

WIRED TO GROW

2.0

Harness the Power of Brain Science
to Learn and Master Any Skill



Britt Andreatta, PhD

*Author of *The Neuroscience of Learning*, *Wired to Resist*,
Wired to Connect, and *Leading with Emotional Intelligence**

Discover the science-based secrets for fulfilling your potential by unlocking the power of your brain.

"Britt is masterful in bridging pioneering content with practical application using vulnerable stories from her own leadership experiences. She doesn't share what she's learned; she shares what she's learning. As you read, you will be invited into your own personal and authentic learning journey, rooted in rich and relevant data, and framed in a model that cultivates growth...for you and your organization. *Wired to Grow* is leadership gold."

LV Hanson, Senior Culture Strategist, Procore

"With *Wired to Grow* Dr. Andreatta has created a simple tool anyone can use to create real change in oneself or in others. It's required reading for those who want to use their minds to achieve results."

Chérie Carter-Scott, PhD, MCC, *NY Times* bestselling author of *If Life Is a Game, These Are the Rules: Ten Rules for Being Human*

"*Wired to Grow* is a fantastic book for anyone in the teaching game. It shows how anyone can change their old habits to new ones! Dr. Andreatta hit a home run."

Michael Ewing, President, Professional Ski Instructors of America, Northern Rocky Mountain Division

We are biologically wired to learn: whether we're simply trying to survive or reaching to fulfill our potential. ***Wired to Grow*** contains the keys to leveraging our natural neurological wiring to help unlock the fullest expression of who we are—to become or develop into something more. This fully revised and expanded second edition, now packed with more than double the original information, draws from the most recent neuroscience research and includes two new sections on creating a growth culture of learning and delivering learning to others. This powerful guide positively transforms lives, habits, and organizations.

Dr. Britt Andreatta is an internationally recognized thought leader who creates brain science-based solutions for today's challenges. She draws on her unique background in leadership, neuroscience, psychology, and education to unlock the best in people and organizations. She has over 25 years of experience consulting with executives from all types of organizations. Learn more at: www.BrittAndreatta.com.



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to Learn and Master Any Skill

Second Edition
Revised and Expanded

Britt Andreatta, PhD

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Publishing

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For Chris and Kiana.

You are my heart and soul. You help me learn and
grow every day. I am the luckiest person on the
planet to get to spend this life with you.

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INTRODUCTION

“When you know better, you do better.”

Maya Angelou, poet and author, *I Know Why the Caged Bird Sings*

So, I was wrong. Well, not wrong exactly but some things I wrote in the first edition of this book have shifted so dramatically that they are now out of date. I have written two books since the first edition of *Wired to Grow* and, frankly, I got better at it as I went. So, it felt like a good time to update—but honestly, I thought I would dig into the research and find a handful of things to rework for the revision. Not so. Neuroscience has come far in the past five years. Many more researchers are looking at learning, memory, and behavior change. New tools and big data are shifting what scientists know about the brain, and memory research has undergone radical transformation due to some groundbreaking studies. And medical doctors are leveraging recent findings in neuroscience to create new treatments that are producing astonishing results.

You might not know this, but the rule for a second edition of a book is that at least 20 percent must change. Well, you’re getting a whole new book because this is not only a complete rewrite of the first edition, but I have added 50 percent more content and revised my Three Phase Model of Learning™ as well.

In addition to the science, and perhaps because of it, the learning industry has changed significantly too. New technologies have made learning much more accessible. Thanks to smart phones, people all around the world are following their interests, developing their skills, and learning from peers and experts, many regardless of their circumstances, education, or income. Technology has also made learning more scalable to large groups of people and also more impactful. This has enlivened a new learning hunger in people of every age. Deloitte’s *2019 Global Human Capital Trends* report, a study done with 10,000 participants from 119 countries, found that “people now rate the ‘opportunity to learn’ as among their top reasons for taking a job,” and that “the No. 1 reason people quit their jobs is the ‘inability to learn and grow.’” This has forced organizations to prioritize learning and, in fact, it tops their list of top-10 trends, along with leadership development and reskilling the current workforce for new kinds of work and jobs. Learning has expanded far beyond childhood classrooms to become a lifelong journey on a path to becoming our best selves.

Learning is the most powerful and natural process in the world. It’s at the heart of any transformation we have made or will ever make both as

individuals and a society. I am not talking about education or training but the process of learning: how we start at one level of awareness, understanding, or skill and shift to a different—and better—level. We are biologically wired to learn. Our survival depends on our ability to learn from our environment and experiences. And therefore, intrinsically, several aspects of our central and peripheral nervous system are dedicated to the learning process.

Thousands of years ago, when all humans were living in tribes and subsisting off the land, our ancestors who survived were the ones who learned how to recognize when predators were nearby, to know which foods were poisonous, and to read signs of hostility in others. Today, our survival instinct still drives much of our learning but the context is vastly different. Instead of learning how to forage for food, we must successfully navigate our work environments. Survival is still the goal, since we use our paychecks to buy food, water, and shelter. But rather than learning to build fires and huts, we now need to know how to drive a car and use a computer.

Socially, we still need to learn how to read signs of hostility in others, as well as kindness, curiosity, and a host of other complex emotions, the process known as emotional intelligence. While that need hasn't changed, technology has connected the world, so we now need to do it beyond the familiarity of a shared language, culture, or geographic region. And we might even use emotional intelligence to understand words on a monitor, a voice on a device, or a face on a two-dimensional screen.

In addition to being the key to our survival, learning is also the path to fulfilling our potential—our capacity to become or develop into something more. Within each of us is unrealized ability waiting to blossom into the fullest expression of who we are. As individuals and as a species, we yearn to realize the highest and best version of ourselves. It's in our DNA, the strands of which even visually model the journey of an ever-upward climb. It's about transforming ourselves across the course of our lifetime.

And now, these advances in neuroscience have helped us identify the most effective way to learn. Instead of stumbling along, we have the ability to maximize our learning abilities, allowing us to more intentionally shape our growth and development. Transformative learning is a three-dimensional approach to learning that drives real behavior change. This means a person's understanding shifts through experiences and information about the “why” of things (psychological); their belief systems irrevocably shift through epiphanies, flashes of insight, and “aha!” moments (convictional); and their actions shift through observation, application, experimentation, and practice (behavioral). We'll learn more about how this fits in the bigger picture in section V, but for now just know that each dimension of

transformative learning helps create and groove neural pathways and habits of the desired behaviors in yourself or others.

This revised and expanded edition of *Wired to Grow: Harness the Power of Brain Science to Learn and Master Any Skill* is designed to help you fully unlock your potential, incorporating recent discoveries in neuroscience to give you new ways to maximize your ability to learn and grow. You can apply this material to your own life immediately, starting today. If you have a role where you help others learn and grow, you will also gain new tools for unlocking their potential and becoming a more effective manager, parent, leader, educator, or health care worker.

This book is organized into six sections:

- I. We'll begin by looking at the big developments of the last five years in the neuroscience of learning.
- II. Next, we'll dive into the new findings about memory (there are nine types!) and how the type of memory determines how you set up learning.
- III. We'll explore new research about skills, habits, and behavior change.
- IV. Next, we'll look at how to set up learning to maximize its effectiveness from the start.
- V. We'll turn our attention to the latest brain-based best practices in learning design and delivery.
- VI. We'll end with specific tips and strategies for creating a growth culture of learning in your organizations.

My Research Process

This book focuses on new developments since 2014 and, boy, there have been a lot of them. As a learning professional seeking cutting-edge information in learning and development, I have immersed myself in neuroscience research, which has forever changed how I approach learning design and delivery. Sadly, there is currently no centralized place to look for how brain science might inform learning professionals, so I began by diving deep into the latest studies.

I first focused on neuroscience, reading journals like *Neuron*, *The Journal of Neuroscience*, *Trends in Neuroscience and Education*, *Social Cognitive and Affective Neuroscience*, and *The Year in Cognitive Neuroscience*. Inevitably, these studies led me to other disciplines and recent studies in biology, psychology, business, and education. I also reached out and interviewed thought leaders in the field, like Dr. Mike Miller at the DYNs lab at the University of California, a coeditor of *The Year in Cognitive Neuroscience*, and Dr. Robert Clark, the

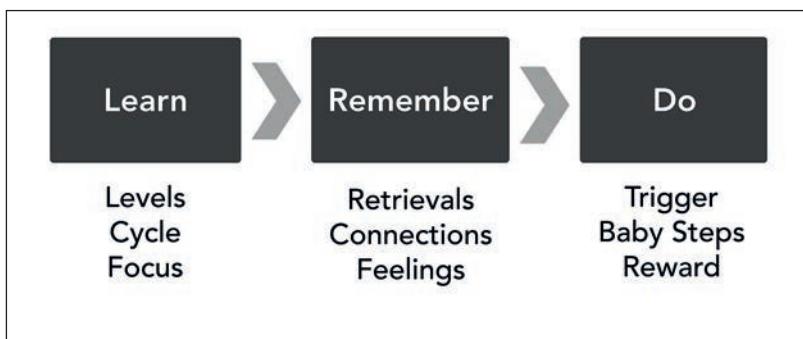
co-author of *Behavioral Neuroscience of Learning and Memory*. I read books, watched TED talks, and listened to podcasts. Inevitably, key themes emerged as I connected dots between studies, disciplines, and scientists that are rather siloed from each other.

Another important part of my research process is mapping what scientists find in their labs to issues that impact today's workplaces. I leverage research by data giants like Gallup, Deloitte, and McKinsey as well as professional associations like the Association for Talent Development (ATD) and the Society for Human Resource Management (SHRM). To be clear, I am not a neuroscientist; my PhD is in education, leadership, and organizations, and I have done my own research on the science of success. Because I am an active practitioner, designing and delivering learning experiences out in the field, I can see where lab studies do and do not translate to how people experience learning in the real world.

Some of the studies confirmed things I had found through trial and error long ago; others completely shifted how I approach my craft. What I found not only changed how I design and deliver learning for others but also how I approach my own transformation. Now that I know and truly understand the neuroscience of learning, I have unlocked more of my own potential and the potential of participants in my sessions.

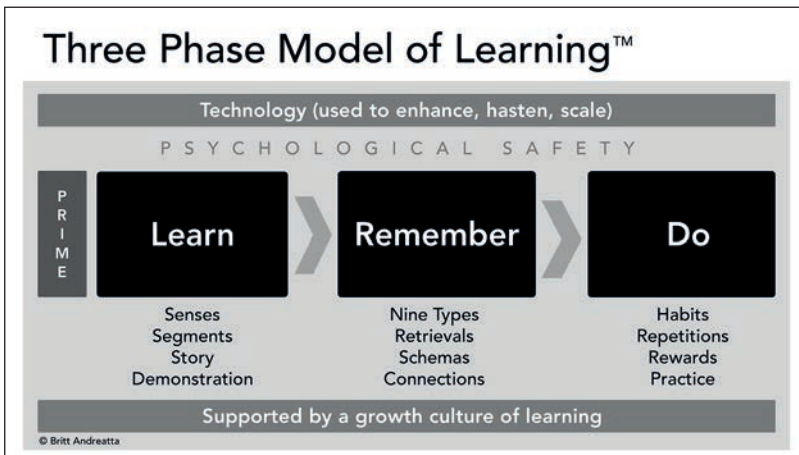
In addition, I used this research to build several new brain science-based training programs that are proving to be exceptionally effective in all kinds of organizations and industries. If you want to learn more, visit BrittAndreatta.com/Training.

In the first edition, I introduced my Three Phase Model of Learning and just five years ago, it looked like this:



The first (and now outdated) version of the Three Phase Model of Learning

Enriched by new research and data, the revised model looks like this:



The new version of the model

It still includes the core phases of Learn, Remember, Do, but the elements within them have shifted. And in addition to the critical component of fostering psychological safety, this new version explores the importance of properly priming for learning, as well as technology's role in aiding learning, all of which rest upon a growth culture of learning.

I am eager to share with you my exciting discoveries on the many new developments in the neuroscience of learning. So, let's take a journey together. I'd like to introduce you to the fascinating miracle that happens inside you every day: learning. Once you understand this brain-based process, you'll be able to use it more effectively and efficiently in your own life. You'll also have the keys to help others learn better and faster.

Let's get started!



Take a Learning Journey

Before I wrote this book, I taught this content through workshops, keynote presentations at conferences and corporations, and in online courses. In a live presentation, I model these concepts so participants get the most out of the experience. I'd like to replicate that for you here, so before you read on, pick something that you'd like to learn. It could be something you are

currently learning, or something you want to learn in the near future. It could be a new professional skill, like public speaking or mastering unfamiliar software. Or it could be something personal like playing an instrument, speaking a new language, or dancing the tango.

The only requirement: it should be truly meaningful to you. As you work through the book, apply each concept to this thing you want to learn—your learning goal—and by the end you will have a robust and exciting plan to help you realize your potential in this area. To help, I created a free downloadable PDF for you to print and fill out as you explore each concept (www.BrittAndreatta.com/Wired-to-Grow).

Tip: If you really want to maximize your experience, find a partner to share with. As you will discover in chapter 13, social learning actually boosts long-term retention. So, find a friend interested in chatting with you about what you learn in this book and your progress on your learning goal. Perhaps they might want to take this journey with you, comparing notes as they learn something new themselves.

37. Asking the Right Questions

To gather the information you need to create great learning, you must ask the *right* questions.

Maybe this has happened to you: Someone calls with a training request and they are really clear on what they need. You, of course, rise to the occasion and do a great job of delivering the training they asked for. But it ultimately doesn't solve their problem. This is likely because the real problem was more complex. As learning professionals, we need to stop playing the role of "service provider" and work more like consultants; partnering with leaders to help identify and address the root causes, thus driving the long-term health and success of an organization.

In my experience, great learning professionals do a few things that can make them very effective. First, they establish a two-way relationship. They make it clear that the partnership is vital and that both they and the group they are helping have invaluable insight and information that will shape the success of the outcome. Second, good consultants ask lots of questions to learn everything they can about the challenges that need to be addressed. They identify not only the current state, but focus on what the ideal state looks like. This includes getting clear on measurable metrics as well as specific words and actions that employees should do. Finally, great consultants design and deliver a solution that creates the needed results. This requires using agile design principles, which includes piloting first drafts, seeking critical feedback from both partners and participants, and iterating until the data shows that the results are achieved.

So, let's apply this to a real situation. Most requests for training start with some kind of problem. Perhaps there has been a rise in attrition of top talent or a dip in product quality, or a key metric has gone up or down and someone decides that it can be fixed with training. The call is likely to come from either a leader in that department or perhaps someone in Human Resources who works directly with that team. If you have not yet established yourself as a trusted consultant and business partner, they will likely call you with a developed plan that they just want you to execute.

Let's see what this looks like. John and Maria both work at a global hospitality company. (Size and industry are truly irrelevant here.) John is the director of the marketing department and Maria works in learning and development (L&D). John contacts Maria and says, "We really need a workshop or training on communication. We want to put 30 people through it before the quarter ends." If Maria is not thinking like a consultant, she might say something like, "Yes, we have a 90-minute workshop on communication,

and I have a facilitator that can deliver it on these dates.” She and John will set it up and deliver it, both feeling pretty good about how they worked together to address a problem. And you know what is likely to happen? It probably won’t solve the real problem and later the training will be deemed a waste of time or the L&D department will be seen as ineffective.

But if Maria steps into her role as a consultant, the interaction with John will go more like this.



John: "The team is missing key deadlines and some things have gone out with errors that someone should have caught."

Maria: "Is everyone on the marketing team involved?"

John: "No, it's really the coordination between the content team and the social media group. Ten people total. Right now, they either miss the deadline and get it right or we get it out the door on time but then we find errors."

Maria: "What would it look like if everyone was performing optimally?"

John: "People would follow the project plan to the letter. We would make release deadlines and what we release would be high-quality and error-free."

Maria: "When you think about these 10 people, do they have the skills they need to make the shift? And is anyone doing an outstanding job at this?"

John: "Yes, I think they need to have better time management and error-checking skills. Kelly and Abdi are my top performers and they're doing the best."

John: "No, but they've been here the longest. I wonder if they've come up with some helpful strategies?"

Maria: "Do you know what they're doing differently than the rest of the group?"

John: "That sounds like it will help turn things around. Thanks for helping me sort that out."

Maria: "That's a great question. Let's connect with them to see what insights they can provide. Using what they share, let's do a focused training for these 10 people around executing the project plan, adding some elements of time management and quality control."

As you can see, Maria's questions were vital for getting to the heart of the matter on John's team. And they are now going to leverage their internal experts, Kelly and Abdi, to create something that is much more focused on solving the real problem.

Below, see my list of consulting questions—as you use them, the process will get smoother. In fact, as your client gets familiar with the process they will likely come to you earlier and ready to engage in the exchange.

Consulting Questions

Remember to step fully into the consultant role, so you can focus on listening for the real problem that needs to be solved. Often clients come to us having already engaged in a diagnostic process and they have likely made assumptions about what they think is a good solution without necessarily breaking the problem down enough to know.

To establish rapport, you'll want them to feel that you are truly listening. You may need to artfully validate the work they have already done and gently invite yourself to explore further with them, so that you can design the best solution possible.

Kick it off by asking for their help: *Is it okay if I ask you a few questions? This will help me design the best solution for you.* Then ask these types of questions to unpack the problem:

1. What

Envision that the client is painting you a picture and if a portion of the image is fuzzy or missing details, ask them about it. You should feel that you are seeing exactly what they are seeing.

I want to make sure I fully understand the problem. You said....

[Summarize what you heard.]

Is that correct?

[Listen for new details.]

What is currently happening that is not working? or Tell me more about what is happening now.

[Listen for natural follow-up questions.]

2. Who

These questions can be really powerful for homing in on important insights.

Is the whole group involved? or Who, specifically, is involved with this issue?

[Listen for natural follow-up questions.]

Do you see any differences between...?

[Based on what you have heard, choose some of the relevant pairings below that might tease out important issues.]

- *new hires and experienced employees*
- *on-site and remote employees*
- *job levels/titles*
- *team A and team B*
- *groupings that might indicate unconscious bias or a diversity/inclusion challenge (gender, race, ethnicity, age, assertiveness, size, etc.)*

3. The Ideal versus the Gap

Now turn to the desired outcome. Focus on what ideal state or optimal performance looks like.

What would it look like if everyone was performing optimally?

How would you measure this? What metrics could you use?

What are the words you would hear and the actions you would see if people were performing optimally?

What is in the way of them performing this way now?

Is anyone already performing optimally/ doing an outstanding job at this?

What are they doing differently than the rest of the group? Do they have different...?

- *knowledge*
- *skills*
- *motivation*
- *resources*
- *skills*
- *experience*
- *capacity*
- *environment*

How can we leverage their knowledge/experience to help shift this situation?

4. Solutions

Before you offer your own solutions, see what solutions the client has in mind. This will give you concrete information to consider and respond to.

Based on what we have discussed so far, do you have any new perspectives or ideas about the situation and how to solve it?

What do we still need to learn to design the best solution possible?

Are there any assumptions we need to test or data to gather to gain more clarity?

Based on how your team works, what length of training would be best?

Is there a time of day or week that will be most effective?

What learning format would be most accessible?

[Offer relevant options like self-paced, instructor-led, remote access, etc.]

If our success was completely guaranteed, what bold steps might we choose?

5. Action

Wrap up the consultation by summarizing the highlights of what you have heard so far.

So, what I have noted is ABC. Is that correct? Would you add anything?

What needs our immediate attention going forward?

What are our next steps? What contribution will we each make and by when?

What possible challenges/roadblocks might arise and how might we meet them?

Once you conclude the meeting, I recommend sending a quick email summarizing the highlights and action plan.