

# Getting More from Your Athletes

## *The importance Deliberate Play and Deliberate Practice*

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ATHLETICS 365



# Session Outcomes

## Helping Young Athletes Get the Most from Sport

- Why do children participate in sport?
- Why do children drop out of sport?
- What contributes to early success?

## Getting the Most from Your Athletes

- Some suggested models of Learning
- What is Deliberate Play and Deliberate Practice
- Practical Examples of Deliberate Play and Practice



# Why are people Successful?

## Nature / Nurture

- Nature – Inherited genes / genetic potential
- Nurture – Environment (family, culture, etc)
- Probably the most widely accepted reason (by the average person) for why people are successful and skilled

**But is it true or is there more?**



# Helping Young Athletes Get the Most from Sport

- Why do children participate in sport?
- Why do children dropout of sport?
- What contributes to early success?





# Underpinning Research

## Reasons for participating in sport

- Fun and Enjoyment (Excitement)
- **Mastering a Skill (perceived Competence)**
- Parents / Teachers
- **To Learn New Skills**
- Friends / Peers (belonging to a group)
- Being Successful
- **Gaining Recognition**

## Reasons for dropping out

- **Boredom (doing the same thing too much)**
- **Lack of success**
- **Too much pressure from parents, coaches and peers)**
- **Loss of Interest**
- **Friend Leaving the Sport**

### WORKSHOP REPORT

#### The International Athletic Foundation Workshop on Youth Athletics

In 1999 the IAAF took the first of two large initiatives to provide services for left to its national federations and others. He to 10 years old to the sport's top Olympic Championships event. Among the objectives for the meeting was the provision of a world stage for competitors who were younger than those taking part in the well established World Junior Championships in Athletics, in the hope that some could use it as the first rung on the ladder to success in the senior ranks.

The second initiative, called IAAF Kid Athletics, packaged federations with a list of athletics activities and equipment to help to promote the sport to a new generation of participants, (and future fans) and provide a useful tool for talent identification.

The first editions of the World Youth Championships showcased the IAAF's boldness in providing successful from both the podium and competitive points of view as 121 national federations and 150 countries in 2001 established bar there is no reason to believe that it will not be well received.

Onions reported that a worryingly high percentage of the competitors required treatment for injuries and during the last three or four years 'youth athletics' has become a hot topic for debate at the national and international level. Among the issues to be discussed were:

- The pros and cons of specialisation, performance-oriented training and international competition at an early age
- Appropriate age-groupings for training and competition
- The phenomenon of young athletes dropping out
- The training of coaches to best support the development of young athletes.

It is clear that having gone down this road the IAAF Council, Committees and Commissions must stay engaged with this area of the sport and be prepared to make adjustments when appropriate. In order to do this effectively there is a need to keep abreast of the latest research and thinking.

In this regard, the International Athletic Foundation, with special support from the Spanish Athletics Federation (Asociación Española de Atletismo), hosted an international working group of experts from a range of countries.

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### Review

#### Intensive training in young athletes

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An increasing number of children take part in organized sporting activities, undergoing intensive training and high level competition from an early age. Although intensive training in children may confer health benefits, more are injured as a result of training, often with severity. This paper reviews some of the issues relating to intensive training in children, including the potential for overtraining, the physical, psychological and social effects of intensive training, the importance of monitoring and the need to avoid the deleterious effects of intensive physical activity in these children.

#### Keywords: Intensive training, children, sports injuries

In the past few years, competitive sport participation has become an established feature of Western society. Youngsters in their early years may have already undergone intensive training and high level competition for several years in sports like gymnastics, swimming or tennis. Rowley has reported that early participation of children in competitive training activities is due to the 'itch' these young phenoms have, and to the belief that to be able to advance international activities, it is necessary to start intensive training before puberty.

The number of children taking part in competitive sports is so high that some medical bodies have issued guidelines regarding participation.<sup>1,2</sup> Although all the risks of injury in these youngsters are, as present, understood, an epidemic of sports injuries, as children change from free play to the structured demands of the specialized performance imposed by a single sport, has been predicted.<sup>3,4</sup>

The emphasis on intensive training and high level competition in a single sport begs the following questions:

Should young children participate in intensive training and high level competition?  
 Are children involved in intensive training at risk of injuries to their developing musculo-skeletal system?

Can psychological problems arise from intensive sports participation at a young age?

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#### Physical, cardiovascular and muscular effects

Increase in strength and endurance are an established feature of growth and development<sup>5</sup> and of 'training'.<sup>6</sup> The effects of physical training are difficult to separate from those of normal puberty.<sup>7</sup> Studies involving children have identified a wide range of results. From certain fit efforts, such as strength training,<sup>8</sup> and in others, such as endurance training,<sup>9</sup> that a certain amount of physical activity is required for normal growth.<sup>10</sup> In other studies, however, it has not been identified, and the ill effects of intensive training have been fully described.<sup>11-14</sup>

In girls, one of the most sensitive areas of research has been osteoarthritis and menstrual disorders. The age of achieving menarche and the incidence and duration of menstrual disturbances in young athletes engaged in intensive training have been reviewed<sup>15</sup> with few exceptions, menarche is delayed in athletes.<sup>16</sup> Moreover, female athletes engaged in intensive training show an increased frequency of menstrual irregularities.<sup>17</sup> The data dealing with this issue have not been consistently researched. Factors that could influence the time of menarche, such as genetic inheritance or nutritional status, must be genetically corrected for in order to reach a conclusion as to be drawn.

Also, the skeletal maturation of young male athletes engaged in cycling, rowing and ice hockey was followed from 12 to 15 years by Kramar et al.<sup>18</sup> who concluded that regular physical activity has no effects on the growth of young male athletes.

The question of athletic potential has been addressed, and it is a given stress factor in a particular training regimen is due to an inherited genotype.<sup>19</sup> Only approximately 30% of the maximal oxygen uptake (VO<sub>2</sub> max) and maximal force and power of top class competitors can be accounted for by training.

Young athletes undergoing vigorous training were found to have a higher maximal oxygen uptake (VO<sub>2</sub> max) than sedentary controls.<sup>20</sup> In another study, 24 boys aged between 7 and 12 years did engaged in competitive middle and long distance running were compared with 50 controls not undergoing intensive training.<sup>21</sup> The runners had been training for 1 to 5 years, and had low body fat, lower resting heart rate. Statistically significant differences were only achieved between the 16 year olds. The young runners in this study also had larger heart volumes.

Dr. J. Sports Med., Vol. 24, No. 4 227



# Why do Children do sport?

- “To have fun, improve skills, belong to a group, be successful, gain recognition, get fit and find excitement”
- “Children don’t join a team to sit around and do nothing. Sport is not enjoyable if they don’t get much opportunity to play”.
- *A 1992 study conducted by Dr Martha Ewing & Dr Vern Seefeldt asked 26,000 students age 10-18 years their reasons for participating in sport and found that ‘fun’ was the pivotal reason for being in sport.*

*(Straight Talk by CAC)*



# What about winning?

- “Winning is often cited last when children are asked about their reason for participating” (*Straight Talk by CAC*)
- “Young children are more concerned with **mastering their own environment and developing skills** than beating others – at least until someone tells them that it is important to win” (*Coaching Children in Sport - Dr J Whitehead*)
- Research conducted on 3000 youngsters aged 9-16 years (by Dr J Whitehead) found that kids describe success as follows:
  - *“I did my first back dive ever in front of my brother and dad”*
  - *“We were practicing and I was the only one who could do it”*
  - *“I practiced and practiced, then one day I did it!”*



# Why do Children dropout of sport?

- Boredom
- Lack of Success
- To much pressure (*from parents, coaches, peers*)
- Loss of Interest
- Friends Leaving
- Because it cease to be fun
- **Lack of fun is the leading reason for drop out**

*A 1992 study conducted by Dr Martha Ewing & Dr Vern Seefeldt*





# Why do Children dropout of sport?

- Time for something new;
- Competing social interests;
- Conflict with other interests (time);
- Lack of players;
- Lack of support from schools;
- Poor coaching / teaching;
- Transition from junior to senior leagues;
- Not enough opportunity to play in matches

The Women's Sports and Fitness Foundation (WSFF) 2010



# Why do Children dropout of sport?

- Injuries that prevent the athletes from recovering to where they were previously
  - Including poor rehab leading to continual breakdown
- Being caught up by other athletes whose physiological development was not as advanced initially
  - “My times didn’t seem to improve no matter how hard I trained, my 800m time stayed the same for 4 years as did my 400m. When I first set these times they were very respectable but the older I became the less so” **Athlete no longer in the system**
  - “From under 15s, those that are very good at Under 15s tend to be the large athletes that have matured earlier, and I’ve found they don’t handle it well when the others start to catch them up or improve”. **Coach**

# What contributes to early success?

- Relative Age Effect
- Stage of Maturation
- Genetics (Nature)
- Environment (Nurture)
  - Opportunities
  - Support
- Types of training (both positive and negative)
- Controllable Factors (Athlete's Approach)



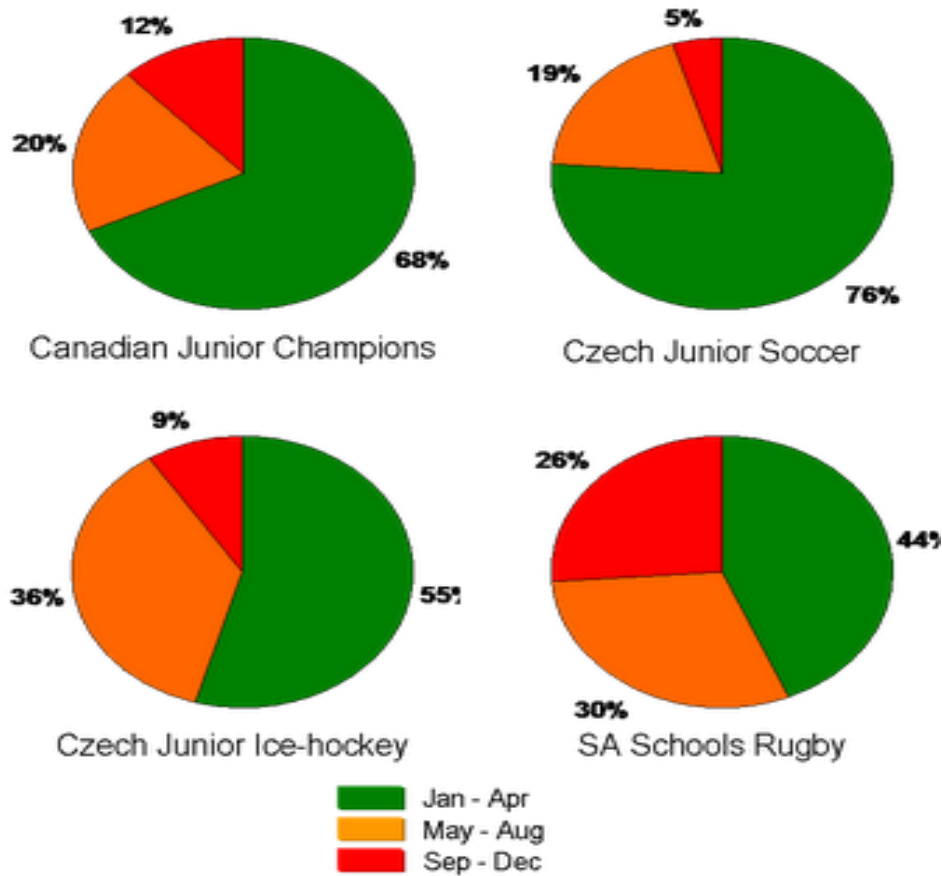
# Relative Age Effect

- The stage you are born in a competition year can have a major impact on early success and progress
- UK Competition Years U13 – U17 (Sept to August)
- Up to 11 months difference in one year alone
- Research undertaken throughout the world
- Not just physical and mental advantages, but also opportunities

*(See Outliers by Malcolm Gladwell)*



# Relative Age Effect



*By Ross Tucker and Jonathan Dugas*





# Stage of Maturation

- +/- 2 years difference in maturation through Puberty
- Rate of development differs for Physical, mental, social and emotional
- PHV can help understand the athletes stage of development
- Early developers have an initial advantage over late developers, **BUT....**



# Early and Late Maturation

## Early Developers:

### Advantages

- Physical advantage over peers
- Early success (ESAA, etc)
- Early Talent ID selection
- Access to higher coaching
- Success can come with little effort

### Issues (observed)

- Eventual stagnation in growth
- Peers catch up in physical growth
- Success is harder to achieve
- Potential lack of determination
- Developed a Fixed Mindset

## Late Developers:

### Advantages

- Focus on skill development
- Develop greater determination
- Do not rely on physical advantages but benefit from these at a later stage
- Develop a Growth Mindset

### Disadvantages / Potential Issues

- Lose out to early developers
  - Performance and selection
- Harder to achieve same success
- May drop out due to lack of opportunity
- May believe they haven't got what it takes

# Genetics

- Inherited from our parents
- Can have a significant effect on performance
- Do athletes have the right genetics to excel in a chosen event or sport?
- Do athletes have genetic limitations in a chosen event or sport?
- How and when can we determine whether an athlete has the right genetic potential to succeed?



“If early sports training does nothing more than speed a child along to a predetermined genetic limit, it would make sense to concentrate early training on elementary skills, strategies, training education and fun rather than subject the child to arduous workouts that might lead to injury and early burnout and withdrawal from sport.”

*Children's Exercise Physiology by Thomas W Rowland*



# Environment (Nurture)

## Opportunity

- Access to clubs / coaching
- Access to facilities and equipment
- Selection for teams and TID Programmes

## Support

- Family, Friends, school, etc
- Financial
- Emotional, social





# Types of Training

**May included (in order to get greater initial gains) :**

- Adult type training for underdeveloped body
  - Including advance S&C training
- Underdeveloped foundation skills
- Incorrect balance of Volume, Intensity & Recovery
- Aimed at short term gains and not LTD
- Undue pressure placed on athlete
- Measurements of success only measured by time or distance and not on execution of movement



# Types of Training

## Training Should:

- Be progressive and relevant for LTD
- Have the correct balance of Volume, Intensity & Recovery
- Focus on Age and Stage Appropriate Training
  - Children are not mini adults
- Be athlete focused rather than Group Delivered (where possible)
- Consider other commitments (avoid overload)

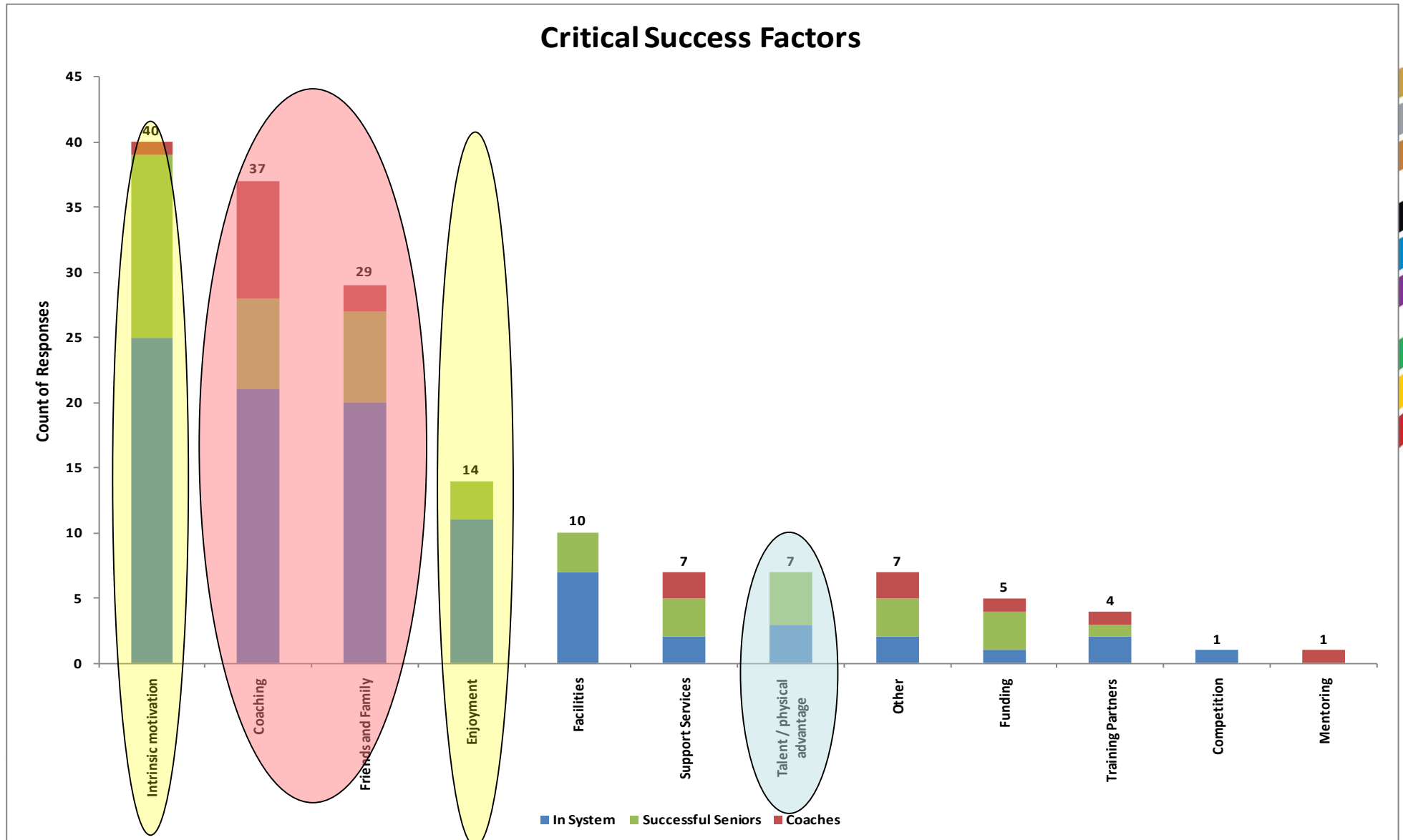


**Why do so many successful  
young athletes never achieve  
at senior level?**

**What is important to senior  
success?**



# Critical Success Factors



**“To win the game and lose the child is totally an unworthy sacrifice.”**

**Dr Terry Orlick, Dr Cal Botterill**

***Every Kid Can Win***



# Time to reflect

ATHLETICS 365



# Getting the Most from Your Athletes

- Some suggested models of Learning
- What is Deliberate Play and Deliberate Practice
- Practical Examples of Deliberate Play and Practice



# Some Suggested Models of Learning

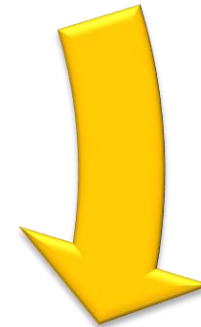
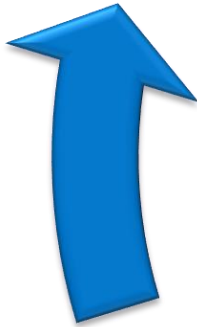


**New Skill /  
Task**

Athlete 4.  
**Unconscious  
Competence**

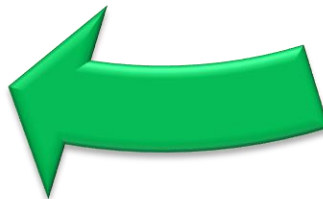
Athlete 1.  
**Unconscious  
Incompetence**

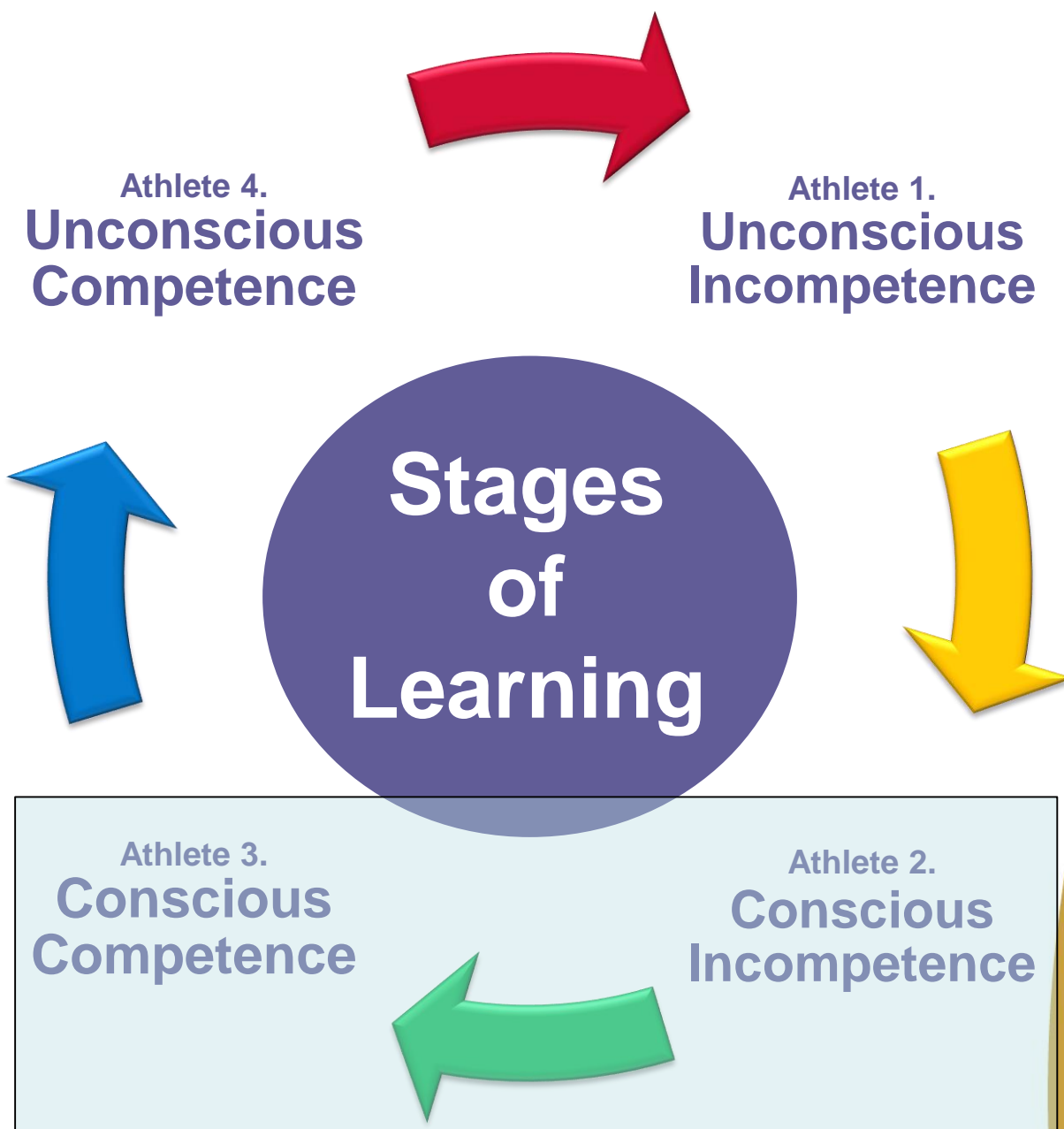
**Stages  
of  
Learning**



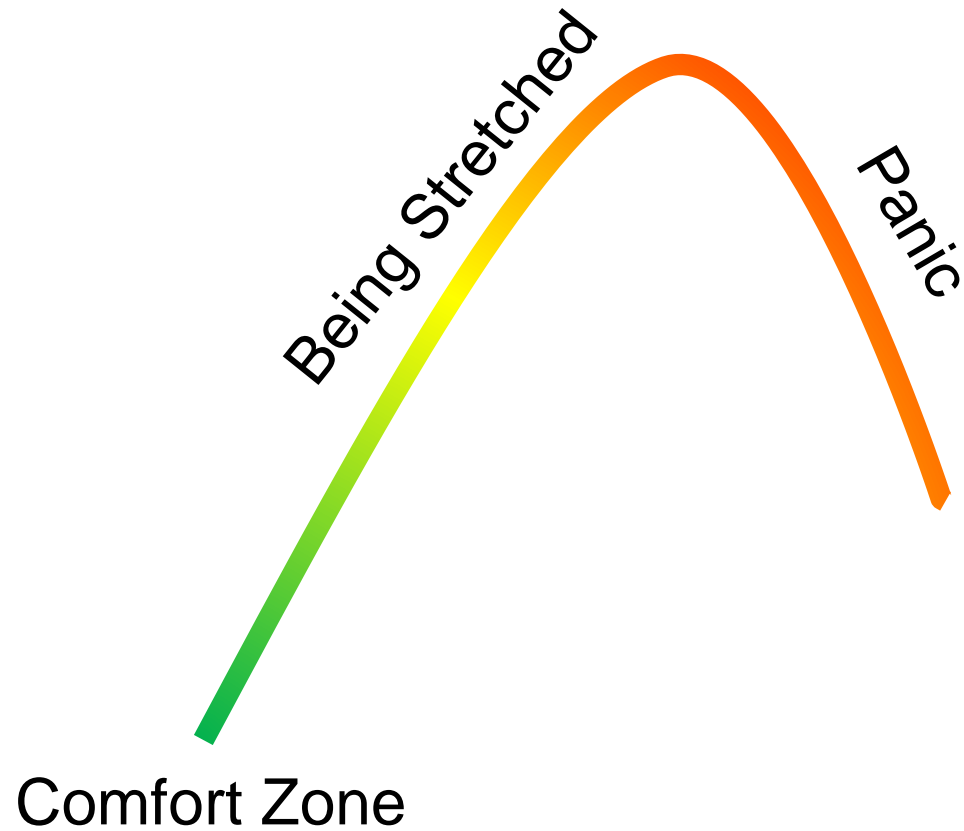
Athlete 3.  
**Conscious  
Competence**

Athlete 2.  
**Conscious  
Incompetence**





# Stretch Panic Arch





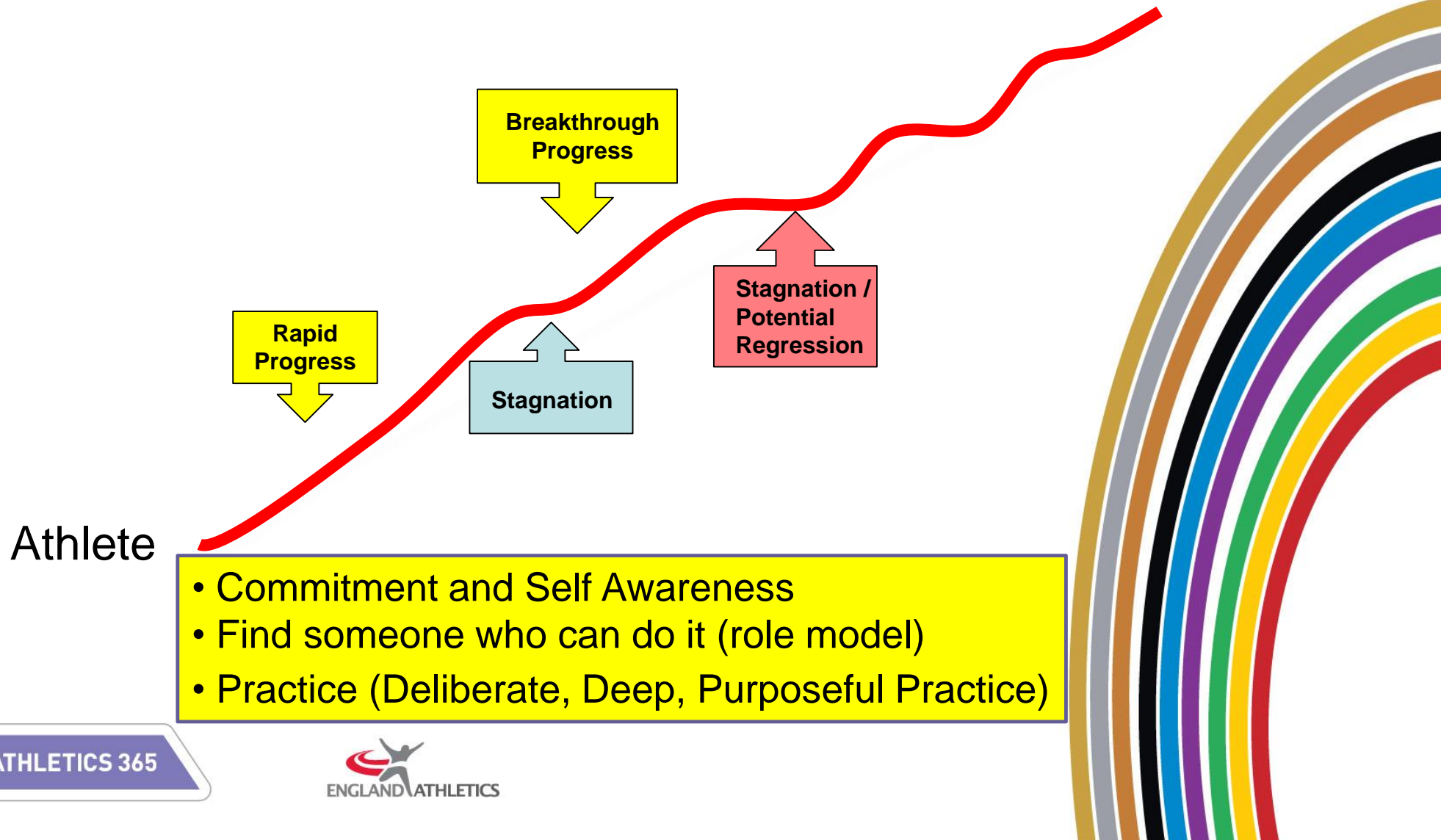
**When you praise skill, kids tend to react by protecting their status – they don't want to take risks that might harm their standing.**

**When you praise for effort, on the other hand, kids tend to react by taking on more challenging tasks, making mistakes and fixing them, spending time in the sweet spot where skill is truly acquired.**

**Carol Dweck Author of Mindset**



# Learning Stagnation/ Break Through



# So what is Deliberate / Deep Practice?



# Definition of Deliberate Practice

Deliberate practice: (Anders Ericsson's) is an effortful activity designed to improve individual target performance and it consists of the following four elements:

- 1) It's designed specifically to improve performance,
- 2) It is repeated a lot,
- 3) Feedback on results is continuously available,
- 4) It's highly demanding mentally, and not necessarily particularly enjoyable because it means you are focusing on improving areas in your performance that are not satisfactory. Thus, it **stretches** you.

*Doing What Works – Blog by Coert Visser*

# Definition of Deliberate Practice

- If you'll be able to do deliberate practice, you'll benefit by becoming better, especially if you'll be able to keep it up for extremely long periods of time.
- Top performance in a wide array of fields is always based on an extreme amount of deliberate practice.
- Researchers estimate that a minimum of 10,000 hours is required.
- Also, to remain at the top, prolonged deliberate practice is required.
- An interesting thing about deliberate practice is that its effect is cumulative.
- So, if you have started at an early age, this will lead to an advantage over someone who started later.

# Definition of Deep Practice

Deep practice (as suggested by Dan Coyle) is a way of attentive practicing which closely resembles deliberate practice (Anders Ericsson).

- A **first step** in deep practice is to look at the task at a whole. One way of doing this is to observe an experienced performer.
- A **second step** is to divide it into its smallest possible chunks (components) and practice and memorize these separately. Then, link them together in progressively larger groupings.
- A **third step** is to play with time, first slowing the action down and then speeding it up. Slowing down helps you to attend more closely to errors, creating a higher degree of precision.

*Doing What Works – Blog by Coert Visser*



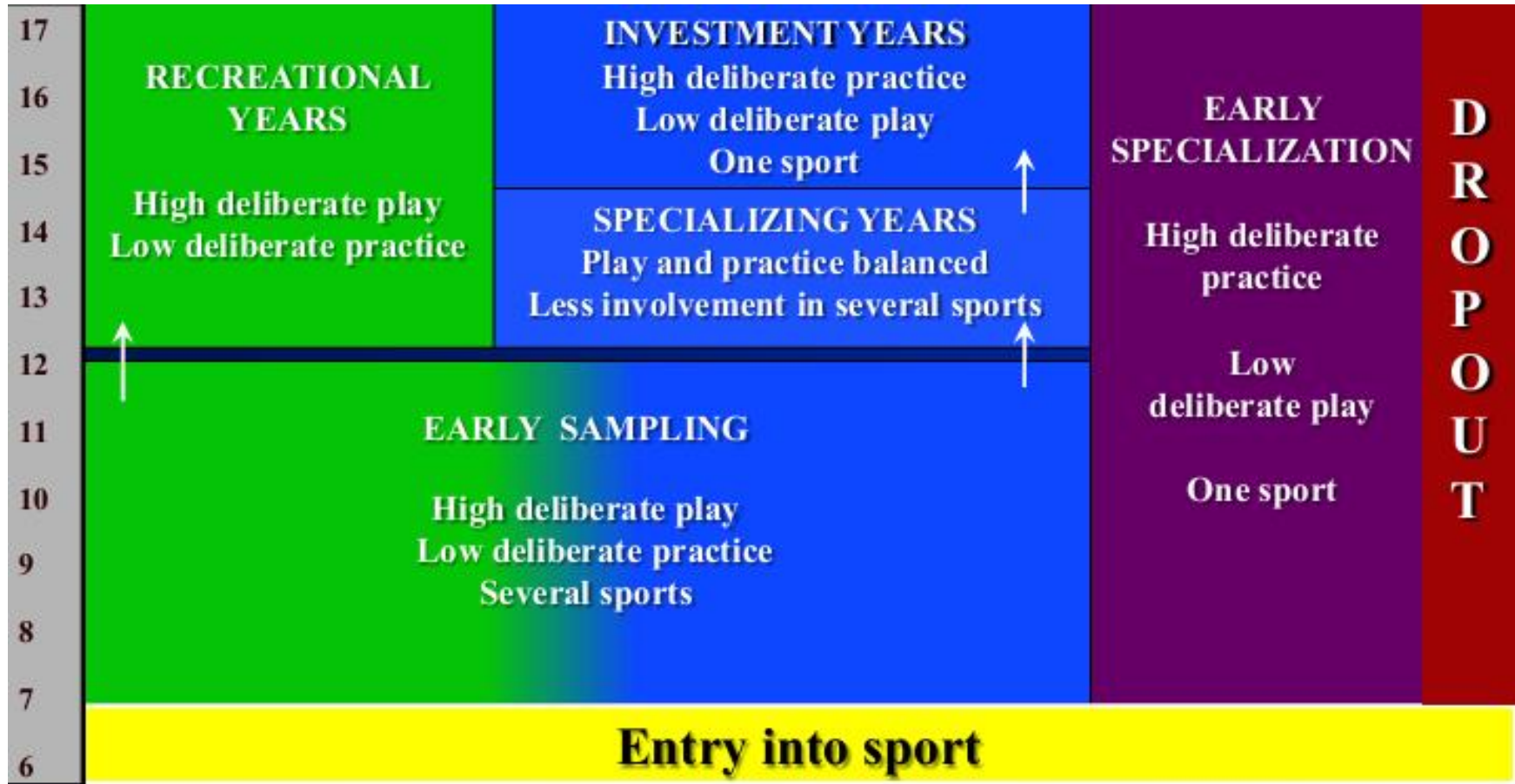
# Deep Practice

- To build and retain skill continued **deep practice** is required with an optimal time investment of between three and five hours a day.
- In deep practice you pick a specific target (a part of the task you want to master), then you reach for it, you evaluate the gap between the target and the reach and to start again.
- Detecting mistakes is essential for making progress.
- This error-focused element of deep practice makes it a struggle, a process of **stretching** which is likely to be slightly dissatisfying or frustrating but which leads to growth.

# When should we play games and when should we practice skills and drills?



# Deliberate Play



Côté, 1999; Côté, Baker, & Abernethy, 2007; Côté & Fraser-Thomas, 2007

# Deliberate Play vs Deliberate Practice

## Deliberate Play:

- Regulated by flexible age-adapted rules.
- Set up and monitored by children or an involved adult.
- Little intervention for skill instruction and feedback during the activity (i.e. maximize time on task).
- Requires minimal resources.
- Designed to maximize enjoyment.
- Promotes inclusion.
- Promotes diversity in movement and skill acquisition

(Côté, 1999; Côté, Baker, & Abernethy 2007)

## Deliberate Practice:

Effortful activity designed to improve individual target performance.

- It's designed specifically to improve performance,
- It is repeated a lot,
- Feedback on results is continuously available,
- It's highly demanding mentally, and not necessarily particularly enjoyable because it means you are focusing on improving areas in your performance that are not satisfactory. Thus, it stretches you.

# Practical Examples

- **Deliberate Practice in Action**
  - Tennis Ball throw
  - Broomstick walking progressions
  - Running Drills
  - Whole Part Whole or Chain coaching of Triple Jump and Shot Put
- **Deliberate Play / Guided Discovery**
  - Kabbadi – Team work and problem solving
  - Scout Ball – RJT movements
  - Dragons Treasure – Reaction, Agility, Acceleration
  - Domes and Dishes Agility, etc.
  - Push Pass – Throws
  - Cross the river – Jumping combinations



## For Athletes

Its not just What you practice and How often.

Its How you practice and for what purpose.

## For Coaches

Its not just What we coach and How often.

Its How we coach and the environment we create

**Get more from your athletes by helping them get more from themselves**

