

Developing executive functions and social-emotional learning skills with your athletes

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ALL CANADIANS



Meaningful Competition

EXCELLENCE

TRAIN TO WIN

TRAIN TO COMPETE

TRAIN TO TRAIN

Quality Sport

FUNDAMENTALS

ACTIVE START

DEVELOPING
PHYSICAL LITERACY

PHYSICAL LITERACY FOR LIFE

FIRST INVOLVEMENT

AWARENESS

DEVELOPING
PHYSICAL LITERACY



Athlete Development Matrix

Building athletes who are

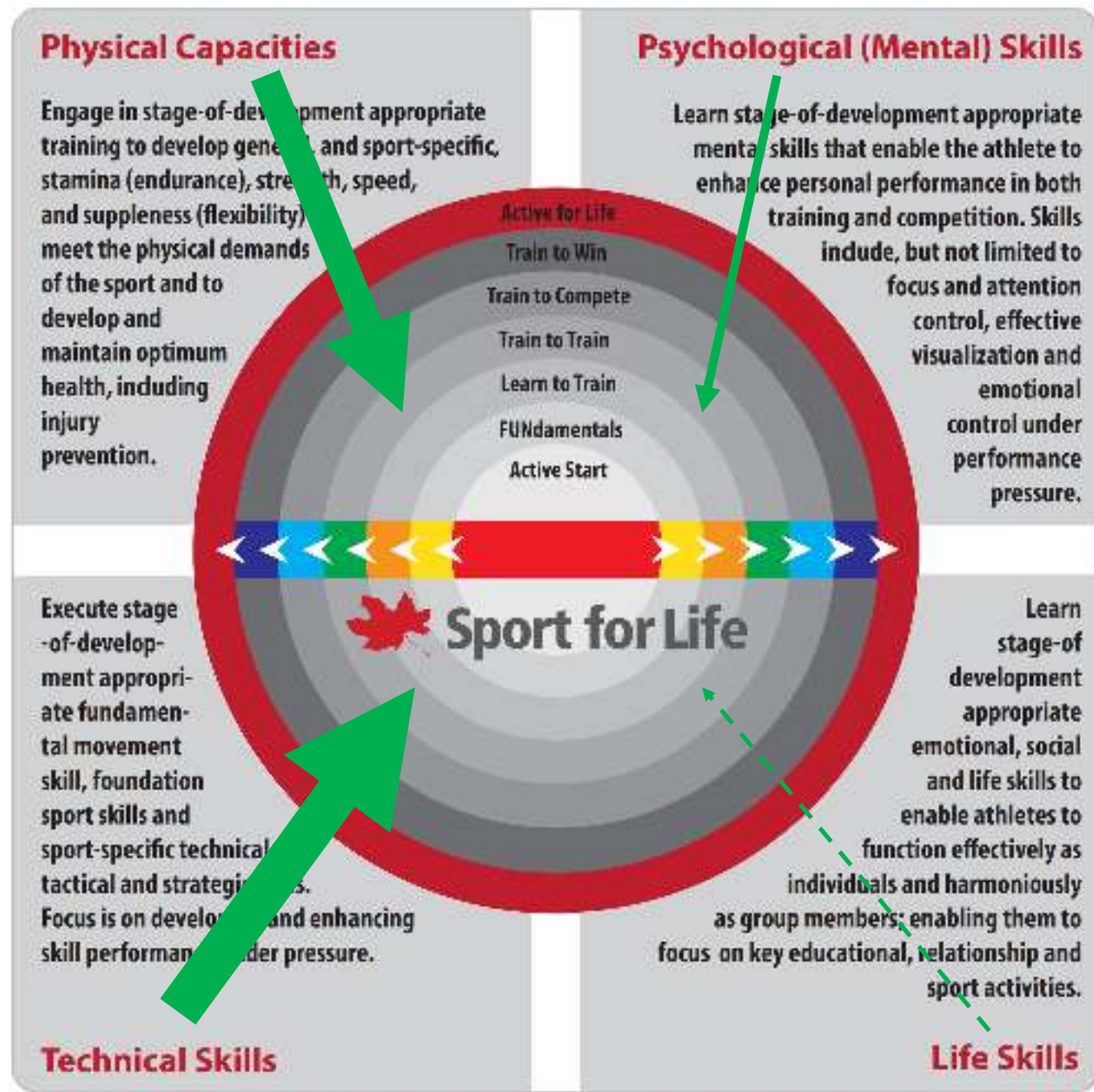
Resilient- "...able to recover quickly and bounce back from difficult situations or setbacks"

Durable- "...hard-wearing and able to withstand wear, pressure, or damage"

Determined- "... persistent, resolute, firm and tenacious"



Figure 3: The Four Corner model of the Athlete Development Matrix



Think about



Third Edition

Teaching Personal and Social Responsibility Through Physical Activity

Don Hellison

Foreword by Daryl Siedentop



Center on the Developing Child
HARVARD UNIVERSITY

<https://developingchild.harvard.edu/>



<https://www.panoramaed.com/>

2015

CASEL GUIDE

**Effective Social
and Emotional
Learning Programs**

<https://casel.org/>

Middle and High School Edition



2013

CASEL GUIDE

<https://casel.org/>

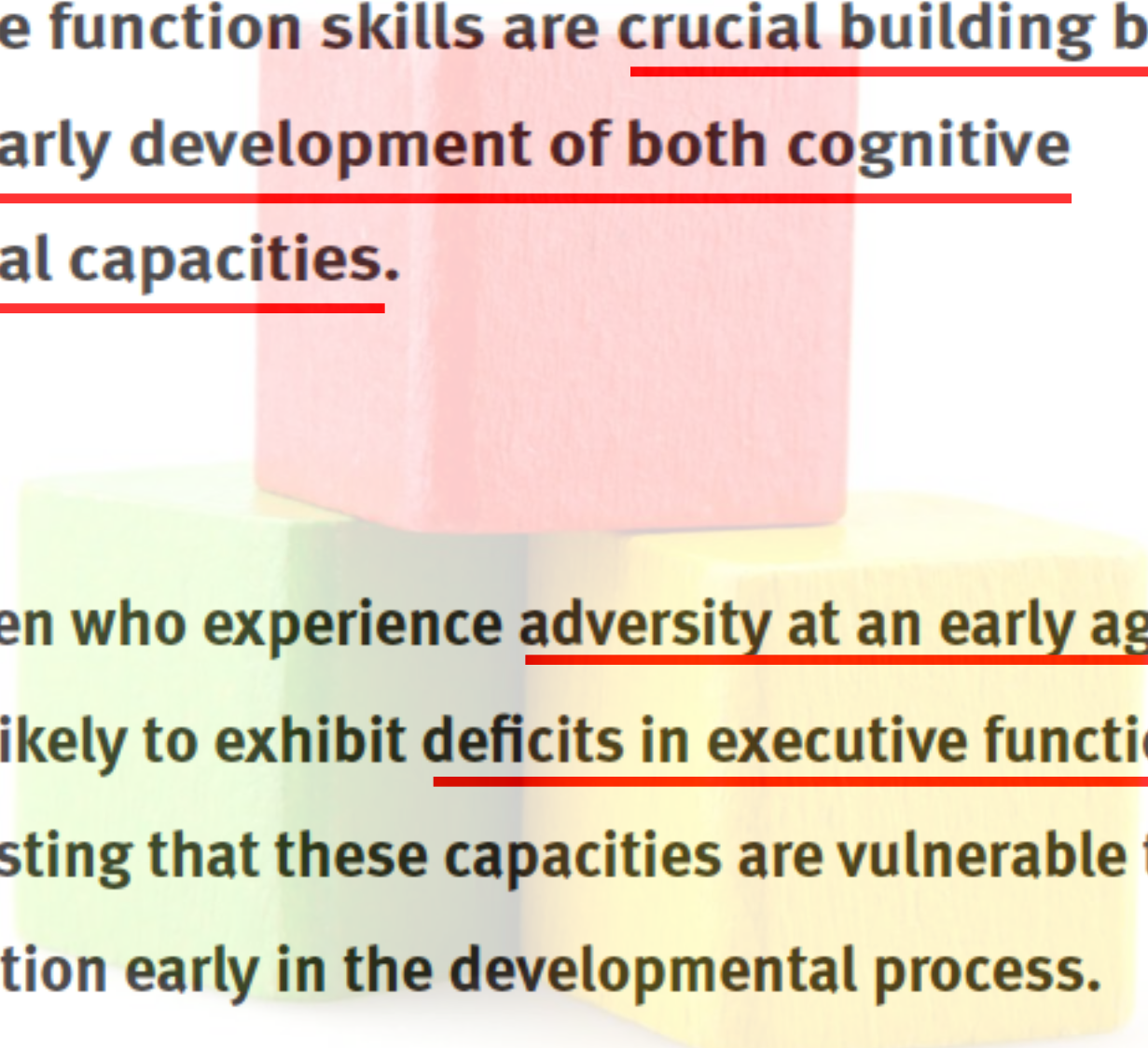
**Effective Social
and Emotional
Learning Programs**

Preschool and Elementary School Edition

Executive Functions

1. Working memory
2. Cognitive flexibility
3. Self regulation:
Inhibition control

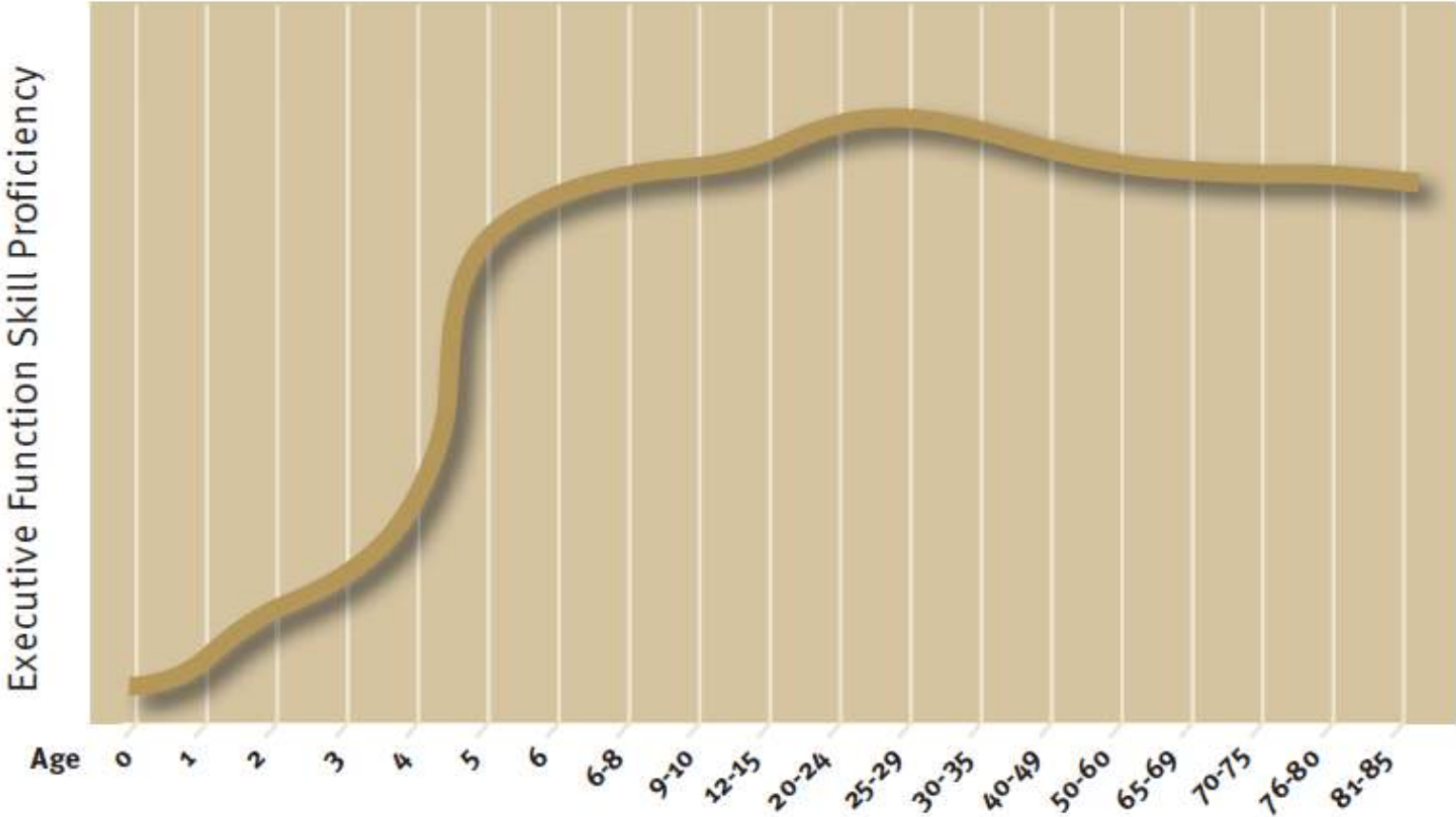




**Executive function skills are crucial building blocks
for the early development of both cognitive
and social capacities.**

**Children who experience adversity at an early age are
more likely to exhibit deficits in executive functioning,
suggesting that these capacities are vulnerable to
disruption early in the developmental process.**

Executive Function Skills Build Throughout Childhood and Adolescence



A range of tests measuring different forms of executive function skills indicates that they begin to develop shortly after birth, with ages 3 to 5 providing a window of opportunity for dramatic growth in these skills. Growth continues throughout adolescence and early adulthood; proficiency begins to decline in later life.

Source: Weintraub et al. (In Press).⁹⁹

WORKING MEMORY is the capacity to hold and manipulate information in our heads over short periods of time. It provides a mental surface on which we can place important information so that it is ready to use in the course of our everyday lives. It enables us to remember a phone number long enough to dial it, to return to our place in a magazine article before a friend interrupted us, and to recall whether we had added the salt to what we were cooking before we had to help our child find a missing shoe. It enables children to remember and connect information from one paragraph to the next, to perform an arithmetic problem with several steps, to keep track of the moves and make a logical next step in a game of checkers, and to follow multiple-step instructions without reminders (“go to your cubbies, put away your storybooks, bring back your arithmetic books, and open them to page 30”). It also helps children with social interactions, such as planning and acting out a skit, taking turns in group activities, or easily rejoining a game after stepping away to get a drink of water.

- ✓ Taking turns
- ✓ Managing rules
- ✓ Sequencing



COGNITIVE OR MENTAL FLEXIBILITY is the capacity to nimbly switch gears and adjust to changed demands, priorities, or perspectives. It is what enables us to apply different rules in different settings. We might say one thing to a co-worker privately, but something quite different in the public context of a staff meeting. If a friend asks if we like her new haircut and we don't, we are able to flexibly shift to the social convention that governs not hurting people's feelings. Likewise, we teach our children about "outside voices" and "inside voices" and the different situations in which they should use each. As the author of *The Executive Brain*, Elkhonon Goldberg, notes, "The ability to stay on track is an asset, but being 'dead in the track' is not."⁴ Stated differently, self-control and persistence are assets, rigidity is not. Cognitive flexibility enables us to catch mistakes and fix them, to revise ways of doing things in light of new information, to consider something from a fresh perspective, and to "think outside the box." If the "church in two blocks" where we were told to turn right is actually a school, we adjust and turn anyway. If we are missing a recipe ingredient, we call a neighbor or make a substitution. Children deploy this skill to learn exceptions to rules of grammar, to approach a science experiment in different ways until they get it to work, or to try different strategies when they are working out a conflict with another child.

red blue orange purple

orange blue green red

blue purple green red

orange blue red green

purple orange red blue

green red blue purple

Read the COLOUR of the word

Read the COLOUR of the word



Adaptability

INHIBITORY CONTROL is the skill we use to master and filter our thoughts and impulses so we can resist temptations, distractions, and habits and to pause and think before we act. It makes possible selective, focused, and sustained attention, prioritization, and action. This capacity keeps us from acting as completely impulsive creatures who do whatever comes into our minds. It is the skill we call on to push aside daydreams about what we would rather be doing so we can focus on important tasks. It is the skill we rely on to help us “bite our tongue” and say something nice, and to control our emotions at the same time, even when we are angry, rushed, or frustrated. Children rely on this skill to wait until they are called on when they know the answer, to be good at games like “Simon Says” and “Red Light/Green Light,” to stop themselves from yelling at or hitting a child who has inadvertently bumped into them, and to ignore distractions and stay on task in school.



- ✓ **Focus**
- ✓ **Emotion management**

WORKING MEMORY

ADULT Can remember multiple tasks, rules, and strategies that may vary by situation

5-16 YEARS Develops ability to search varying locations, remember where something was found, then explore other locations (e.g., a game of Concentration or hiding a penny under one of three cups)

4-5 YEARS Comprehends that appearance does not always equal reality (e.g., when given a sponge that looks like a rock)

3 YEARS Can hold in mind two rules (e.g., red goes here, blue goes there) and act on the basis of the rules

9-10 MONTHS Can execute simple means-to-ends tasks and two-step plans; also able to integrate looking one place and acting (e.g., reaching) at another place

7-9 MONTHS Develops ability to remember that unseen objects are still there (toy hidden under a cloth); learns to put two actions together in a sequence (remove cloth, grasp toy)

COGNITIVE FLEXIBILITY

ADULT Able to revise actions and plans in response to changing circumstances

13-18 YEARS Continued improvement in accuracy when switching focus and adapting to changing rules

10-12 YEARS Successfully adapts to changing rules, even along multiple dimensions (okay to shout on playground, not okay in school, okay sometimes in theater rehearsal)

2-5 YEARS Succeeds at shifting actions according to changing rules (e.g., takes shoes off at home, leaves on at school, puts on boots for rain)

9-11 MONTHS Develops ability to seek alternate methods to retrieve objects beyond directly reaching for what's in view

INHIBITORY CONTROL

ADULT Consistent self-control; situationally appropriate responses (e.g., resists saying something socially inappropriate, resists "tit for tat" response)

10-18 YEARS Continues to develop self-control, such as flexibly switching between a central focus (such as riding a bike or driving) and peripheral stimuli that may or may not need attention (road signs and pedestrians vs. billboards and passing houses)

7 YEARS Children perform at adult levels on learning to ignore irrelevant, peripheral stimuli (such as a dot on the side of a screen) and focus on the central stimulus (such as a picture in the middle of the screen)

4-5 YEARS Reductions in perseveration (persisting with following a rule even when knowing that the rule has changed). Can delay eating a treat; also can begin to hold an arbitrary rule in mind and follow it to produce a response that differs from their natural instinct (sort colored cards by shape rather than color)

9-11 MONTHS Able to inhibit reaching straight for a visible but inaccessible reward, such as a toy on the other side of a window, and instead delay a moment to recognize the barrier and detour around it

8-10 MONTHS Begins to maintain focus despite distractions during brief delays in a task

6 MONTHS Rudimentary response inhibition (able to not touch something instructed not to touch)

Effects of Physical Exercise on Executive Functions: Going beyond Simply Moving to Moving with Thought

Adele Diamond* (2015)

Department of Psychiatry, University of British Columbia, Canada

Annals of Sports Medicine and Research

Sample activities

Dance (everyone involved)

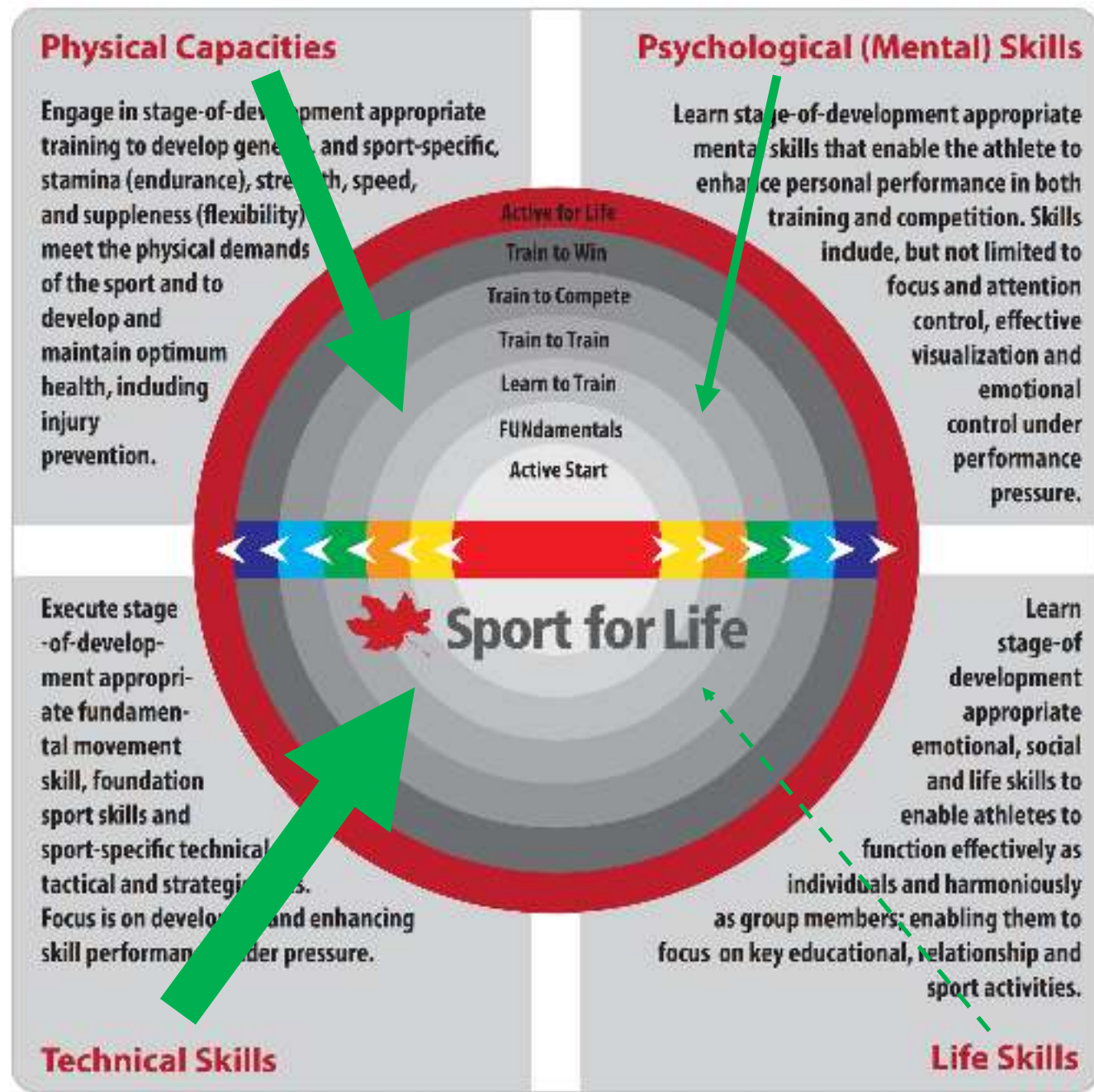
Martial arts

Drumming circle

Social circus (juggling, tight-rope walking, unicycle riding, pyramid building, clowning, acrobatics)

- Cognitively-engaging activity stronger effect on EF (not stable, not predictable)
- Bimanual coordination, eye-hand coordination and rhythmic movement is valuable
- Having youngsters do what they love to bring joy and pride (builds confidence, feel less alone, create larger community value, sense of belonging)

Figure 3: The Four Corner model of the Athlete Development Matrix



Think about



How well do I develop...?

Physical capacities

Decision-Making
Skills

Technical skills

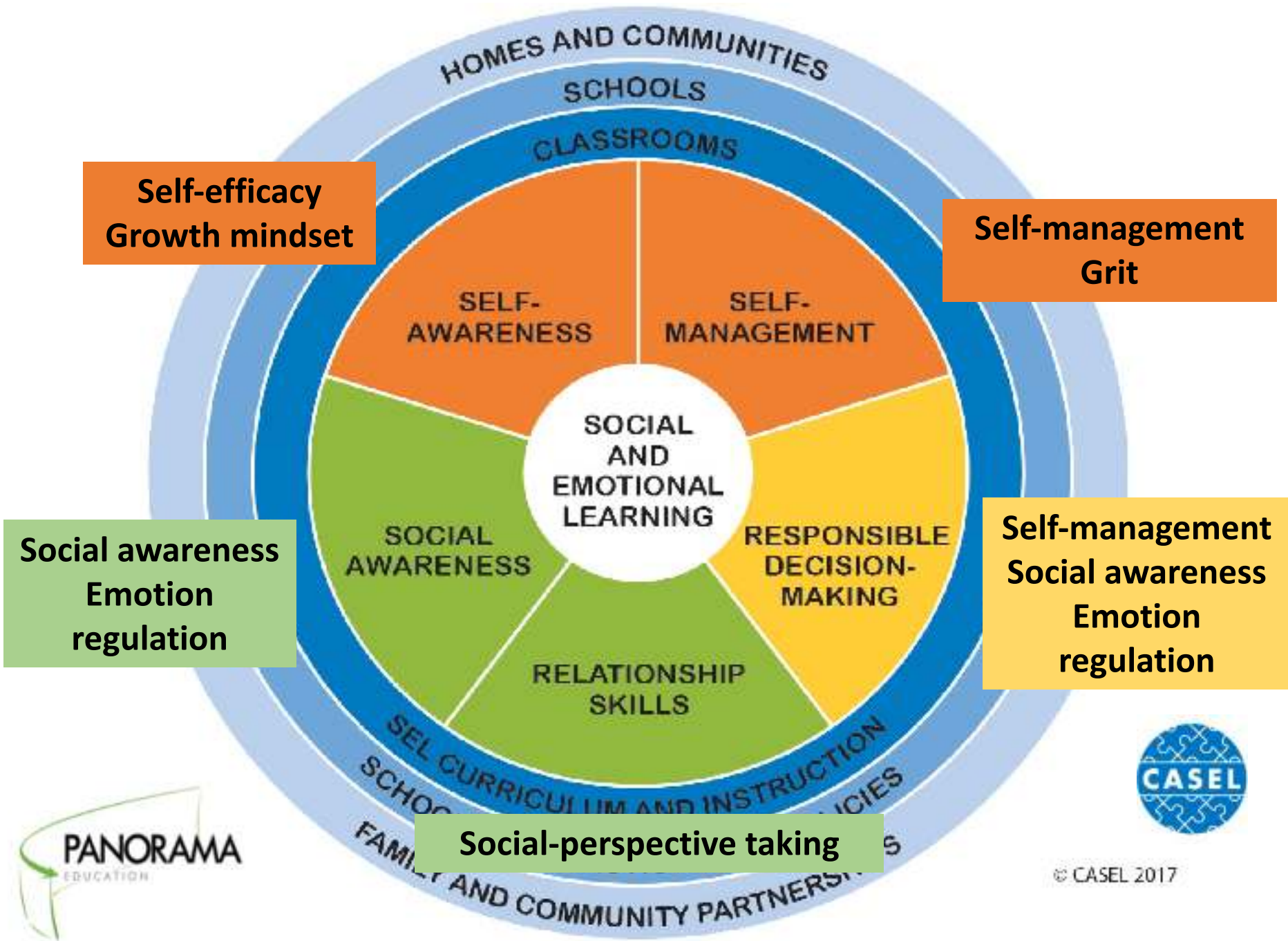
Social/Relationship
Awareness

Tactical/Strategic skills



Mental/Psychological
skills

Emotional Agility



Defining Social Emotional Learning

“Social and emotional learning (SEL) is the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions.”

(2015 CASEL Guide)

Validated for Grades 3-12 (7-18 years)

Foundations for implementation

Not just “a program” but a cultural shift:

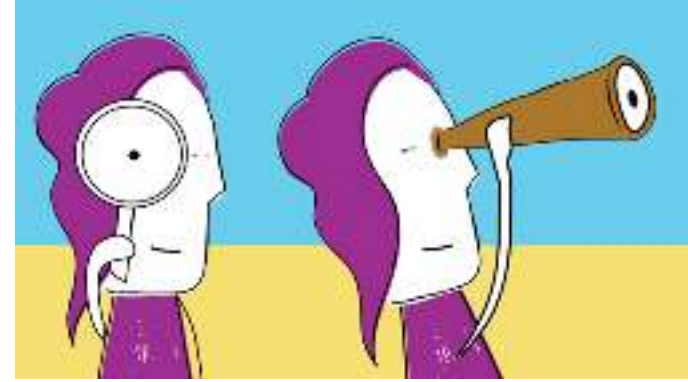
Student (athlete) competencies

Student (athlete) supports and environment

Teacher (coach) skills and perspectives



In the following examples....



Consider your own place of sport –

- Have you had these conversations with your athletes? Have you helped them learn this language and build their SEL vocabulary?
- Do you intentionally create experiences in your training sessions to allow your athletes to learn about their own SEL skills?
- Do you recognize and praise these skills in your athletes?
- Do you value SEL skills and technical/tactical/strategic skills equally?



From school to sport example

Self-awareness: The ability to accurately recognize one's emotions and thoughts and their influence on behavior. This includes accurately assessing one's strengths and limitations and possessing a well-grounded sense of confidence and optimism.

“Whether a person does well or poorly in school (sport) may depend on a lot of different things. You may feel that some of these things are easier for you to change than others. In school (sport), how possible is it for you to change:

- Being talented?
- Liking the subject (sport) you are studying (participating)?
- Giving a lot of effort?
- How easily you give up?

From school to sport example



Responsible decision-making: The ability to make constructive and respectful choices about personal behavior and social interactions based on consideration of ethical standards, safety concerns, social norms, the realistic evaluation of consequences of various actions, and the well-being of self and others.

“How often are you able to control your emotions when you need to?”

“How often do you follow directions in class (during training)?”

“How well did you get along with students (teammates) who are different from you?”



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Responsible Decision-Making

I act in ways that are respectful and safe. I consider how my choices and decisions will affect myself and others.

- What steps do I take to know that I am making a skillful choice?
- How will this decision affect myself and others?
- How do I accept the outcomes of my choices?



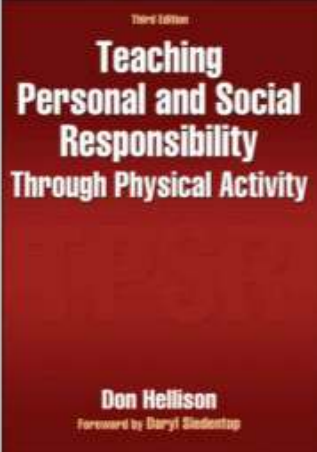
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Self-Awareness

I understand who I am, and how my feelings about myself and others influence my actions. I know my strengths and opportunities for growth. I know when I need help and how to get help.

- What am I good at and how do I know?
- When I don't understand something or need help, what do I do?
- What am I feeling right now and how can I act in a way that is helpful for myself and others?



Ideas to bring into your program



- ✓ Relationship attributes and building rapport (recognizing strengths, individuality, voice and decision-making ability)
- ✓ Awareness talk sets goals for training (beginning of session)
- ✓ Activity/Training
- ✓ Group reflection about goals and integration into other life domains
- ✓ Self reflection and setting goals for next session

Self-Evaluation Form

Name: _____ Date: _____



Self-Control

☐ ☐ ☐ How well did you control your temper and mouth today?

Effort

☐ ☐ ☐ How hard did you try today?

Self-Coaching

☐ ☐ ☐ Did you have a self-improvement or basketball goal and work on it today?

Coaching

☐ ☐ ☐ Did you help others, do some positive coaching, or help make this a good experience for everyone today?

Outside the Gym

☐ ☐ ☐ Self-control?

☐ ☐ ☐ Effort?

☐ ☐ ☐ Goal setting?

One Comment About Yourself Today?

FIGURE 4.1 A simple self-evaluation form.

From D. Hellison, 2011, *Teaching personal and social responsibility through physical activity*, 3rd edition (Champaign, IL: Human Kinetics). Courtesy of Tom Martinek.



**Le sport c'est
pour la vie**



Sport for Life