teaching to our kiddos.

Culture Matters

I return to my claim regarding the centrality of culture in brilliant teaching: if experience is the canvas on which teachers create, then culture is a primary tool with which the artmaking teacher executes their craft. We will

discuss cultural identity further in Chapters 3 and 4, but for now, let's synthesize the discussion of culture by considering the following:

1. The key to understanding how humans evolved and why we are so different from other animals is to recognize that we are a social species with a profound dependency on culture. By *culture* I mean the information and large body of practices, techniques, heuristics, tools, motivations, values, and beliefs that we all acquire through social learning.

   It's almost impossible to overstate the massive influence culture has on human behavior. The perception of all experience is a function of culture. Through a process of cultural evolution, culture generates social norms that, if violated, can result in a bad reputation, denial of status, or other punishment (Boyd & Richerson, 2008; Henrich, 2016). These are powerful arbiters of human beliefs and behavior. No human is so independent as to not be a product of cultural indoctrination. This means that all human experience is performed and understood through a cultural lens. Culture influences the meaning one derives from any life event, big or small. It is the omnipresent dark matter of our social world. No brain operates in a culture vacuum. Culture filters the constant stream of information into the brain and influences not only our perceptions but also the frequency of behaviors (Sapolsky, 2017).

   Cultural processes are at the crux of the most interesting (and important) questions about our pedagogy. To be able to leverage an understanding of culture in our teaching starts with a nuanced understanding of the significance of culture in the story of human kind. We humans share a "collective brain" through which we learn from others in the social transmission of culture. This allows us to live in large and widely interconnected social communities. You, for example, received a massive cultural inheritance that included a convenient base-10 counting system, Arabic numerals for easy quantifying, a vocabulary of at least 60,000 words (if you are a native English speaker), and working examples of all sorts of concepts that

you would have been unlikely to invent on your own, including pulleys, springs, screws, bows, wheels, levers, and adhesives. Culture also provides problem-solving heuristics and sophisticated cognitive skills (like reading) that have evolved to both fit and, to some degree, modify our brains and biology. We don't have these tools, concepts, skills, and heuristics because of our individual capacities for intelligence; rather, we are intelligent because we have culturally evolved a vast repertoire of tools, concepts, skills, and heuristics. It is culture that makes us intelligent (Henrich, 2016).

2. Learning abilities are cultural adaptations. We learn how to learn in the same social spaces in which we inherit our cultural repertoires. In other words, we are socialized to be particular types of learners with uniquely arranged interests, motivations, and expressions of competence.

   Socialization is the process of forming fundamental dispositions—intellectual and emotional—toward nature, humankind, society, and the individual (among other things). Therefore, we teachers must be aware that the expressions of culture have the potential to confuse our interpretations of students' competencies. Cultural differences inform the conscious and nonconscious inferences we make about the abilities of our students. Rather than succumbing to the tribal urge of *deficitizing* difference, we should be mindful of seeing culture as a tool for our craft.

   This brings a particular caution to mind. We should treat the topic of culture with great care and reverence because our cultural lens biases us all in our interpretation of other social groups' cultures. This is no small observation. It should humble us. It calls for a constant awareness of how culture influences your own views and interpretations of the world. I've heard it described this way: Imagine that your cultural lens is an actual pair of blue-colored sunglasses. If in your most sincere intention, you seek to see the world through the eyes of a student with a different cultural background, you cannot merely look through their eyes because their cultural sunglasses

may be, let's say, yellow-shaded. This means that when you make even your best effort to see the world from their vantage point, your view of their yellow-shaded perspective won't be yellow, and it won't actually be blue, but rather green. To look through the cultural lens of another is still filtered through one's own cultural lens resulting in a view that is different from both but not identical to either. The differences in shaded perspectives do not necessarily reflect any specific deficits, but without the awareness of how our views are biased by our cultural indoctrinations, we may inaccurately perceive our students and thus thoughtlessly limit their opportunities to learn.

3. *This one is super important*. Culture is much more useful to teachers as a descriptive rather than a predictive tool. To use culture to make predictions for how students will behave is inherently risky because it opens the door for stereotypes and generalizations when our most vulnerable learners are the very ones who need to be seen in the highest, individualized definition possible. Overgeneralizations are rarely useful in understanding specific difficulties. The limitations of analysis at the macro-, social-group level are prone to stifle our best efforts in understanding the local and immediate context in which our pedagogical philosophizing occurs.

The culturally responsive, artmaking teacher is especially attuned to both the symbols and functions of culture. Cultural differences are of degree, not of kind. To understand the cultural differences among social groups, try not to think of culture as a panel of on/off switches with some features turned on for some cultures and off in others. Think about it in terms of sliding scales—with each group having some measure of expression of every feature. What I find to be most profound about the history of the human species is that many groups, through their own independent devices, invented variations of agriculture, writing, pottery, embalming, astronomy, and coinage. The anthropologist Donald Brown is but one of many on a long roster of scholars who have proposed categories of cultural universals including:[11]

> the existence of and concern with aesthetics, magic, males and females seen as having different natures, baby talk, gods, induction of altered states, marriage, body adornment, murder, prohibition of some type of murder, kinship terms, numbers, cooking, private sex, names, dance, play, distinctions between right and wrong, nepotism, prohibitions on certain types of sex, empathy, reciprocity, rituals, concepts of fairness, myths about afterlife, music, color terms, prohibitions, gossip, in-group favoritism, language, humor, lying, symbolism, the linguistic concept of "and," tools, trade, and toilet training.
>
> *And that's only a partial list*. (Sapolsky, 2017)

My point is that it is far more important for teachers to have a *descriptive* understanding of what culture is and how it functions in our species than to try to accrue some *predictive* inventory of the specific cultural symbols and practices of any social group. Instead of thinking about the specific group features of culture, it is more useful to ask: *What does culture do?* The understanding of, in the descriptive sense, how cultural fluency serves the individual learner provides great insight into the ways in which culture can be leveraged in responsive learning environments. And, in fact, our students are our best teachers of their social-group cultural references precisely when they are invited to draw from their full repertoires for knowing while they are engaged in meaningful learning.

A goal of this book is to avoid simple categorical thinking particularly as it relates to culture. Putting facts into neatly demarcated buckets of predefined explanations has its advantages but it's a remedial form of knowing. Rigorous understandings are nuanced and disciplined. The boundaries between categories in our understandings are often arbitrary, but once we give credence to some arbitrary boundary, we soon forget that it is arbitrary and are inclined to ascribe to it all manners of unfounded (or unexamined) significance. Categorical thinking about culture and identity can obfuscate inter-group similarities and intra-group differences. We want to see the students we teach as whole beings in order to design learning experiences that they can perceive as culturally responsive, but this is made more difficult by broadly categorizing and labeling them.

NOTES ON ARTMAKING: INFLUENCE AND INSPIRATION

Me: "This isn't nearly as impressive as I was expecting it to be."

Who isn't familiar with the *Mona Lisa*, one of the world's most famous paintings? I was in Paris at the Louvre, and as an art admirer, this was a bucket-list moment; but once in the gallery and upon first seeing the *Mona Lisa*, I was more than a little disappointed. The hype didn't match the actual painting.

To start, it was much smaller than I anticipated, and because of the arrangement of the room and the constant crowd in the gallery, I couldn't get within 30 feet of it—which meant it was basically not possible for me to make out any of the detail that might have confirmed the great skill of the brilliant artist, Leonardo da Vinci.

Leonardo da Vinci is known as one of the more important artists and thinkers in world history, and he was highly acclaimed during his lifetime, which meant he was a sought-after mentor and teacher to young and aspiring artists. As was the custom in the early 16th century, famous and successful artists had workshops where a select few would be able to spend time as apprentices. A common practice was for the mentor artist's paintings to be prominently displayed throughout the workshop so that students could copy them, a type of qualifying exam to test their skill for managing the tools of the craft.

The *Mona Lisa* is thought to have been a fixture of da Vinci's workshop for many years, and dozens of unknown apprentices would have seen it and taken on the challenge of copying its subtleties. There is one such copy on display at the Prado in Madrid, nearly identical to the masterpiece, displayed without fanfare or large crowds. It's become one of my favorite destinations. At the Prado, one can stand within inches of this version of the Mona Lisa, which makes it much more possible to appreciate its brilliance; and now I tell everyone: If you want to see the *Mona Lisa*—don't go to Paris, go to Madrid!

The artist to whom I feel closest and whose backstory I probably know best is Jean-Michel Basquiat (1960—1988), a Brooklyn-born neo-expressionist style painter of Haitian and Puerto Rican descent. Basquiat and I shared mentors, both of us having attended the same high school in

New York City. Through his enormous investment of time and attention, Basquiat, like all artists of note, developed an unmistakable aesthetic that took the art world by storm. His paintings are uniquely a product of his hand, his story, his vision of the world, and his role in it.

Every artist learns from and is influenced by others, but I think the notion of influence is too often misunderstood. Robert Farris Thompson, professor emeritus of Art History at Yale University and an authority of African diasporic art philosophy, gave a quote in a fantastic documentary on the life of Jean-Michel Basquiat (*The Radiant Child*, 2010) articulating what the brilliant artist himself understood about influence. Basquiat, Thompson said, never mindlessly copied the work of other artists but rather he "improvised revisions." Basquiat understood that "influence is not influence. It's simply someone's idea going through my new mind."

Take a moment and google Jean-Michel Basquiat's version of the *Mona Lisa*. It isn't anything like the copy at the Prado, though it is easy to see what work is influencing Basquiat's hand. Basquiat famously drew from a range of source material. His catalog of work embodies the sentiment that the artist is eternally responsible for their own inspiration. The inspired artist is a philosophizing artist. Inspiration is a function of expansion; it is the illustration of one's commitment to staying engaged. The moment one loses their sense of awe and curiosity for the craft is the moment one shifts from artist to copyist.

One way to think of the role of culture in the human story is as an agent of influence and inspiration, and much of what I want to explore in this book resides at the intersections. By influence, I am referring to that which causes direct, indirect, or intangible effects in the thinking, actions, and motivations of groups and individuals. The etymology of the word *inspiration* can be traced to the Latin *inspiratus*, which means "to breathe into," and since the mid-16th century, the literal meaning of inspiration in English is "the drawing of air into the lungs." So *inspiration* can be defined as both that which sustains life and also that which has "the action or power of arousing the intellect or emotions."

As a teacher, I am reminded that my work is to be a source of both inspiration and influence for my students. I want to inspire my students

to engage, and I want to influence an empowered trajectory in their lives. What they do with the inspiration is ultimately up to them, and though the long-term yield of my influence is but one factor in a much larger multivariable equation, I would hope to be seen as having an effect that empowers my students. Further, and just as relevant, as one (much like you, I suspect) who is committed to making art with my teaching that serves the learning interests of my students, I have a responsibility to cultivate channels of influence that affect and sustain my own inspiration for my craft.

CHAPTER NOTES

1. In the estimated 45,000-year history of anatomically modern humans, the purest definition of intelligence is the ability to learn that which allows one to survive. The extent to which early humans were able to retain and make use of the knowledge shared within their social group was directly aligned with the likelihood of individual survival and passing on their DNA into the species' gene pool.
2. I have tried very hard to limit the word *creativity* in this book because it is, in my view, mostly tainted by its overuse and misuse. *Artmaking* includes what might be colloquially referred to as creativity, but I mean it to be considered as something much more specific and intentional in relation to the craft of teaching.
3. For Diogenes, the logic and motivation of philosophy was clear: to actively engage in an inquiry of truth and falseness affords the individual a greater responsibility for their own life output. When asked what it did for him, the Greek philosopher is reputed to have replied that it enabled him to do willingly and responsibly what others did out of fear of the law, ignorance, and established custom (Tesconi, 1975).
4. Rigor is neither about a particular type of text, nor the volume of work assigned, nor even how "hard" some task is. . . . Rather, I deploy the definition of rigor used by Karin Hess in her design of the Cognitive Rigor Matrix (Hess, Jones, et al., 2009), which is a function of the cognitive processes related to how students think—as in, "rigor refers to the type(s)

of cognitive processes (i.e., Bloom's taxonomy) in addition to the depth of content understanding and scope of learning activities (i.e., Webb's Depth of Knowledge)." "Both the thinking processes and the depth of content knowledge have direct implications in curricular design, lesson delivery, and assessment development and use" (Hess, Carlock, et al., 2009).

5. The definition I am using could be classified as "psychological with an explicit emphasis on learning."
6. In the chapters that follow, the discussion of cognition is intended to highlight the processes that matter most to teachers in the context of classroom-based instruction. I don't aim to speak about the brain, intelligence, or thinking, for that matter, at a biological level. Rather, I am discussing cognition as a psychological phenomenon heavily influenced by human sociality generally and culture more specifically. I do not intend to speculate about the cerebral or neural processes that underlie the psychological processes of engaged learning beyond that which can be useful to teachers in the design of culturally responsive learning experiences.
7. There is debate about whether direct teaching falls into the category of social learning. For our philosophizing purposes, I am following the lead of Bennett Galef (2009) and others who have defined social learning as the transmission of durable cultural variants by direct teaching, observation, imitation, verbal instruction, and inferencing of all sorts—basically anything that isn't unfacilitated individual learning. Some disagree, contending that guided learning (i.e., learning from direct teaching) is not cultural transmission because the naive individual must acquire their own information from teaching by a process of reinforcement that is almost as costly as ordinary individual learning. Since the focus of our craft is pedagogy, however, I find it most useful to include direct teaching in the category of social learning mechanisms. Research in the field of developmental psychology suggests that it is the exposure to others problem solving, using artifacts, and trying to "do things" that most effectively sparks the causal inference machinery in our minds (Meltzoff et al., 2012; Henrich, 2016).

When I refer to teaching and learning in this book, I am primarily referencing classrooms in schools where students and teachers share a physical space. Ultimately, we are most concerned with designing learning environments in which students will be able to maximize all the tools available to them—socially and individually—in the interest of building understandings and demonstrating what they've learned. The very fact of the shared space makes it, in my view, a social learning experience.

8. Do you like your food spicy? Well, consider that many spices are antimicrobials that kill pathogens in foods, and in many societies—particularly those near the equator—the customary use of spices is a product of cultural inheritance. Globally, the most common spices are onions, pepper, garlic, cilantro, chili peppers (capsicum), and bay leaves. So the very manner in which we season our foods suggests a cultural adaptation to the problem of food pathogens and particularly meat. Your taste for and tolerance of spicy food, not to mention some of your favorite family recipes, are a function of your cultural inheritance (Henrich, 2016).
9. This speaks to an aspect of the role of culture in the human experience, which is beyond the scope of my arguments in this book. I say more about this in Chapter 4, but Gene-Culture Coevolutionary Theory (or Dual Inheritance Theory) proposes that culture interfaces with our genes and biology through the social transmission of things like fire, cooking, cutting tools, projectile weapons, water containers, artifacts, tracking know-how, and communicative patterns (Wrangham, 2009). These processes, the theory goes, create selective pressures that yield genetically evolved responses to the environment. Among our numerous features, this theory would help explain our small teeth, short colons, shrunken stomachs, poor plant-detoxification abilities, accurate throwing capabilities, nuchal ligaments (head stabilizer for running), numerous eccrine sweat glands, long post-reproductive lives, lowered larynxes, dexterous tongues, whitened sclera, and enlarged brain (Henrich, 2016). The arguments I make in this book do not

depend on this theory of Dual Inheritance, but it makes a fascinating case that the genetic and anatomical evolution of our species is attributed to, at least in part, culture and social learning. Suffice it to say that your life would be quite different depending on which cultural software functions as your neurophysiological operating system.

10. "This isn't to ignore the consequential effects of conditions like poverty on capacities for learning. Research shows that early and long exposure to poverty is bad for the developing brain. The circumstances of poverty may alter the development of the prefrontal cortex, the brain area involved in a range of critical cognitive functions, including attention, language, and emotional self-regulation. The full effects of poverty on brain development are not yet fully understood, but we do know that it's linked to poorer performance in school and fewer years of education. These ramifications ultimately increase a child's risk of raising their own children in poverty and living in communities where the intergenerational effects of poverty are compounded by the intense concentration of impoverished conditions" (Barrett, 2020).
11. I will ask for forgiveness in advance because, in some instances, I'm going to quote long original-source passages. When I do so, it's because I don't think I can paraphrase the original sentiment any clearer than the author, and I want you to hear the observation directly from them rather than filtered through my interpretations.

INDEX

COPYRIGHTED MATERIAL

A

Abstraction, 75
Achievement, 50–57
  culture, role, 108–127
  gaps, persistence, 52
  opportunity, impact, 39, 44–50
  specification, 226
Affective engagement, building, 151
Agency, 160–161
  supply, mind maps/proposals (usage), 164
Alexander, Michelle, 79
Analogy-making, importance, 104–105
Analogy, thinking engine, 103–107
Analyze (educational objective), 206
Anthropocene Reviewed, The (Green), 155
Antiracist educator, meaning, 81
Application (understanding facet), 147
Apply (educational objective), 206
Applying (performance quality criterion/facet), 226
Appreciation, display, 230
Artmaking
  composition, 127–128
  cues, 228–230
  defining, 7–15
  equity, 61–64
  failure/enthusiasm, 168–169
  incentives, reward (absence), 208–210
  influence/inspiration, 29–31
  layered methodologies, 88–92
  melody, student translation, 181–182
  ordinary resurrections, 169–171
  philosophy, relationship, 10–12
  skills/habits, learning, 14
  stories, power, 189–190
  teachers, cultural responsiveness, 27–28
  uncertainty, impact, 177–178
Assessment
  contrasts, 215–221
  options, limitations, 161
Audience, attention, 195–198

B

Basquiat, Jean-Michel, 29–30
Behavioral engagement, building, 151
Behavior, human acquisition, 18
Bell curve, example, 51f
Big ideas, introduction, 155–156
Bigoted racial beliefs, sincerity, 47
Bloom's Taxonomy, usage, 205
Bowels, Samuel, 65
Brain networks (development), cultural experiences (impact), 214
Brilliance, importance, 13, 232–233
Brilliant teaching
  culture, centrality, 24–25
  philosophizing, equivalence, 234–235
Brown, Donald, 27
Brown v. Board of Education, 40–45
But What Can I Do? (Pollock), 80

C

Capstone
  defining, 227–228
  project, 227
Captive audience, 195–197
Caretaking, 230
Carrying capacity, 153, 156–159
Categorical thinking, 28
Cause-effect relationship, 157–158
Civil Rights Movement, 45, 87
Claims, term (avoidance), 158
Classroom
  community problem, 75–76
  engagement, 141–142
  new ideas, support, 197–199
  theme, 141
Close analogues, finding (ability), 102
Coffee cup, image (perception), 89–90, 89f
Cognition, 32
Cognition Core Hypothesis, 101–103, 107, 117
Cognitive abilities, alteration, 223
Cognitive engagement, 151, 203–204
Cognitive gymnastics, 93
Cognitive niches (students), 151–152, 196–197
  fluency, 202–203
Cognitive Rigor Matrix (CRM), search/usage, 205–206
Cognitive skills (categorization), Bloom's Taxonomy (usage), 205
Coleman Study, The (James Coleman), 44–46, 48, 56, 65–66
Collective brain, sharing, 25–26
Communication
  ability, 162
  tools, 160
Community, term (analysis), 75–76
Compliance, 160–161
Composition, 127–128
Concepts
  application (DOK-2), 206
  defining, 99, 129
  evolution, 106–107
  layer, addition, 163–164
  thinking, 154–155, 163
Conclusions, demonstration, 227
Connections, search, 163
Conscious/nonconscious inferences, 26
Conscious/nonconscious reasoning, usage, 74
Constraints, defining, 147–148

Content, 179
connection, 188
standard, 151–152
understanding value, 117–124
Context, 105–107
Craft
conversation, student goal, 150
tension, engagement, 80
Create (educational objective), 208
Cues, 228–230
Cultural construct, flaws, 166
Cultural deficit claim, 54–56
Cultural differences, 27, 204
Cultural evolution, 113
products, acquisition, 223
Cultural experiences, impact, 214
Cultural fluency, 121, 220
Cultural frames of reference, differences, 164
Cultural groups, philosophical question processing, 110
Cultural identity, 108–111
bubble map, 109f
students, 151–152
Cultural indoctrinations, biases, 27
Cultural inheritance
environmental niches, relationship, 20–28
learning motivation, 202–203
Cultural learning, domains, 110
Cultural lens, usage, 27
Culturally appropriate (label), 204
Culturally responsive (label), 204
Culturally responsive assessment, goal, 218
Culturally responsive classroom, improvisation, 176
Culturally Responsive Education (CRE), 76, 179–180
assessments, 144–145, 146f
education insertion, 200
equity case, 124–127
experts, conversations (importance), 150
Mental Model, 144f, 180
planning, 144f, 146
questions, 144–145, 145f
rigor, theme, 204–208
Culturally Responsive Education in the Classroom (Stembridge), 13, 144, 182
Culturally responsive teaching, goal, 203–204
Cultural processes, importance, 25–26
Cultural universals, categories (proposal), 27–28
Cultural variants, 16, 201
Culture, 55, 105–107
categorical thinking, avoidance, 28
complexity, 219
considerations, 25–28
defining, 15–16, 22
descriptive understanding, 28
education, insertion, 200, 203
function, 28
importance/influence, 24–28, 116–117
learning, relationship, 16–18, 74
responsive assessments culture, 213–214
role/impact, 108–127, 203
social transmission, 25–26, 73
usefulness, 27
Curiosity, 163
Curriculum, usage, 167

D

Data, graphical displays (construction/interpretation), 151–152
da Vinci, Leonardo, 29
Deficitizing difference, 26
Deficits
  hypothesis, 58
  ideologies, 57–59
Degeneracy, 119–120, 198
Dependent variable, defining, 140
Depth-of-Knowledge (DOK)
  model, 205–208
  questions, development, 207f, 208
  types, 206
Derain, André, 170–171
Differences
  deficitizing, 26
  deficits, contrast, 39, 50–60
  interpretations, 57–59
Direct teaching, categorization, 32–33
Discontinuity, problem, 204
Discrimination, exclusion, 40–41
Dopamine loops, 164–167
Dream Exercise, 182
Dual Inheritance Theory, 24, 33, 111–117

E

Economic inequality, 92
Educational objectives, description, 206, 208
Educational opportunity, access, 38
Educational opportunity, equality
  input notion, 43
  principle, 40–41
Education, equity, 38–39, 52
Emotions, function, 119
Empathizing (performance quality criterion/facet), 226
Empathy (understanding facet), 147
Empowerment, defining, 85–87
Engagement, incentivizing, 201
Environmental niches, cultural inheritance (relationship), 20–28
Equal Educational Opportunity (EEO), impact, 43–46, 48–49
Equality
  concept, assumptions, 46
  equity, contrast, 43–44
  question, 59–60
Equity, 10–12, 60
  clarification, 48–50
  core, 61–64
  Culturally Responsive Education (CRE), equity case, 124–127
  defining, 39–41
  equality, contrast, 43–44
  gaps, 98–99, 153, 213–214
  goal, 215
  output measurement, 39–44
  practice, equity problems, 71–76, 90
  quality learning opportunities, 44–50
Equity goal, 48
Essence-understandings, 108–109
Essentializing, 83–85
Evaluate (educational objective), 208
Everyday Antiracism (Pollock), 93
Evidence, term (avoidance), 158
Evolutionary pathway, 113
Experience, creation, 9–10
Experiments

discussion, 144–145
science experiment data collection, 162
Experiments, procedures following, 140
writing, 141
Explaining (performance quality criterion/facet), 226
Explanation (understanding facet), 147
Extended Thinking (DOK-4), 206

F

Fairness, problem, 37–39
Feedback, 157–158, 167, 213–214
loops, 218
Feldman Barrett, Lisa, 118
Framing experience, 150–151
pedagogical practice, 153
Frontal cortical activation, 92–93
Full-on publication, 162

G

Gallery Walks activity, 181
Gene-Culture Coevolution, 24, 33, 111–117
Genetic selection pressure, creation, 113
Give One, Get One experience, 189
Google Slides, usage, 158
Grade-check/make-up day, execution, 160
Grades, recording, 160–161
Grammar rules, impact (psychological evidence), 223
Green, John, 155–156, 158, 161–162
Groups
achievement gaps, 52
intelligence, 57

H

Habits, creation/usage, 197, 203
Hands-on activities, student engagement, 140
Heart, concept/phrases, 98–101, 103, 105
Henrich, Joseph, 223
High-level conversation, example, 150
High-stakes tests/testing, 216, 218–219
Hofstadter, Douglas, 102
Hub-and-spoke system, 118, 118f
Humaning, 21, 222
Humanity, feature, 203
Humans
behavior, culture (influence), 25
brains, information-processing properties, 113
evolution, understanding, 25, 116
Humility, usage, 82
Hypothesis, presence, 141

I

Ideas
new ideas, classroom support, 197–199
sketching/submission, proposal (usage), 166–1667
Ideas, variation, 159
IKEA, approach, 8–10
Imagination, capturing, 168
Improvisation, 175–177, 197–199
defining, 175–176
Incentives, 165
defense, 199–208
reward, absence, 208–210

Incentives, understanding (foundation), 165
Independent variable, defining, 140
Individual learning, 17
Inequality, 46–48
Inference, usage, 198
Information
  filtration, culture (impact), 25
  synthesis, 147
Inputs, deprivation, 42
Instruction
  agency (Week 3), 160–161
  assessment, options (limitations), 161
  assessments, 146f
  carrying capacities (Week 2), 156–159
  centering, 72
  compliance (Week 3), 160–161
  CRE mental model, 144f
  CRE questions, 145f
  dopamine loops (Week 3), 164–167
  framing experience (Week 2), 150–151
  limiting factors (Week 2), 156–159
  mind maps (Week 3), 161–164
  mini-lecture notes (Week 1), 148f
  Next Generation Science Standards (NGSS), 145–147
  planning, 142–145, 161
  proposals (Week 3), 161–164
  student experience, importance (Week 2), 150–151
  superpowers (Week 2), 149, 152–153
  teacher reflection entry (Week 2), 149–150
  ten-day chunks, 143
  understanding (Week 2), 150–151
  unit outline, 144–145
  Week 1, 142–149
  Week 2, 149–159
  Week 3, 160–167
  What would you do? (WWYD) video, usage (Week 1), 147–149
Integrated understandings, 122–124
Intelligence, 108–109, 128
  cultural aspect, 200–208
  cultural meaning, 117–124
  intellect, relationship, 9–10
Interpretation (understanding facet), 147
Interpreting (performance quality criterion/facet), 226
Interview You strategy, 190
Intrinsic motivation, 165, 199
Items, connections, 159

J

Jazz improvisation, defining, 176–177
Jim Crow, moral equivalence, 47

K

King, Jr., Martin Luther, 47

L

Ladson-Billings, Gloria, 204
Lawrence, Jacob, 224–225
Layered methodologies, 88–92
Layering, 89
Leaf, identification, 115
Learners (improvement), student engagement (impact), 72
Learning
  abilities, cultural adaptations (equivalence), 26

acquisition, demonstration, 227
cultural aspect, 23, 200–208
cultural meaning, 117–124
culture, relationship, 16–18
difficulties, value/validity confirmation, 165–166
motivation, 200, 202–203
quality, measurement, 164
targets, 72
Lectures, usage, 167
Lessons, success (determination), 167–169
Life-changing understandings, 146, 157
Limiting factors, 148, 154–159
Love, concept, 98–101

M

Mann, Horace, 39–40
Mass incarceration (claims), Jim Crow (relationship), 79
Melodies, 180
improvisation, 175–177
student translation, 181–182
Memories, imprinting, 179–181
Memorization, requirement, 150
Memory, problems, 223
"Men," equality (question), 59–60
Mentalizing, 72–74, 202
Migration Series (Lawrence), 224–225
Mind maps, 161–164
Minds (faculty), analogy-making (importance), 104–105
Mini-lecture notes (instruction), 148f
Mona Lisa (Basquiat), 30
Mona Lisa (da Vinci) viewing, disappointment, 29
Motivation, 199–200
problem, 200
social construct, 200

N

New Jim Crow, The (Alexander), 79
Next Generation Science Standards (NGSS), 145–147, 182
Nonstarters, 83–88
defining, 83
Nonviolent civil disobedience, 87–88

O

Opportunity, product, 127
Ordinary resurrections, 169–171
Outputs
equity measurement, 39–44
implications, 42–43
Outside-of-school learning experiences, integration, 227

P

Painter and His Family, The (Derain), 170–171
Past, wisdom (relationship), 104–105
Perception, 106
problems, 223
Perfection, robustness (contrast), 216–219
Performative assessments, 162, 214, 221–228
equitability, contrast, 215–221
impact, 219–221
Personal cognitive styles, 105–107
Personal readiness, teacher questions, 80
Personal stories
impact, 154
usage, 162

Perspective (performance quality criterion/facet), 226
Perspective (understanding facet), 147
Perspectives, differences, 156
Philosophical questions, cultural group processing, 110
Philosophizing, 222
  brilliant teaching, equivalence, 234–235
Pollock, Mica, 80, 93
Portfolio, defining, 224–227
Positive Behavioral Interventions and Supports (PBIS) models, 210
Practice
  equity problems, 71–76
  problem-solving practices, 110
Precedents, family, 102
Predictive inventory, accrual, 28
Problem-based learning (PBL)
  defining, 222–224
  experience, 221, 223
Problem-solving heuristics, culture provision, 26
Problem-solving practices, 110
Production teams, grouping, 162
Project-based learning (PBL) experiences, 221, 223
Proposals, 161–164
  student presentations, 166
Public schools
  child segregation, basis, 42
  premise/problem/expectations, 37–38

Q

Quality learning opportunities, equity requirement, 44–50
Questions
  development, 207f, 208
  purpose/function, 153–156

R

Race
  categories, 54
  concept/notion, 53, 76–82
  knowledge, usage, 85–87
Racial caste systems, predication, 47
Racial equity problems, 79–80
Racial/race-class inequality, structural/societal problems (teacher questions), 80
Racism, 77
  essence, 47
  undoing, 81
Racist policies/practices, perpetuation, 79
Reasoning
  DOK-3, 206
  term, avoidance, 158
Recall/reproduction (DOK-1), 206
Regent Street, London (Derain), 170
Remember (educational objective), 206
Resistance, inspiration, 87
Responsive assessments, culture, 213–214
Responsive pedagogy, goals, 219
Rigor, theme, 204–208
Robustness, perfection (contrast), 216–219

S

School-based learning experience, 164–165
Schools
  achievement, 59
  equity actions, 60–61
  equity requirements, 125
  relationship, 166, 186
  role, 41

Scientific concepts, student reproduction (avoidance), 163
Scientific process, discussion, 144–145
Seating charts
control, 137–142
experiment, 139
making, 138–139
Self-Determination Theory, 202
Self-efficacy, sense (construction), 199
Self-knowledge (performance quality criterion/facet), 226
Self-knowledge (understanding facet), 147
"Separate but equal" (indication), 65
Skills, application (DOK-2), 206
Social groups
cultures, interpretation, 26–27
philosophizing, 129
Socialization, process, 26, 111
Social learning, 15–28, 203
context, creation, 153–154
Social spaces, learning, 26
Social stratification, 46–47
Social transmission, 18–20, 200–201
culture, social transmission, 25–26
Society, renewal, 40–41
Specialistic, definition, 122
Specialistic knowledge, 122–123
Species, success, 23
Standardized assessments, equitability (contrast), 215–221
Standardized testing
formats, 221
goals, 217
Stories
development, 197
power, 187, 189–190
structure, resonance, 188–189
unfolding, questions, 188–189
Storylines
conversion, 152
discovery, 146
engaging quality, reasons, 188–189
Story-making neurons, tapping, 188
Story of Self, telling, 186–188
Storytelling, access points, 185–186
Strategic thinking/reasoning (DOK-3), 206
Structural/societal problems, teacher questions, 80
Students
attention, 195–198
cognitive niches, 151–152
competencies, interpretations (confusion potential), 26
content, connection (depth), 154
cultural identities, 151–152
empowerment
performative assessments, impact, 219–221
race knowledge, usage, 85–87
engagement, 141–142
increase, impact, 72
story-making neurons, impact, 188
experience, importance, 150–151
feedback, 157–158
intrinsic motivation, 165
learning, improvement, 72
learning outcomes, instructional goal, 217–218
melody translation, 181–182
memorization, requirement, 150
mini-conversations, 160–161
on-ramps, providing, 187
production teams, grouping, 162
proposals, presentation, 166

self-observation, 137–142
understanding (measurement), assessments (usage), 164
Superpowers, obtaining, 188
Surfaces and Essences (Hofstadter), 102

T

Tangible factors, 42–43
T-chart, usage, 140, 141, 158
Teachers
antagonistic relationship, 142
reflection entry, 149–150
storyteller, role/job, 185–186
Teaching
appreciation, 186
complexity, 168–169
cooking, analogy, 8–9
craft, 12–15
effectiveness, 164
empowerment, 86
scenario, 7–8
task, 116
TED Talks, assignment, 189–190
Tests, usage, 167
Thinking, 102
application, 126–127
engine, 103–107
practice, 154–155
routing, 151–152
Think of a Time strategy, 181–182
This-is-like thinking, 104
Thompson, Robert Farris, 30
Thought (form), affect (impact), 214
Thurman, Howard, 87
Tinsel Aristocracy, 41

U

Uncertainty, impact, 177–178
Unconscious racial beliefs, impact, 81
Understand (educational objective), 206
Understanding
conceptual elements, identification, 180
content type, 151
depth, 152
facets, 147, 156
foundation, 165
life-changing understandings, 157
meaning, 97–107
measurement, assessments (usage), 164
Unit-long learning experience, emotional composition goals, 147
Units, planning, 168
Us/Them dichotomy, 76–77, 84–85

V

Violence
deception, secret, 87
limitations, 87–88
Vocabularies contents, impact (psychological evidence), 223
Volcanoes, making, 137–142

W

Warren, Earl, 42
What would you do? (WWYD) video, usage, 147–149
Worksheets, usage, 167

Y

Yes-and, proposal (usage), 167
You question, storyline conversion, 152

Z

Zimmerman, Marc, 85