

9 BILLION SCHOOLS

Why the World Needs
Personalized,
Lifelong
Learning for All

Lauren Della Bella and Dick Thomas

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9 Billion Schools
Individual Flourishing Plan
Vitaegogy
L3 Learning

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**We dedicate this book to all who join us
in realizing the vision of 9 Billion Schools.**

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9BillionSchools.org

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PREFACE

“Education is a social process.
Education is growth.
Education is not preparation for life;
education is life itself.”

JOHN DEWEY

Philosopher, Psychologist, Education Reformer

This Book: What It Is and Why It Is

In essence, this book and the 9 Billion Schools philosophy and movement are all about reimagining learning in order to benefit everyone on the planet. Needless to say, this is an audacious vision, one that will no doubt raise some eyebrows and cause some eyes to roll. So allow us to spend a few minutes providing some context for all that is to follow.

9 Billion Schools was first conceived at our architectural firm, SHP. For more than a century, our firm has been designing and engineering schools, colleges and other places of learning. We have been passionate advocates for how we can purposefully and creatively design these spaces to facilitate more and better learning.

We and our colleagues challenged ourselves to reimagine education so that everyone may stand a better chance of realizing their best and fullest self. Our professional and personal experiences, our research and our collaboration with partners have led us to these two key principles:

1. Learning should be nothing short of a “womb to tomb” journey. In recent years others have advanced the notion that learning needs to be “life-long, life-wide and life-deep.”¹ We love how rich this expression is and shorthand it as “**L3** Learning.”
2. Learning should be highly personalized, since no two people learn in exactly the same way or with the exact same abilities and motivations.

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We summarize these principles like this:

*Learning should be as
unique as fingerprints, and
as long, wide and deep as life itself.*

We call our philosophy—one we hope you will embrace and make your own—“9 Billion Schools,” because in 2050 there will be about nine billion people on the planet; and by then we want to see personalized, L3 Learning for all. When there are nine billion people on this planet, there should also be, in essence, nine billion schools. Not in the literal sense, of course, but in the sense that each person is a school unto themselves: a “place,” if you will, of near constant learning and growth.

Why do we believe that our firm has something to add to the broad, bright and bedazzling chorus of voices—coming from varying vantage points—calling for the reinvention of education? Why do we believe that our firm has the “right” to shape the discussion? These are fair questions. Here are our answers.

As already noted, our firm has been deeply involved in the education arena for decades. By our last count, we have designed more than 500 schools and other learning-related spaces. Along the way we have communicated, collaborated and debated with an untold number of school and university administrators, principals, teachers, professors, parents, students, community leaders, business executives and reformers. We have conducted many proprietary “Educational Visioning” sessions for our clients, helping them and their organizations to peer into the future and prepare for it.

We have learned from—and been inspired by—virtually all of these encounters. In addition, over the years we have, of course, paid very close attention to the trends, promises and possibilities in how architecture and design can enable and empower learning.

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And we have been at the forefront of shaping some of that discussion.

As architects and designers, our training in Design Thinking has informed our style of problem-solving in a manner that's tailor-made for tackling big issues, such as those posed by the vision of 9 Billion Schools. Design Thinking is one of the strategies and tools we use to explore the roots of what is shaping our future, rather than simply reacting to past traditions and present pressures.

We see Educational Visioning and Design Thinking as a calling of sorts. This explains, in part, why we're taking on the responsibility of promoting the 9 Billion Schools vision.

Beyond SHP's 100-plus years of experience, we have spent the past two years engaged in an especially deep study of what the future of education appears to be calling for. This has included provocative and mind-opening conversations with thought leaders, most notably Brian David Johnson, formerly a futurist with Intel and now a professor of practice at Arizona State University's School for the Future of Innovation in Society.

But we have two additional qualifications that are perhaps even more important than the preceding ones:

First, though our firm is made up of architects, interior designers, landscape architects, engineers, construction specialists, accountants, marketers and other key support personnel, it's also made up of parents, former business owners, school volunteers, adult learners, teachers at all educational levels, makers of all sorts, community organizers, etc. In other words, we don't think about education just as it pertains to our jobs, but also as it applies to our lives at large.

Second—and very germane to the matters at hand—our company is entrenched in the much-touted “knowledge economy.” We have no meaningful physical assets. We don't manufacture anything. We don't sell a physical product. Our offering, our competitive advantage, our source of income are found between our ears: our know-how.

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The trends are absolutely clear: The knowledge economy—where value is found in data, analysis and ideas—will continue to blossom. Our company’s success—its survival—rests with our intellectual capital, the combined smarts of everyone at our company. The thing is, with so much changing so quickly in our industry—as in all industries—we must continue learning new things all the time. So, yes, we understand the necessity, the challenges and the opportunities associated with continuous learning for adults at work (and outside work too).

This book is divided into three parts. In the first, we explain the underpinnings of the 9 Billion Schools philosophy and how the concept of personalized, L3 Learning is the driving mechanism to achieving the vision. The second part is a collection of essays that explore L3 Learning as it relates to traditional education. The third and final part is another collection of essays, though these are focused on issues more relevant to learning after the traditional school years. (The ideas and opinions shared in all of the essays are the authors’. We publish them here to inspire discussion and debate.)

A few final points about the content to come: This is a book about better schools, companies and communities, yes; but more fundamentally it’s about better people and a better world in which all can flourish. We make no apology for the hope and optimism infused throughout the pages ahead. But don’t expect nothing but rainbows and unicorns. Embracing the 9 Billion Schools philosophy will be difficult, expensive and punctuated throughout with failed experiments. There is no other way. In the words of writer and school reformer Diane Ravitch: “...in education, there are no shortcuts, no utopias and no silver bullets. For certain, there are no magic feathers that enable elephants to fly.”²

If only.

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For many, it's virtually impossible to think about such fundamental concerns as human potential without also considering their spiritual beliefs. That said, out of respect for the mostly public nature of education, the workplace and civic communities, we leave it to the reader to add their spiritual perspective to this discussion as they see fit.

While our firm is absolutely committed to 9 Billion Schools as a global philosophy, this book was crafted specifically with an American audience in mind. More on the global challenges and possibilities of the movement will be shared on our website and in future publications.

We hope you find new learning opportunities in the pages ahead. You'll meet some familiar friends, such as pedagogies and individualized learning plans; but you'll also meet some new ideas, like vitaegogies and Individual Flourishing Plans.

We'll cover some serious ground ahead; but we hope you find the overall experience pleasant, with perhaps a smile or two along the way. (Wait until you hear what sea squirts can do.)

May your own personalized, life-long, life-wide and life-deep learning journey bring you wonder, growth and fulfillment.

Lauren Della Bella and Dick Thomas
May 2018

SECTION ONE

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The Foundations of the 9 Billion Schools Movement

The 9 Billion Schools Manifesto

*Learning should be as unique as fingerprints
and as long, wide and deep as life itself.*

It's time to radically rethink learning and the places where it can or should occur.

It's time to conceive of and deliver learning that takes into account that each and every person is radically different in ability and interests, in hopes, dreams and desires. Standardized anything should give us pause.

It's time to recognize that lifelong learning isn't just a nice concept, something to hope for. Rather, it's a requirement, a demand of modern life and, therefore, a right.

Our world is never going to become any less complex and fluid, any less specialized and nuanced. In this still-emerging reality, school should never end. It can't. Learning must be life-long, yes, but also life-wide and life-deep. After all, our lives aren't simple and one-dimensional; they are multifaceted and three-dimensional.

In short, it's time to conceive of—and deliver—learning that recognizes the dignity and singularity of each person and, to the fullest extent possible, caters to what makes them unique, be it a precocious 6-year-old with a rare disability and an interest in ventriloquism or a 77-year-old retired industry titan enticed by the idea of 3D printing.

It's time to think of school not as a singular place or experience, but as many places and many experiences.

In fact, it's time to think of each person as being a school unto themselves, each with the exact right teachers and curriculum, support and opportunities.

Come 2050, there will be about nine billion people on the planet, which means we should have, in essence, nine billion schools.

The 9 Billion Schools philosophy and movement seeks to inspire everyone to help realize personalized, life-long, life-wide and life-deep (L3) learning for all. The end game is greater dignity and brighter futures for each and every person.

This will be a giant step forward for all of humanity—all nine billion of us.

CHAPTER ONE

“Real education enhances the dignity of a human being and increases his or her self-respect. If...the real sense of education could be realized by each individual and carried forward in every field of human activity, the world [would be] a better place to live in.”

A.P.J. ABDUL KALAM

Former President of India

The Why of 9 Billion Schools: Human Dignity and Flourishing

There are about seven billion of us on Earth. Come 2050, there will be nine billion, at least. What is perhaps most astonishing about these facts is something we too often forget about or take for granted: Each and every one of us, as well as those to come, is unique, singular, one-of-a-kind. There are no duplicates. Even identical twins aren't really identical. Nor anything close.

As Princeton University professor George Kateb states: "Every human being is unique and individual without [even] trying to be."¹ It's in our humanity, and our individual, one-of-a-kind expressions of it, where our dignity resides. A commitment to helping realize universally that dignity—something that Kateb suggests each person "must claim for all, and all for each"²—is at the very core of the 9 Billion Schools philosophy.

Donna Hicks, an expert on human potential, calls our innate desire for dignity "our highest common denominator."³ In a world seemingly awash in an abundance of lowest common denominators, our hunger for dignity cries out.

An honest push for universal human dignity requires a commitment to providing all reasonable means to help people flourish—and that is impossible without learning of a type and magnitude largely unknown to most today, even in the developed world.

OUR INHERENT DIGNITY

In the book *Cultivating Empathy: The Worth and Dignity of Every Person—Without Exception*, the authors note how theologian Robert Schreiter suggests that there are multiple ways of robbing others, or ourselves, of dignity.⁴ Two are particularly germane here: We can trivialize others by ignoring what makes them "disturbingly difficult." And we can homogenize people by claiming that they are all the same. These ways of treating others rob them of dignity; and each also interferes with, if not totally eradicates, the possibility for meaningful

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learning and, therefore, maximum flourishing.

Providing personalized learning for all will be immensely challenging in general—and particularly so for the disadvantaged and disenfranchised. To throw our hands up to these difficulties, no matter how complex, is to trivialize others.

As for homogenization, when people of whatever age or “type” are treated the same—as so much of traditional learning has been doing today—it not only harms their dignity, but it also runs counter to common sense and scientific fact about how each of us varies as a learner.

The call for personalized learning is not new, and some meaningful progress has been made. But not nearly enough. Among the reasons for this is that it's hard and expensive—even though technology can, in some ways at least, make it easier and cheaper (though we strongly push back on the notion that personalized learning is all about choices made in front of a computer screen—more on this in chapter six). We also recognize that teaching teachers, corporate instructors and people in general about how best to actualize personalized learning is a necessity. But should effort and expense interfere with human dignity and flourishing? Of course not.

The authors of *The Teaching Brain: An Evolutionary Trait at the Heart of Education* say it well: “We all learn differently, and understanding those differences opens a pathway to comprehending what it is we need to know about learning. Indeed the biggest, most important takeaway from all the recent research in the learning sciences—cognitive, pedagogical and neuroscientific—is in the incredible variability of how people learn.”⁵

Think about how we dignify a person when learning is, to the fullest extent possible, relevant to their life, when education at school, at work and beyond aligns with their needs, their interests, their hopes. Yes, we must all wrestle with some information in which we have little interest and which we struggle to relate to our lives. But those cases should be the exception, not the rule. That's because the foundational

facts and skills most everyone agrees we need to know can be tied, with some imaginative teaching (and learning), to what we genuinely desire to know.

9 Billion Schools isn't calling for learning that is comfortable and unchallenging. To the contrary, it's a plea for stimulating learning that pushes the learner. Learning is difficult. In fact, neuroscience says it *must* be. As the celebrated psychologist Mihaly Csikszentmihalyi states: "This is what we mean by optimal experience.... The best moments usually occur when a person's body or mind is stretched to its limits in a voluntary effort to accomplish something difficult and worthwhile."⁶ The word "voluntary" may be the most important word in that quote. Voluntary implies choice, which implies freedom, which, in turn, implies dignity.

We also recognize that within all this talk of “personalization,” there is a point that too often gets lost. There are some things *everyone* must—or at least should—know in order to flourish. No matter one’s personal abilities, interests, preferences and the like, one should know how to read, how their government is structured, etc.

MANY PATHS TO FLOURISHING

To truly seek the dignity of all people also requires that we resist the urge to pretend we know what life has in store for anyone. 9 Billion Schools holds these two truths as self-evident: 1) the future is impossible to know in any precise detail; and 2) people *can* and *do* change; they can and *do* grow.

Take child prodigies, for instance. Most all of them do *not* go on to outperform their peers from families of similar economic means and educational experiences. And those people who do excel as adults weren't always the most successful children. In fact, when researchers did a deep dive into the data to determine what similarities, if any, existed among people of extraordinary achievement, they found only one common link. Want to take a guess? Was it IQ? Money? Good looks? No, nope and no again. It was, rather, the high likelihood that they spent an unusually large block of time *away from* their schooling.⁷

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When we shortchange others—or ourselves—by being too quick to assume learning and improvement are not possible, we snub our noses at science. And human dignity.

A WORD ABOUT IQ

Perhaps nothing has robbed learners of dignity quite like the very notion of IQ and the tests that measure it. General intelligence is for real, and yes, some people have brains that are better and faster at processing information. These are those who score better on IQ tests and standardized tests, like the ACT and SAT. As a general rule, those with higher IQs are more apt to do better in school and to be more successful in their careers later. *But* that's looking at IQ at a macro level.

We often think of chess as a game for the really brainy types; however, champion chess players, even the celebrated grandmasters, don't have higher IQs than others with similar educational backgrounds. And while IQ sheds light on which children will learn the game of chess more quickly, kids with lower IQs who practice more can beat the "smarter" kids—and do so regularly.

The idea of all scientists as brilliant nerds is another common stereotype. There is some truth to it in that, *as a group*, scientists have higher IQs than most other groups; however, *among scientists*, having a higher IQ does not equate to more or better output.¹⁰

When it comes to learning and flourishing, David Schenk, author of *The Genius in All of Us*, sums it up quite well: "...I am not arguing that every human being can become a genius.... I am not arguing that we all have exactly the same potential. I am not arguing that genes and genetic differences don't strongly influence who we are and what we can become.... I am arguing that very few of us ever get to know our own true potential..."¹¹

CHAPTER TWO

“Learning proceeds until death and only then does it stop....
Its purpose cannot be given up for even a moment.
To pursue it is to be human, to give it up is to be a beast...”

XUN KUANG

Chinese philosopher and teacher

The How of 9 Billion Schools: Vitaegogy, L3 Learning and IFPs

We're born learners. In fact, we exit the womb already having learned a thing or two. Fetuses as young as 33 weeks are known to have a startle response when hearing a foreign language not typically spoken in their presence. Newborns will cry in a manner that mimics their parents' speech patterns. We arrive into this world with hungry minds, but lifelong flourishing depends on retaining that hunger.

The Polish academic Zygmunt Bauman, who studies and writes about contemporary life, expresses the core of this sentiment like this: "...in the liquid modern setting, education and learning, to be of any use, must be continuous and indeed lifelong. No other kind of education and/or learning is conceivable; the formation of selves or personalities is unthinkable in any fashion other than that of an ongoing and perpetual re-formation."¹

Each of us is an ongoing project of sorts, never entirely done or complete, but always moving closer—assuming, that is, that we're learning.

Most people are familiar with the concept of pedagogy, the methods of teaching the young. Far fewer are familiar with andragogy, the methods of teaching adults, which we'll discuss in just a bit. The 9 Billion Schools philosophy believes that pedagogy and andragogy are subservient to what we call "vitaegogy": methods of teaching someone to learn for a lifetime. In other words, we should first and foremost think of learning as a whole-person, whole-life endeavor and then, as necessary, consider tools and techniques that are age-specific.

The foundation of vitaegogy is **life-long**, **life-wide** and **life-deep** (L3) learning. While the notion of lifelong learning is broadly understood, "life-wide" and "life-deep" aren't as much. "Life-wide learning" means that the resources, systems, infrastructure and opportunities for learning should be such that they cover all aspects of our lives—educational, professional and personal. "Life-deep learning" means that we should also have access to the resources necessary to go as

How one goes about pursuing L3 Learning is the heart of one's **Individual Flourishing Plan** (IFP). The IFP indicates one's goals across the breadth of their life and as deep into one's future as one can possibly imagine. In essence, the IFP expresses what one seeks to know in order to accomplish one's goals and achieve one's best self for the benefit of everyone that person encounters and interacts with.

The broad establishment of L3 Learning means we must abolish the notion that learning is primarily for the young. It isn't. And it can't be. When parents ask their children what they've learned today, the norm should be that children answer—and then ask the same question of their parents.

To restrict the notion of learning to the young is a crime against human dignity and flourishing. Jeff Cobb, author of *Leading the Learning Revolution*, writes: “So much of the broader public discussion about education focuses on the K-12 sector and higher education. But the reality for most people is that they will exit these systems with at least another fifty years ahead of them. To say there is significant—and growing—need for learning during these years would be a vast understatement.”³

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this, Google “Changing the World After 80,” an article in *Pacific Standard* magazine that profiles who made major contributions to society as octogenarians.⁴ They are but a few of the ever-growing “encore movement,” learners making amazing contributions of all types after retirement.

In writing about the practical applications of what is known as Mind, Brain and Education (MBE) science, educator Tokuhamma-Espinosa reminds (and encourages) us by noting: “Popular wisdom tends to view the brain in old age as fragile because of the onset of many neurodegenerative diseases, but the brain can and does learn ‘until death does it part.’”⁵

And let's not forget that the Grim Reaper is, mercifully, arriving at most of our doors later and later. While the United States has seen a dip in life expectancy in the past couple years, the general trend over the past several decades has been upward. Between 1950 and 2010, the average life expectancy in the developed world rose from 65.6 to 75.1 years. That number is expected to reach nearly 80 in 2030. In the United States, there are now seven million adults over the age of 85; in 2050, that number will reach 20 million.

The thing is that learning doesn't necessarily get easier as we get older. It still takes effort, and often more of it. Perhaps that's why many seem to turn a cold shoulder to learning. It's a tempting and easy thing to do at times. We stagnate. We become, metaphorically speaking, like, well, sea squirts. These creatures navigate the ocean early in life with a brain; but once they anchor to a piece of coral to live out the rest of their lives, they digest their noggin.

Salman Khan of Khan Academy writes: “Some studies suggest that most people stop learning something new in their thirties.... The learning curve flattens out. Except for the laziest or most incurious among us, it doesn’t flat-line altogether. We get blips here and there from travel, from hobbies, from a new everyday technology that forces us to stretch our awareness of how things work. But for the most part we confront life equipped with things we’ve learned before—sometimes long before.”⁶

But older people shouldn't assume there's no reason to keep

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It comes down to this: We retard our own flourishing when we live like brainless sea squirts.

Business-leadership expert Erika Anderson expands on this idea in the *Harvard Business Review*: “...pushing yourself to acquire radically different capabilities—while still performing your job...requires a willingness to experiment and become a novice again and again: an extremely discomforting notion for most of us...”⁹

Another roadblock to L3 Learning is that too many of us harbor upsetting memories and bad experiences from our traditional schooling. We weren't encouraged. We weren't engaged. We weren't inspired. In short, we didn't connect learning with flourishing. We weren't given a reason to. Science tells us that the brain has an inherent

Andragogy also recognizes that adults have different learning needs and motivations. Malcolm Knowles, author of *The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development*, writes that “...the richest resources for learning reside in the adult learners themselves. Hence, the emphasis in adult education on experiential techniques...group discussions, simulation exercises, problem-solving activities.”

This should be of special relevance to those responsible for planning or teaching work-based or other adult learning.

With vitaegogy-powered L3 Learning, there must be some way to document, verify and showcase what we've learned, particularly—though by no means exclusively—after we leave traditional schooling. The Bill and Melinda Gates Foundation and other leading voices in education reform have been advocating for the need for digital badges, credentials and other evidence in a learning portfolio. 9 Billion Schools agrees and endorses the concept of learning portfolios and believes them necessary to realizing its vision. We see such portfolios

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It's also worth noting that digital badging and credentialing could potentially be especially powerful in less developed areas around the world, where traditional educational and business infrastructures, taken for granted in more developed economies, don't exist.

All, or elements of, one's IFP could also be a piece of one's learning portfolio. It would allow prospective employers, collaborators and the like to get a sense of what one still hopes to learn.

For adults, at least, a popular and easily accessible forum like LinkedIn could provide a natural home for our L3 Learning portfolios. Each of us could give the people we choose access to our portfolios on an ongoing or as-needed basis when, for instance, applying for a job or enrolling in a class.

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ifications could be easily communicated. In addition, if certifications were systematically defined and widely recognized, the incentives to invest in acquiring them would be greater.”¹²

The notion of credentials' being portable from one company to another, from one institution or community of learning to another, is a necessity; but the credentials need a third-party system of organization and authentication. An overabundance of credentialing and badging systems could lead to confusion and lack of confidence in their purported truth. This would work against the very reason for their being: to motivate people to learn and to verify for themselves and others what they have mastered.

The *Creating Pathways to Prosperity* authors also argue for digital credentials to be “stackable” and “vendor neutral.” Stackable means that the lessons offered are broken into manageable, “digestible” pieces and have been designed in “coherent combinations and sequences.” In addition, the authors say: “...credentials should be vendor neutral, which means that businesses throughout the sector will recognize them.”¹³

The market competition (and profits) to provide L3 Learning is likely to attract some unqualified and unscrupulous people seeking to score a quick profit—all the more reason for third-party verification and oversight. One adult-learning advocate has suggested that *noncredentialed* institutions should only be able to provide courses in dentistry—with the condition that the instructors must have all of their dental surgeries performed by their graduates.”¹⁴ We like the sentiment.

9 Billion Schools is intrigued by the notion of learning portfolios and is encouraged by the do-it-yourself credentialing available through such digital tools as Degreed, Pathbrite and openbadges.com. While the establishment of such a widely available, highly regarded and trusted credentialing system will by no means be easy to create, there's nothing about it that is in any way beyond our capabilities. It's only a matter of will.