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Conference

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BRIAN PETE

FRIDAY 18 MAY

Session 3

**Unlocking Student Talent:
The New Science of Developing Expertise**

MELBOURNE

BRIAN PETE

Brian comes from a family of educators: college professors, school superintendents, teachers and teachers of teachers. Through his roles as producer of educational videos, publisher of educational resources, and trainer of teachers and leaders, Brian has a rich background in professional development. He brings both a depth of understanding about effective professional development experiences and a technical know-how for practical implementations.



Brian is currently the lead trainer in a major initiative in Singapore for the TILM Ignite Schools. He brings his humour, wit and charm to all of his professional development sessions.

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Brian Pete
Unlocking Student Talent
The New Science of Developing Expertise



Warning:
Not everything we
learn sticks like we
think it will.

The Three Story Intellect

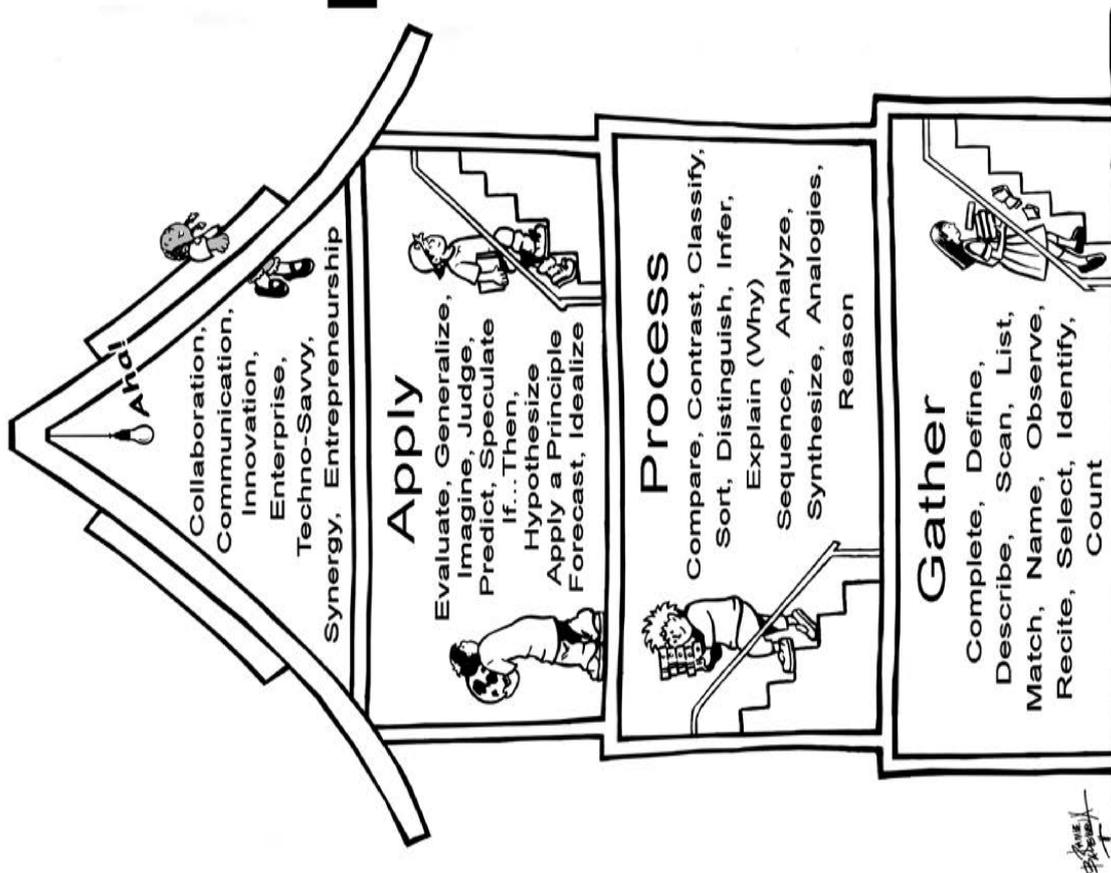
There are one-story intellects, two-story intellects, and three-story intellects with skylights.

All fact collectors who have no aim beyond their facts are one-story minds.

Two-story minds compare, reason, generalize, using the labor of fact collectors as their own.

Three-story minds idealize, imagine, predict, their best illumination comes from above, through the skylight.

Oliver Wendell Holmes
Adapted from the poem, At the Breakfast Table

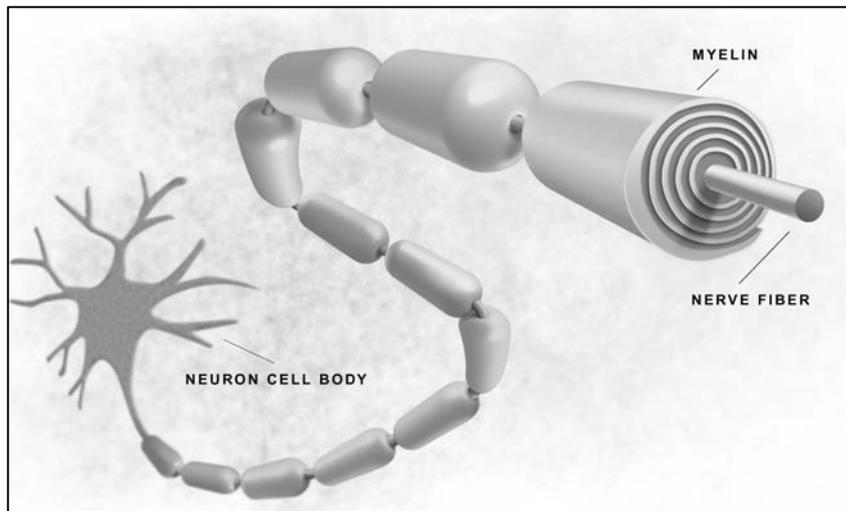


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As Coyle (2009) notes, myelin provides us “a vivid new model” for understanding talent because how it grows is no longer a mystery: It grows through practice or repetition. Research done by Dr. R. Douglas Fields (National Institutes of Health) and others on how myelin grows is summarized by Coyle (2009) as follows:

The more the nerve fires, the more myelin wraps around it. The more myelin wraps around it, the faster the signals travel, increasing velocities up to one hundred times over signals sent through an uninsulated fiber. (p. 40)

It is essential that we (both students and teachers) know when things are not being practiced correctly so that corrections can be made as soon as possible. This is critical because the brain will myelinate incorrect behaviours just as quickly as correct ones. Every repetition performed correctly deposits a bit of myelin that builds skills, but every repetition performed incorrectly deposits a bit of myelin that cements misperceptions or incorrect behaviours.

UNLOCKING STUDENT TALENT

THE NEW SCIENCE OF DEVELOPING EXPERTISE



ROBIN J. FOGARTY, GENE KERNS, AND BRIAN PETE

FOREWORD BY JOHN DOE

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Part I

MOTIVATING: Spark the Passion

To accomplish great things, we must not only act, but also dream; not only plan, but also believe.

—Anatole France

Focusing on the word pairs in the quotation, “act, but also dream; . . . plan, but also believe” seems a perfect way to illuminate the concepts of motivation, drive, and perseverance to form the context of Part I. Think how these three elements interact to create a truly inspired, invigorated talent, with the needed attitudes and dispositions instilled deeply within someone’s innermost self.

Defining moments are inspired by self; by family and fame; by teacher, coach, mentor; by peers. Inspiration consists of motivation that more often than not sprouts from a piqued interest that percolates within the talent. It may be self-initiated by happenstance as youngsters move about the their respective worlds, or perhaps it is introduced by someone else through a novel experience or being witness to a repetitious routine. Coyle (2009) uses the word *ignite* to define this aspect of initiating talent for development, while Willis (2010), coming from a neurological perspective, prefers to describe this inspiration phase as “curiosity sparked by a novelty,” as the uniqueness in the situation literally causes the neurons to fire with electrochemical interactions that result in the cognitive search process. Both of these interpretations lend themselves to the idea that inspiration is like an explosion, when something snaps with a Boom! effect. Yet inspiration may also grow slowly, similar to planting a seed and nurturing it until it takes root. Shenk (2011) offers another perspective to this discussion that may simulate the seed of inspiration with his thesis that there is genius in all of us. Inspiration seems connected to these particular catalysts: aspirations, hallmarks, competitiveness, and novelty.

In turn, evident in study after study (Colvin, 2008; Coyle, 2009; Ericsson & Pool, 2016b; Gladwell, 2008; Lemov et al., 2012; Rose, 2015; Shenk, 2011), is the necessity to provide the stature and steadfastness required of elite performers.

One student became so engrossed in physical science, fascinated by the concept of black holes, she told her 8th-grade teacher she wanted to become a world famous physicist and discover more about the interplanetary origins. Her invigoration with this phenomenon is definitely quite ambitious for one so young. In fact, she exhibits a future vision of herself, stroking the fire each time she voices her aspirations to others.

Yet, in their journey to extraordinariness and elite performances, these individuals with maturing talents require constant, continual, and caring attention to invigorate their efforts with practice, coaching, and regular gradations of “reachfulness” (Coyle, 2009). This is what pushes their talent and propels them through hardships, failures, and disappointments always looking and moving forward incrementally onward.

Instilled with the talent, over time, this desire, this dream, this aspiration, this nudging to “be the best” becomes part and parcel of the person’s *raison d’être*. It cements the motivation that becomes deeply instilled in the person’s psyche. These individuals with are willing to do whatever it takes, to do things that others do not. Somehow, they have an element of invigoration that continues to sustain them. It’s almost like they *have* to do it. Cautious of the possibility of burnout, Lemov et al. (2012) advocate an 80/20 rule in *Practice Perfect*, in which they practice key, coached elements 20% really well, instead of trying to do the “whole enchilada” each practice session.

These opening three chapters are intended to illuminate the critical element of motivation and the role it plays in developing expertise in any field. Ongoing motivational ploys boost the learners to keep them going full speed ahead until they consciously internalize the will, the drive, and the know-how to continually stay in the moment and keep themselves freshly inspired. And, most urgently, to acquire the precious resilience to persevere and do whatever it takes, whenever it is consciously needed, is the secret to a motivational influence. In closing, the motivational tactics of inspiring, invigorating, and instilling the drive to excel, appear and grow in highly personal pathways, yet they are very much necessary ingredients for elite performances. With that in mind, there are extensive ideas about how teachers might formally and informally enhance student performance with truly inspired lessons, invigorating assignments and assessments, and methods to instill a passion and vigor for talent to grow and flourish.

Part II

PRACTICING: Engineer to Develop Expertise

Chapters in Part II offer the stage for an unusual read that gently contradicts much of what we know about motivation, practice, and coaching. Productive motivation for practice is not solely dependent on the internalized intrinsic motivation that has always risen above the external extrinsic brand, as illustrated in Part I. In, Part II practice, as we know it, has morphed into a highly engineered skill, very different from the skill-and-drill we have learned and practiced and dreaded over the years. And coaching that is masterful seems a far stretch from the coaching feedback regularly, or maybe even periodically, given to our youngsters.

Repetitions (reps) are a commonly held protocol implemented for incremental and quality practice routines. However, as mentioned before, deliberate practice reps are engineered for developing expertise through multiple iterations using finely honed changes to produce continued, well-designed, and highly personal progressions.

Resistance and results are about working at the edge of one's ability and skill level. It's about practicing what one does not do well and requires extreme concentration, grit, and the guidance of the expert eye to coach for excellence in these fine-tuning exercises. It's about deep knowledge of the progressions within the skill development and the constant, specific, actionable feedback from the coach. Results are necessary and eagerly sought because of the intensity of this kind of deliberate practice. It's often performed in slow motion, with attention on the form and the function. Is it working? When it does, the results are the payoff for the work for the supreme conscious awareness necessary to make the changes needed.

Recovery and residual create circumstances of the aftermath of intense exercise.. Recovery is the resting period after the reach and repeat iterations and residual is the effect this deliberate practice has as it is being mapped in the mind. Instead of “more is better”—the common belief about practice—in deliberate practice the intensity and mental awareness, monitoring, and

evaluating that accompany the carefully engineered iterations must be followed with a recovery period. While the practice itself is deliberately brief, the recovery benefits are well worth following the shortened daily routines used in this very different kind of practice. “Residual” references the mental models that develop in the brain/mind as the myelin continues to grow and wrap the axon of the neurons for the strength and speed needed for automaticity. That’s how the gymnast, the skater, the diver, the golfer, and the student find the “sweet spot” time after time .

In sum, the process of deliberate practice embraces a marvelously effective routine called “reach and repeat.” The continual stretching, reaching, earnest effort to surpass the previous record is what makes the determined mind that creates a personal best with each attempt.

Part III

COACHING: Seek Extraordinary Excellence

While each part of this book focuses on a specific component of the process of developing expertise—motivation, practice, and coaching—these elements are often, in fact, intertwined and certainly inform each other in practice in real classrooms. Readers may find that the same research sources are cited across the three parts, where the source bears on multiple aspects of expertise development. It is intentional to fully illustrate the intricacies of building experts in any field of endeavor.

Master coaching is integral to the trifecta highlighted in this text. It includes deep, deliberate practice; ongoing, consistent motivation techniques; and the presence and influence of a master coach. While these three are the components studied in elite talents, it seems logical that they also can be applied in a broader, if more modest way, to academic development and growing expertise in students in our classrooms. Master coaching—the component highlighted in Part III—includes three interrelated elements that seem to propel the coaching relationship along a somewhat predictable path that leads the coach and students to engage, elevate, and exceed. First, the teacher/coach and the students engage in a partnership to work hand in hand. Second, the coaching begins to demonstrate results for the students, as the relationship grows and skills are noticeably elevated. Finally, coaches and their students devise challenging reachfulness goals, with methods to help exceed expectations and reach beyond the original goal.

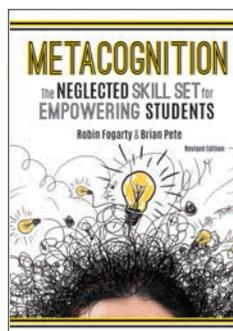
Chapter 7 describes the phase of engaging, when the coach and students become a team, talking and conferring constantly on skill levels, as well as developing deliberate practice routines as a bond of trust develops. The coach and the students must engage in a special relationship, always thinking things through and trusting each other. This dynamic can exist between a teacher and a class, and in other instances in coaching individual exceptional students.

In Chapter 8 the master coach elevates performance with continual and appropriate challenges, coaching, and feedback. To elevate literally, deliberately, and strategically, the coach seeks the best ways to develop and hone the students' current performance achievement through reachfulness, practicing in one's zone of proximal development, at every stage.

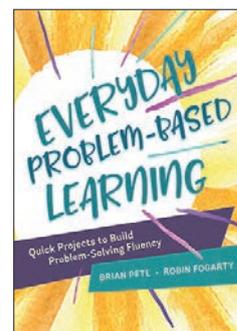
Chapter 9 discusses how the master coach moves the students beyond the original goals to exceed the standard or their current skill level. These are the elements at work: goal setting, imagination, metacognitive reflection—all strategies that seem to contribute, over time, to a student's sense of control and sense of agency. The well-known benefits of coaching feedback (Hattie, 2010; Jackson, 2009; Joyce & Showers, 2010) suggest that a master coach–students interaction must be in place to increase the possibility of students fully reaching potential, or enhancing the teaching/learning results.

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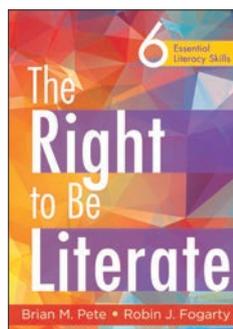
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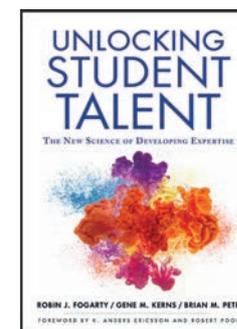
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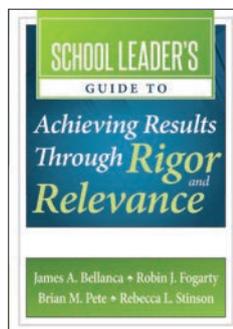
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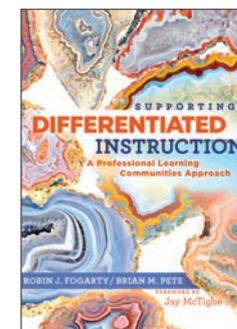
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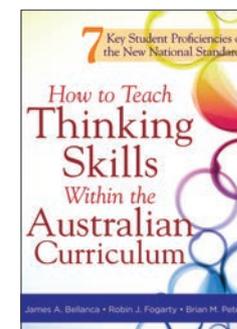
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