

**ALT\_1**

**Exploring sport coaching and psychology**

**About this free course**

This free course provides a sample of level 1 study in Health and wellbeing

[www.open.ac.uk/courses/find/health-and-wellbeing](http://www.open.ac.uk/courses/find/health-and-wellbeing?LKCAMPAIGN=ebook_&amp;MEDIA=ou)

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You can experience this free course as it was originally designed on OpenLearn, the home of free learning from The Open University:

[www.open.edu/openlearn/health-sports-psychology/exploring-sport-coaching-and-psychology/content-section-overview](http://www.open.edu/openlearn/health-sports-psychology/exploring-sport-coaching-and-psychology/content-section-overview?LKCAMPAIGN=ebook_&amp;MEDIA=ol).

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**Introduction and guidance**

## Introduction and guidance

This free badged course, Exploring sport coaching and psychology, lasts 24 hours, with 8 ‘sessions’. You can work through the course at your own pace, so if you have more time one week there is no problem with pushing on to complete a further study session. The eight sessions are linked to ensure a logical flow through the course. They are:

1. Exploring sporting success
2. Coaching children: enhancing fun and friendships
3. Guiding teenagers towards success and life
4. Comparing international level coaches
5. Mindset and attitudes towards sport and learning
6. Psychological skills for life and sport
7. A fresh look at coaching
8. The future of coaching: technological influences

This course will develop your confidence and skills for online study, whether this is to explore sport topics or part of your preparation for other study.

You’ll start by thinking about your own beliefs about success in sport or fitness and develop your understanding of how coaching and psychology contribute to that success. You’ll identify some key coaching decisions that are made with children, leading on towards exploring some principles useful in guiding teenagers and then some of the practices of adult coaches working with international teams. These coaching insights are then combined with exploring the main psychological aspects of sport which often apply to life in general (e.g. handling pressure). You’ll conclude by thinking about what the future might hold in coaching and exercise. All these aspects will be explained, so don’t worry if they seem unfamiliar at the moment. There are vivid video and audio case study examples to help with this and you’ll get plenty of opportunities to demonstrate your new understanding and practise your study skills.

Part of this practice will be the interactive quizzes, of which Sessions 4 and 8 will provide you with an opportunity to earn a badge to demonstrate your new skills. You can read more on how to study the course and about badges in the next sections.

After completing this course, you will be able to:

* outline the influences of, and links between, sport coaching and psychology for those developing their abilities in sport
* describe different aspects of effective coaching and the way in which a coach may influence young people and adults
* compare the psychological characteristics used in sporting careers to those you might need to shape your own future
* reflect on your own sport or fitness behaviours, beliefs and practices and identify useful next steps for further development
* understand and be confident in your ability to study online.

## Moving around the course

In the ‘Summary’ at the end of each session, you will find a link to the next session. If at any time you want to return to the start of the course, click on ‘Full course description’. From here you can navigate to any part of the course.

It’s also good practice, if you access a link from within a course page (including links to the quizzes), to open it in a new window or tab. That way you can easily return to where you’ve come from without having to use the back button on your browser.

## What is a badged course?

While studying Exploring sport coaching and psychology you have the option to work towards gaining a digital badge.

Badged courses are a key part of The Open University’s mission to promote the educational wellbeing of the community. The courses also provide another way of helping you to progress from informal to formal learning.

Completing a course will require about 24 hours of study time. However, you can study the course at any time and at a pace to suit you.

Badged courses are available on The Open University’s [OpenLearn](http://www.open.edu/openlearn/about-openlearn/try) website and do not cost anything to study. They differ from Open University courses because you do not receive support from a tutor, but you do get useful feedback from the interactive quizzes.

### What is a badge?

Digital badges are a new way of demonstrating online that you have gained a skill. Colleges and universities are working with employers and other organisations to develop open badges that help learners gain recognition for their skills, and support employers to identify the right candidate for a job.

Badges demonstrate your work and achievement on the course. You can share your achievement with friends, family and employers, and on social media. Badges are a great motivation, helping you to reach the end of the course. Gaining a badge often boosts confidence in the skills and abilities that underpin successful study. So, completing this course could encourage you to think about taking other courses.

Start of Figure



End of Figure

## How to get a badge

Getting a badge is straightforward! Here’s what you have to do:

* read each session of the course
* score 50% or more in the two badge quizzes in Session 4 and Session 8.

For all the quizzes, you can have three attempts at most of the questions (for true or false type questions you usually only get one attempt). If you get the answer right first time you will get more marks than for a correct answer the second or third time. Therefore, please be aware that for the two badge quizzes it is possible to get all the questions right but not score 50% and be eligible for the badge on that attempt. If one of your answers is incorrect you will often receive helpful feedback and suggestions about how to work out the correct answer.

For the badge quizzes, if you’re not successful in getting 50% the first time, after 24 hours you can attempt the whole quiz, and come back as many times as you like.

We hope that as many people as possible will gain an Open University badge – so you should see getting a badge as an opportunity to reflect on what you have learned rather than as a test.

If you need more guidance on getting a badge and what you can do with it, take a look at the [OpenLearn FAQs](http://www.open.edu/openlearn/about-openlearn/frequently-asked-questions-on-openlearn). When you gain your badge you will receive an email to notify you and you will be able to view and manage all your badges in [My OpenLearn](http://www.open.edu/openlearn/my-openlearn) within 24 hours of completing the criteria to gain a badge.

Get started with [Session 1](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%201:%20Exploring%20sporting%20success).

## Conclusion

**Session 1: Exploring sporting success**

## Introduction

Your starting point for this course is to look more closely at the range of factors that contribute to sporting success. By exploring the big picture, you will be able to see how coaching and psychology lie at the centre of understanding, taking part in and succeeding in sport.

First, watch the following video featuring Team GB hockey player Alex Danson.

Start of Media Content

Video content is not available in this format.

Introduction to Session 1

[View transcript - Introduction to Session 1](" \l "Unit2Transcript1)

End of Media Content

In this session you will read about sporting success and see different people talking about it. You will then be guided through a visual diagram that summarises some of the factors that researchers consider to be the most important influences. You will also consider the part played by coaching and psychology using exciting video footage from two contrasting sports that bring these ideas into sharp focus.

By the end of this session, you should be able to:

* consider how a range of components contribute to sporting success
* identify how coaching and psychology link and interact with a number of these components
* recognise how understanding mental aspects of sport contributes to coaching.

The Open University would really appreciate you taking a few minutes of your time to tell us about yourself and your expectations of the course. Your input will help to improve the online learning experience. If you would like to help, and if you haven’t done so already, please fill in this [optional survey](https://www.surveymonkey.co.uk/r/BOC_Sport_Coaching_Start).

The course is supported and strongly recommended by UK Coaching. Whether you’re just starting out or have been coaching for many years you will learn new skills and demonstrate that you have been proctive in your professional development.

Start of Figure

UK Coaching logo

[View alternative description - Uncaptioned Figure](" \l "Unit2Alternative1)

End of Figure

## 1 Sporting success

Are some people born with a genetic predisposition to thrive at particular sports or types of exercise (e.g. power, strength or endurance)? This is one of the most common questions asked in sport, and we often describe someone as ‘being a natural’ at sport, which is synonymous with being born with the right genes. For example, here is an extract from the autobiography of Spanish tennis player Rafa Nadal, writing about Roger Federer:

Start of Quote

He just seems to have been born to play the game. His physique – his DNA – seems perfectly adapted to tennis … You get these blessed freaks of nature in other sports too.

(Nadal and Carlin, 2011, p. 13)

End of Quote

There is a tendency for some to gravitate towards ‘nature’ (i.e. fixed, born or genetic) as an explanation of champions’ successes because physical attributes are tangible. However, some people think that sporting success is more about ‘nurture’, or the way they have been developed by coaching and their environment (i.e. champions can be made). What do you think?

## 2 Your beliefs about sporting ability

You will start this course by considering your own beliefs about the nature of sporting ability.

Start of Activity

**Activity 1 Your beliefs about sporting ability**

Allow about 10 minutes

Start of Question

Answer the following two questions about nature and nurture in the sport you are most interested in and in sport as a whole. The questions use a 5-point scale, where 1 corresponds to ‘strongly nature’, while 5 corresponds to ‘strongly nurture’. By responding to these questions, you can begin to understand your own beliefs about sporting ability.

For each question, choose between the following options:

1. Strongly nature
2. Slightly more nature than nurture
3. A 50:50 equal mix of both
4. Slightly more nurture than nature
5. Strongly nurture

Type in the relevant number from the scale after the question.

End of Question

*1. What do you believe is the influence of nature and nurture in the sport that you are most interested in? 2. What do you believe is the influence of nature and nurture in all sports?*

[View discussion - Activity 1 Your beliefs about sporting ability](" \l "Unit2_Session2_Discussion1)

End of Activity

The next section investigates a more complex range of possibilities for explaining sporting success.

## 3 The anatomy of a world record

The evening sunshine of Gothenburg, Sweden, in August 1995, was the setting in which British athlete, Jonathan Edwards, broke the world record in the triple jump. The record still stands at the time of writing (February 2017). In the next activity, you’ll get some insight into Jonathan’s circumstances in the build-up to his world record that night, which will help you explore sporting success further.

Start of Activity

**Activity 2 A giant leap for mankind?**

Allow about 20 minutes

Start of Question

Read the short article [The other giant leap for mankind: how this athlete set a world record that’s still standing 20 years later](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=The%20other%20giant%20leap%20for%20mankind:%20how%20this%20athlete%20set%20a%20world%20record%20that's%20still%20standing%2020%20years%20later). Identify the components of Jonathan Edwards’ success. Note down 6–10 words or phrases from the article that suggest these components. Can you group any of them together into different categories e.g. those related to physical or other categories?

End of Question

[View discussion - Activity 2 A giant leap for mankind?](" \l "Unit2_Session3_Discussion1)

End of Activity

The ‘facile nature–nurture debate’ was mentioned at the end of the piece. This alludes to nature–nurture being an oversimplification of a complex topic. Richard Dawkins calls this ‘the dichotomous mind’ – the human tendency to divide up complex ideas into simple either–or positions. Both personality and diet are often presented in this manner, as introvert against extrovert and low-fat diets against high-fat diets, respectively. This reduction of complex arguments also makes it easier for the media to present to a mass audience. In reality, things are never that clear cut, with a range of aspects interacting, especially in sport, coaching and psychology.

Next, you will hear from some sporting champions.

## 4 Champions talk

In this activity you will hear from champions about what they think has made themselves successful.

Start of Activity

**Activity 3 What makes champions successful?**

Allow about 15 minutes

Start of Question

Watch the following video and try to identify its main messages. You may find it helpful to listen for the two most commonly used words.

Start of Media Content

Video content is not available in this format.

Champions talk: what makes a champion?

[View transcript - Champions talk: what makes a champion?](" \l "Unit2_Session4_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 3 What makes champions successful?](" \l "Unit2_Session4_Discussion1)

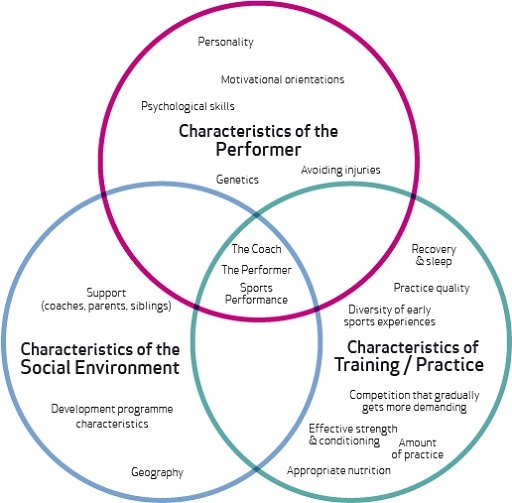
End of Activity

## 5 Coaching and psychology in sports performance

It appears that psychology as the study of the mind and behaviour is extremely relevant to understanding sporting performance; but how does it link to a range of other factors, including the work of a coach?

In Figure 2, which draws on extensive research from Collins et al. (2016) and Rees et al. (2016), a range of factors that contribute to sporting success are grouped under three headings: the performer, the overall social environment, and training and practice. There is a lot of overlap between each category indicating the links between them. For example, to avoid injuries (the performer), you would consider the type of training being done (training and practice) and the availability of coach/family support (the social environment). This type of diagram is known as a Venn diagram.

Start of Figure



**Figure 2** A range of factors that contribute to sporting success.

[View description - Figure 2 A range of factors that contribute to sporting success.](" \l "Unit2_Session5_Description1)

[View alternative description - Figure 2 A range of factors that contribute to sporting success.](" \l "Unit2_Session5_Alternative1)

End of Figure

The prominence of coaching in Figure 2 is evident, since a coach guides most of what falls under the **training and practice** heading. Coaches also influence:

* athletes’ recovery, conditioning, nutrition and competition entries
* athletes’ **social environments**, by being one of the people who provide support
* athletes in becoming more aware of their motivation and psychological skills.

You may have wondered what is meant by ‘personality’ and ‘motivational orientations’ under the performer category. ‘Personality’ refers to the characteristics that form an individual’s distinctive character, while ‘motivational orientations’ refers to the tendency to be driven to act in certain ways.

Now take a look at what Alex Danson says about this figure.

Start of Box

**Alex says …**

There were a huge number of factors that contributed to the success of the GB women’s team in Rio. One of the key influences was our coaching team and creating a social environment (culture) that promoted behaviours that drove and improved performance. Danny Kerry forged a team of support staff that had our wellbeing and performance at the front of their minds. We worked closely with a nutritionist, sports psychologist, and a strength and conditioning coach to support our development.

We created a clear vision: ‘Be the Difference’, ‘Create History’ and ‘Inspire the Future’ and a set of values: ‘We are One Team’, ‘We are Winners’ and ‘Be Alive’. We brought these to life in our everyday behaviours, linking a lot of our language to specific training sessions. For example, on Thursdays we created a session called ‘Thinking Thursday’, which was a highly competitive inter-squad tournament with the sole outcome of finding a way to win and creating an environment where ‘We are Winners’. We would have to perform under fatigue, with changing rules, and come up with a plan that would give our teams the best chance of success. In this example, Danny (the coach) created the environment that put us under pressure and ensured that this training was highly competitive. Creating this environment meant we were able to transfer some of the winning characteristics needed when we reached our Olympic Final in Rio.

End of Box

Figure 2 is a visual tool to illustrate how a range of factors contribute to explaining sporting success. You could easily add further factors but, as you can see, it has been kept relatively simple at this stage.

## 6 What conversations do coaches and psychologists have?

In the two activities that follow, you are placed into two very different sporting environments to consider the types of topics coaches and psychologists might discuss.

Start of Activity

**Activity 4 Injury rehab in rugby: keeping it personal**

Allow about 15 minutes

Start of Question

Watch the following video, which shows two coaches, a sport scientist and a head of medical, outline the technology used with injured players at Saracens, a championship-winning rugby club.

Start of Media Content

Video content is not available in this format.

Injury rehab in rugby: keeping it personal with devices and data

[View transcript - Injury rehab in rugby: keeping it personal with devices and data](" \l "Unit2_Session6_Transcript1)

End of Media Content

How does technology support the rehabilitation of injuries and what injury-related topics might the coaches and psychologist discuss off-screen?

End of Question

[View discussion - Activity 4 Injury rehab in rugby: keeping it personal](" \l "Unit2_Session6_Discussion1)

End of Activity

In this next sporting environment, technology is used to identify and develop talent.

Start of Activity

**Activity 5 2020 vision: exploring talent development for Tokyo**

Allow 10 minutes

Start of Question

Watch the video [Are these future gold medallists?](http://www.bbc.co.uk/sport/get-inspired/29383843). It features the four-phase Girls4Gold talent identification programme for canoeing, which is aiming to develop female athletes for the Tokyo 2020 Olympic Games. As you watch the video consider:

1. how coaches, using their knowledge of psychology, designed an environment that was mentally and physically **challenging**
2. what those leading the programme were looking for in the athletes.

End of Question

[View discussion - Activity 5 2020 vision: exploring talent development for Tokyo](" \l "Unit2_Session6_Discussion2)

End of Activity

Alex describes her experiences with regards to the previous activity in the box below.

Start of Box

**Alex says …**

Five months before the Olympic Games, I dislocated my thumb, rupturing my ulnar collateral ligament. This required surgery and a 12–16 week rehab period. At the time, my initial thoughts were negative, full of worry and my mind was telling me that I would not make it back in time for Rio. Very quickly, with the support of our sports psychologist, Andrea Furst, and coach, Danny Kerry, I had set myself some challenging goals that would maintain my focus and put me in the best physical shape to aid my return. Working closely with our strength and conditioning coach, Tom Drowley, on a daily programme, I was able to continue with many areas of my physical development.

I completed a monitoring form every morning that Danny, Andrea and Tom could all access, which presented my physical condition, tiredness, wellbeing, motivation and all the training I undertook. This joined-up approach of coaching meant I was well supported and the coaches at all times knew about my training load and my wellbeing. The collection of data and monitoring, as well as good communication between all coaches, was paramount to my rehabilitation. It ensured I still felt part of the team, was supported, made progress and returned on schedule.

End of Box

You can begin to see that coaching and psychology **interact** when challenge is appropriately applied with individual goal setting. Coaches and teachers can support rich learning environments with good coach/teacher–athlete/pupil relationships.

## 7 This session’s quiz

Check what you’ve learned this session by taking the end-of-session quiz.

[Session 1 practice quiz](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%201%20practice%20quiz)

Open the quiz in a new window or tab then come back here when you’ve finished.

## 8 Summary

The main learning points of this first session are:

* Sporting success can only be explained as a complex interaction between a range of components, which some writers have grouped under the three categories of the performer, the social environment and training/practice.
* Coaching and psychology link and interact with a number of these components. The examples of injury rehabilitation (Saracens rugby club) and the design of learning environments (Tokyo 2020 canoeists) begin to show some of the potential interaction between coaching and psychology.
* Coaching can be enhanced by exploring psychological aspects of sport: two main examples emerged in this session:
  + Psychology can help develop understanding of how different individuals are motivated.
  + Coaching for better performance can be partly viewed as a balance between appropriate challenge and support.

In the next session, you will explore how fun, friendships and the number of sports you played as a youngster all have an impact on your experiences of sport and likelihood of continuing. However, we all have different interpretations of what ‘fun’ means in sport, which is why children’s sport is so fascinating.

You can now go to [Session 2](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%202:%20Coaching%20children:%20enhancing%20fun%20and%20friendships).

**Session 2: Coaching children: enhancing fun and friendships**

## Introduction

Do you remember learning to ride a bicycle and the thrill and enthusiasm that followed when you could? In this session you will consider how to harness and sustain that fun and excitement about learning something new. Your focus here is on children, roughly from 5 to 12 years old, since it is at this age that many lifelong habits and motivations are formed. Your exploration of guiding teenagers and the coaching of adults will follow on from this.

You will start by hearing from Michael Johnson and others talking about childhood sporting experiences and then move on to look at some young figure skaters. Children mainly play sport for two reasons: fun and friendship. You will explore this by looking at the inspirational work of a grassroots tennis coach and consider how this also applies to a team sport (football). Finally, you have the chance to have some childlike fun yourself by playing an online game called Medal Quest.

By the end of this session, you should be able to:

* understand the risks of early specialisation in one sport during childhood and the benefits of pursuing a diversity of sports
* identify how different people and researchers explain ‘fun’ in sport and the coaching implications of this
* recognise how an understanding of children’s motivations and encouraging their sense of control over their sporting world is a healthy way of approaching coaching children.

## 1 One sport or many?

One of the dilemmas that parents, coaches and young people face is whether children should focus on one sport and attempt to excel at it or spread their sporting interest across many diverse sports. This is sometimes called the ‘specialisation or sampling’ debate. It is a common question in children’s sport.

Start of Activity

**Activity 1 Michael Johnson on early specialisation**

Allow about 15 minutes

Start of Question

Watch the following video with Michael Johnson (multiple Olympic gold medallist in 200 m and 400 m sprints, and former world record holder), where he discusses early childhood specialisation with the author David Epstein and others. The evidence falls strongly in support of the diverse sampling of a range of sports over early specialisation. What arguments from this video might you use if you were talking to a 12 year old or their parent or coach against specialising? Write down some of the key phrases used to help remind you of the main arguments.

Start of Media Content

Video content is not available in this format.

Michael Johnson on early specialisation

[View transcript - Michael Johnson on early specialisation](" \l "Unit3_Session1_Transcript1)

End of Media Content

End of Question

*Provide your answer...*

[View discussion - Activity 1 Michael Johnson on early specialisation](" \l "Unit3_Session1_Discussion1)

End of Activity

Those working in sports such as professional football, gymnastics, figure skating and maybe even tennis and golf would have mixed opinions on specialisation versus sampling. In the next section you get a taste of such views.

## 2 The making of an ice princess

In women’s figure skating and artistic gymnastics, teenagers often succeed early because the current scoring systems put performers with small and flexible bodies at a significant advantage. Different rules and scoring systems result in different types of bodies. Compare, for example, the significantly different physiques of Olympic artistic gymnasts (short and powerful) and rhythmic gymnasts (taller and more slender). At the Rio 2016 Olympic Games, 16-year-old artistic gymnast Amy Tinkler was Great Britain’s youngest medallist. She is only 1.46 m (4 feet 10 inches) tall. Sporting success can, in some cases, be achieved before puberty.

In 2016, the BBC followed young child athletes Lily, 11, and Genevieve, 12, and their families as the young athletes pursued their dreams of becoming ‘ice princesses’ in competitive figure skating.

Start of Activity

**Activity 2 Children, coaching and choices**

Allow about 15 minutes

Start of Question

Watch the following video featuring Lily and Genevieve. Look for the way Lily and Genevieve interact with their family and coach. How do the girls speak and react to those around them? It is thought that these interactions influence aspects of motivation.

Start of Media Content

Video content is not available in this format.

The making of an ice princess

[View transcript - The making of an ice princess](" \l "Unit3_Session2_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 2 Children, coaching and choices](" \l "Unit3_Session2_Discussion1)

End of Activity

A video of children training intensely gives us an opportunity to reflect on the purpose and outcomes of children’s sport. Research suggests that a balanced life in sport, education and with peers/family is ideal.

You can perhaps understand why there are minimum age limits for senior international competitions in figure skating (15 years) and gymnastics (16 years).

## 3 What does excellent child coaching look like?

Whatever the situation, whether at grassroots or elite sporting levels, if you are interested in sport, it is worthwhile knowing what excellent childhood coaching looks like.

Start of Activity

**Activity 3 The magic of a holistic tennis coach**

Allow about 25 minutes

Start of Question

Justin Cahill is a qualified Physical Education teacher from the USA with over two decades of experience. Read his blog post [10 keys to unlock your coaching potential](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=10%20keys%20to%20unlock%20your%20coaching%20potential), based on watching a tennis coach (Coach Z) in action with his own children. What does Coach Z do that warrants him being described as ‘inspiring’ and ‘special’ by Cahill?

End of Question

[View discussion - Activity 3 The magic of a holistic tennis coach](" \l "Unit3_Session3_Discussion1)

End of Activity

The question of how this approach might also be applied to other sport is interesting. How can coaching young people for success avoid becoming too serious and maintain their youthful enthusiasm?

## 4 Maintaining enthusiasm in a professional sport

Think of young people training towards some professional team sports, especially football, tennis and golf. Organisations and clubs often attempt to identify promising young players before puberty: an almost impossible task to get right (Bailey, 2015). This can result in children sometimes undertaking formal coaching starting at 8–12 years old. In football, this happens across all English Premier League (EPL) clubs, as there is often a perceived parental prestige from a child being recruited to an EPL academy. Notice how adult ego might interrupt childhood enthusiasm.

Start of Activity

**Activity 4 Football academies main focus**

Allow about 15 minutes

Start of Question

Listen to this clip from a telephone interview with Ged Roddy (Director of Youth, EPL). What are his two main points about maintaining youthful enthusiasm in the training of children in football?

Start of Media Content

Audio content is not available in this format.

Kick off: science of high performance special

[View transcript - Kick off: science of high performance special](" \l "Unit3_Session4_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 4 Football academies main focus](" \l "Unit3_Session4_Discussion1)

End of Activity

You probably know intuitively that enjoyment of sport and training is key to motivation but, apart from the inspiring tennis coach you read about earlier, you have yet to clearly see how fun and enjoyment is created in children’s sport.

## 5 What does ‘fun’ mean in children’s sport?

Various people other than Coach Z have tried to answer the above question – often by talking to children about their experiences. Nick Levett, from the English Football Association, has carried out detailed research asking 10-year-olds around England why they play football. One of his tasks was to ask children to make choices between 16 statements. See if you can identify the top six from his survey.

Start of Activity

**Activity 5 What would 10-year-old children choose?**

Allow about 10 minutes

Start of Question

The 16 statements that Nick Levett used are stated below. Identify what you think are the top six reasons that children chose as the most important things for them about why they play football and select the checkboxes for those reasons below.

End of Question

I like playing matches against other teams

I love scoring or stopping goals

I like to show off my skills

I love playing football because it’s fun

It’s a really good game and I love it

I like skilling people

It’s important to me I win the league

Trying my hardest is more important than winning

I like learning new skills

I like playing football with my friends

I play because it makes my parents happy

It’s important to me I try to win matches

It’s important to me I win trophies and medals

It helps keep me fit and healthy

Winning is more important than trying my hardest

I like meeting new friends through football

[View answer - Activity 5 What would 10-year-old children choose?](" \l "Unit3_Session5_Interaction1)

[View discussion - Activity 5 What would 10-year-old children choose?](" \l "Unit3_Session5_Discussion1)

End of Activity

If you want to read Levett’s excellent article on how he did this research and what it tells us, you can read it on his blog: [Children and some reasons behind ‘Play’](http://riversofthinking.com/children-and-some-reasons-behind-play-part-1).

Research shows that children’s motivation to play sport is significantly influenced by their age. Younger children tend to be mainly interested in the hedonistic, or pleasurable, aspects of moving and playing. As you have seen, older children place more importance on learning new skills and being with their friends. So, all the children talk about **fun and enjoyment** as important reasons for playing sport, but evidence suggests that they probably mean quite different things by those simple words (Bailey, 2017).

This advice is increasingly being passed on to coaches. Watch this video from UK Coaching to see this in action.

Start of Media Content

Video content is not available in this format.

UK Coaching animation

[View transcript - UK Coaching animation](" \l "Unit3_Session5_Transcript1)

End of Media Content

## 6 Play the ‘Medal Quest’ online game

Here you can play Medal Quest, an online game developed by The Open University. It presents ten mentoring dilemmas between ages 10 and 20 relating to guiding either a gymnast (Kade), a swimmer (Ivy), a footballer (Zoe) or a Paralympic runner (Andrew).

Open the game by clicking on the thumbnail below or clicking on ‘View’. Open it in a new browser or window.

Start of Media Content

Interactive content is not available in this format.

End of Media Content

You have already explored specialisation and enjoyment, so you should feel comfortable with the first few questions. The game then moves onto other areas which you will need to use your own judgement for. These areas will be covered in later sessions.

You will see the impact of each decision in the measures of ‘Early success’ (i.e. U17), ‘Chance of injury’, ‘Long-term prospects’ and ‘Motivation’. Depending on the thresholds reached, a player either reaches a championship final between the ages of 16 and 20, or has to retire early from the sport, with a few different outcomes in between.

By playing this game you will reinforce your understanding that coaching should be stimulating and fun and your understanding of the fine balance between challenge, to stimulate improvement, and being appropriately supported. You will have an opportunity to return to the game later in the course, by which time you will have explored some of the game’s other underlying principles.

## 7 This session’s quiz

Check what you’ve learned this week by taking the end-of-session quiz.

[Session 2 practice quiz](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%202%20practice%20quiz)

Open the quiz in a new window or tab then come back here when you’ve finished.

## 8 Summary

The main learning points from this session are:

* The risks of early specialisation in one sport during childhood are:
  + that the enthusiasm and joy of sport can be lost
  + that the chances of injury or a loss of sustained engagement are heightened.
* The benefits of sampling a diverse range of sports are more likely to lead to a positive experience of sport.
* Fun and friendship are the two main reasons children do sport and the coaching implications of this are that holistic personal development of a child’s character (respect for societal rules, integrity and empathy for others), connection (positive bonds with people in sport), compassion and confidence should inform each session, as demonstrated by tennis Coach Z.
* Asking children what they enjoy about sport can give a valuable insight into their motivations; a consistent research finding is that encouraging their sense of control over their sporting world is healthy for their long-term development.

In the next session, you will be considering how coaches try to guide those who are slightly older (i.e. teenagers). You’ll be examining the implications of physical changes, the impact of different rates of growth and some intriguing recent insights into the mysterious workings of the adolescent brain.

You can now go to [Session 3](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%203:%20Guiding%20teenagers%20towards%20success%20and%20life).

**Session 3: Guiding teenagers towards success and life**

## Introduction

Do you remember your adolescence and some of the difficult issues you had to navigate (e.g. identity, motivation, failure, comparisons with others)? In this session, you will focus on principles that underpin coaching and guiding teenagers (aged 13–20 years old).

You start by considering the impacts of physical growth in these years, before moving on to consider mental development with the help of a psychologist who works in schools and on the sports pitch. You also hear perspectives and evidence from an influential former physical education (PE) teacher.

Watch the following video featuring Alex Danson.

Start of Media Content

Video content is not available in this format.

Introduction to Session 3

[View transcript - Introduction to Session 3](" \l "Unit4Transcript1)

End of Media Content

By the end of this session, you should be able to:

* recognise the influence of teenage growth and maturation on selection in sport
* consider how the teenage brain is evolving and how an understanding of this can help when working with teenagers
* identify how self-control, confidence and emotion are key topics for those working in sport, or with teenagers, to explore further
* describe the potential influence of role models on young people’s behaviour and aspirations.

## 1 How fast do teenagers grow?

We all know that teenagers grow quickly, but are there patterns to growth during the teenage years? Are there variations?

Working with teenagers is stimulating because they experience so many changes taking place. It is important to fully understand teenage growth **beyond** the well-known truism that girls mature faster than boys, since it has implications in terms of training, selection and potential for injury.

Start of Activity

**Activity 1 Investigating height and growth**

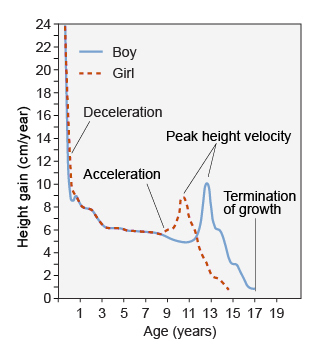
Allow about 15 minutes

Start of Question

In this activity, you are asked to interpret a graph. Look at the graph in Figure 1, which shows the typical height gain per year for boys and girls through childhood and adolescence. The vertical axis shows the height gain in centimetres per year, while the horizontal axis shows the age in years. So you can see that at aged five, the average number of centimetres gained in a year, for both boys and girls, is 5 cm.

1. What is the graph saying about the time of the teenage surge in growth?
2. The lines on the graph are very precise. How normal do you think this is?

Start of Figure



**Figure 1** Growth in height for boys/girls age 0–17 years

[View description - Figure 1 Growth in height for boys/girls age 0–17 years](" \l "Unit4_Session1_Description1)

[View alternative description - Figure 1 Growth in height for boys/girls age 0–17 years](" \l "Unit4_Session1_Alternative1)

End of Figure

End of Question

[View discussion - Activity 1 Investigating height and growth](" \l "Unit4_Session1_Discussion1)

End of Activity

You will know that often there are early or late developers who fall outside of the line in Figure 1. Add to this the potential impact of having an early (i.e. September) or late (i.e. August) birthday and enormous differences in size/power can be evident: often sporting ‘talent’ gets confused with physical development.

## 2 Why being born in May has its advantages

You may have heard of the influence of the date of birth on academic/sporting performance during the teenage years and beyond in certain sports. It is known as the relative age effect (RAE). The RAE refers to the developmental, practice time and physical advantages that an autumn birth date, immediately after the academic year cut-off (1 September), often confers.

However, Nick Levett, whose work you came across in Session 2, explains why he is pleased his son is born in May (late in the school year). He reasons, and this is backed up with research, that a relatively young player in their age cohort (i.e. a May birthday) gets some advantages:

* they have to be a better learner to survive against the older players
* they solve problems in different ways and come up with creative solutions as they don’t have a physical advantage to use
* they develop coping and adapting strategies that will serve them well in later years (Levett, 2012).

These are valuable skills that a relatively young player can develop. In the long term, these skills may outweigh any early physical dominance and, with determination, they can thrive (Levett, 2012).

Nick Levett published an article on his blog that [explains more about RAE](http://riversofthinking.com/why-im-pleased-my-son-is-born-in-may). A child born in May can develop the qualities he describes. However, this will only happen if they are retained within the sport and they have the grit to carry on, despite losing some physical battles with their bigger peers. If their May birthday means that they are repeatedly left out of teams or physically intimidated by relatively older children, then they will develop none of these qualities.

Detailed academic evidence from rugby and cricket academies also exists. If you want to see the abstract (a very brief summary of an in-depth analysis) of this research, you can view [Start hard, finish better: further evidence for the reversal of the RAE advantage](http://www.tandfonline.com/doi/abs/10.1080/02640414.2015.1119297?journalCode=rjsp20).

## 3 What about brain maturation?

Now you move from physical to brain development. Does the brain develop at a similar rate to the rest of the body?

Until the late 1990s, it was assumed that most brain development takes place early in life. Recently, with advances in brain imaging technology, such as magnetic resonance imaging (MRI), neuroscientists like Sarah-Jayne Blakemore have started to look inside the living human brain.

In a widely viewed online talk called [The mysterious workings of the adolescent brain](https://www.ted.com/talks/sarah_jayne_blakemore_the_mysterious_workings_of_the_adolescent_brain?language=en), Blakemore (2012) describes how the brain undergoes dramatic development into the early 20s. This is thought to correspond to connections between cells (synapses), in which those:

Start of Quote

… that are being used are strengthened … You can think of it a bit like pruning a rosebush. You prune away the weaker branches so that the remaining, important branches, can grow stronger, and this process, which effectively fine-tunes brain tissue… is happening … during adolescence.

(Blakemore, 2012)

End of Quote

The news that the brain continues to develop for a long time after the rest of the body is surprising, and psychologists are starting to understand the implications of this.

## 4 A psychologist’s experience of working with teenagers

Here you can see psychologist [Bradley Busch](http://www.innerdrive.co.uk/about-us/our-research-team/), who works with teenagers in schools and on the playing fields, talking about some of the implications of teenagers thinking differently to adults.

Start of Activity

**Activity 2 Bradley Busch explains his work in schools**

Allow about 10 minutes

Start of Question

Bradley Busch runs workshops in schools with teenagers where he discusses their developing brains in relation to decision-making and judgement. In this video, he is interviewed by The Open University’s Ben Oakley about the main talking points teenagers respond to in those workshops. What are the three main things that engage teenagers?

Start of Media Content

Video content is not available in this format.

Interview with Bradley Busch (Part 1)

[View transcript - Interview with Bradley Busch (Part 1)](" \l "Unit4_Session4_Transcript1)

End of Media Content

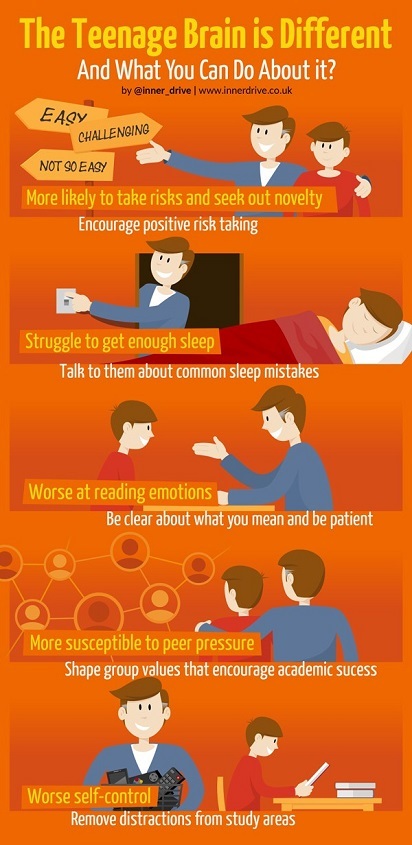
End of Question

[View discussion - Activity 2 Bradley Busch explains his work in schools](" \l "Unit4_Session4_Discussion1)

End of Activity

This interview could have covered a lot more ground but this infographic (Figure 2) summarises Bradley Busch’s ideas on what coaches/teachers can do when they know how the teenage brain is different. Examine each of these five recommendations.

Start of Figure



**Figure 2** Teenage brain is different infographic.

[View description - Figure 2 Teenage brain is different infographic.](" \l "Unit4_Session4_Description1)

[View alternative description - Figure 2 Teenage brain is different infographic.](" \l "Unit4_Session4_Alternative1)

End of Figure

If you want to find out more, read his 2015 Guardian newspaper article: [Secrets of the teenage brain: a psychologist’s guide for teachers](https://www.theguardian.com/teacher-network/2015/dec/09/teenage-brain-psychologist-guide-teachers-classroom). You will see Bradley Busch again shortly, as you hear his thoughts on confidence and emotions.

## 5 Confidence and emotions in teenagers

As you have seen, teenagers often compare themselves to their peers and their identity is often uncertain and evolving. Listen to this example of teenager Rachel, her younger brother Oliver and their mother talking about the ups and downs of teenage life when you start secondary school.

Start of Media Content

Audio content is not available in this format.

In secondary school we have a lot more responsibility

[View transcript - In secondary school we have a lot more responsibility](" \l "Unit4_Session5_Transcript1)

End of Media Content

This family talked about drawing on determination, humour and confidence in coping with the ups and downs in education, sport and life.

In this next activity, Bradley Busch explains what his main topics are when working with teenagers in sport: confidence features strongly. Keep the voices of Rachel and Oliver in mind as you do the activity.

Start of Activity

**Activity 3 Bradley Busch’s top teenage topics in sport**

Allow about 10 minutes

Start of Question

In this video, Bradley Busch describes the two most common topics he is asked to address with teenagers in sport. Summarise the two main points he makes, including the practical guidance he gives.

Start of Media Content

Video content is not available in this format.

Interview with Bradley Busch (Part 2)

[View transcript - Interview with Bradley Busch (Part 2)](" \l "Unit4_Session5_Transcript2)

End of Media Content

End of Question

[View discussion - Activity 3 Bradley Busch’s top teenage topics in sport](" \l "Unit4_Session5_Discussion1)

End of Activity

You will further explore psychology, confidence and emotions in Sessions 5 and 6.

Working with young people can be very rewarding due to their variety and rapid progress. Those experienced with guiding teenagers know that they can often call on a powerful tool to help them: the inspirational effect of someone being a model for what is possible. It is this you turn to next.

## 6 I could do that: role models

Who inspired you in your teenage years as a role model? Research shows that role models are particularly effective if they have regular contact with those who seek to emulate them. This begs the question: is fame and public recognition the most powerful type of role model?

Start of Activity

**Activity 4 Peers as role models in PE**

Allow about 10 minutes

Start of Question

The clip below features a radio interview with Ali Oliver, Chief Executive of the Youth Sports Trust, talking about how to inspire young girls in PE. Why does she think **peer role models** of a similar age can work well?

Start of Media Content

Audio content is not available in this format.

Interview with Ali Oliver

[View transcript - Interview with Ali Oliver](" \l "Unit4_Session6_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 4 Peers as role models in PE](" \l "Unit4_Session6_Discussion1)

End of Activity

Have you ever seen someone like you achieve something and thought ‘I could do that’? Read Box 1 for detailed advice about how behaviour is often modelled by others.

Start of Box

**Box 1 The power of modelling**

The academic evidence shows that the power of behaviour and attitude from ‘someone like me’ means that often the most influential role models are those with similarities. For instance, someone:

* from your locality
* doing the same sport event
* who plays the same position in a team sport
* of your generation (i.e. up to a few years older)
* of similar ethnicity
* who attended the same school or club.

If you want to find out more about this, read [I could do that: why role models matter](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=I%20could%20do%20that).

The modelling of behaviour, attitudes and beliefs can be very powerful in adolescence. Consider how you react to public errors that you make (whether that’s in your role as a **coach**, **teacher** or **parent**). You may not realise it, but you are showing a possible way of responding to mistakes. What happens if a similar behaviour is reinforced again and again as a teenager watches? Do not be surprised if they respond in a similar way.

This suggests that we all need to be careful to practise what we preach as a parent, coach or trainer: modelling has powerful effects.

End of Box

## 7 This session’s quiz

Check what you’ve learned this session by taking the end-of-session quiz.

[Session 3 practice quiz](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%203%20practice%20quiz)

Open the quiz in a new window or tab then come back here when you’ve finished.

## 8 Summary

The main learning points from this session are:

* Increased knowledge of the different teenage growth rates over time and the possible impact of the relative age effect on selection and progress. This included details of how players born later can eventually thrive through learning important coping strategies.
* A realisation that the brain continues to evolve into the early 20s. This has implications for self-control and decision-making/judgement.
* Those guiding teenagers can support their work by exploring self-control, confidence and emotion in greater depth.
* Teenage behaviour often responds to models of significant others such as parents, teachers and coaches but the most powerful impact is likely to be from peer role models.

In the next session, you will be turning your attention to coaches. We are lucky to have behind the scenes interviews with three national coaches: one is from Sweden, another is from the USA and a third is from Germany. This brings an international flavour to the course and with examples from rowing, football and swimming, you will see some interesting comparisons as to why coaches in different sports are effective.

You can now go to [Session 4](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%204:%20Comparing%20international%20level%20coaches).

**Session 4: Comparing international level coaches**

## Introduction

You continue your exploration of coaching and psychology by looking at what approaches have proved effective with international adult athletes. By looking behind the scenes at this top level, you will start to understand what drives athletes, how coaches might best support experienced athletes and how some of these ideas might transfer to your own learning journey.

Coaching full-time squads is a tough job and there is no one-size-fits-all approach; each coach will bring their own style and practices. In this session, you listen to three top coaches talking about their work; concentrate on comparing and contrasting their different approaches and philosophies. They give unique insights beyond the sound bites of standard media interviews and you should be able to relate some of what they say to your own experiences of learning.

By the end of this session, you should be able to:

* identify common themes in the coaching approaches and philosophies of the three coaches
* recognise that a traditional style of coaching in which the coach holds all the knowledge is increasingly being challenged by alternative types of coaching in which there is a more balanced relationship between athlete and coach
* explain how encouraging appropriate attitudes, beliefs and approaches to learning are important aspects of a coach’s work.

## 1 What drives international athletes?

How do you develop a good grasp of the needs of those you are working with and, in particular, the different things that motivate their work week in, week out? To be an effective coach or teacher at any level, this is an important aspect to think about. If you can explain what drives you at a personal level, this self-awareness is useful in helping navigate work and life.

Start of Activity

**Activity 1 Heart and soul in rowing**

Allow about 20 minutes

Start of Question

Watch this video which examines why rowers love their sport and what motivates them. You may find it helpful to watch the video more than once, to pick up on things you miss the first time you watch it.

Start of Media Content

Video content is not available in this format.

Hearts row to Rio

D:\AaaF\OUT\httpswwwopeneduopenlearn_cmid140497_2023-01-27_13-32-14_01376031519e4cf29a1b7e9d866989d0\word\assets\_2a81e17a26e76311839be71c3d2ff2be9418be96_rowing.jpg

[View transcript - Hearts row to Rio](" \l "Unit5_Session1_Transcript1)

End of Media Content

1. Identify phrases used under three main categories: **mastery of skills**, **the sport’s environment** and **being with others**.
2. Think about your own experience of being coached or coaching and what athletes would say if you made a similar video for your sport.

End of Question

[View discussion - Activity 1 Heart and soul in rowing](" \l "Unit5_Session1_Discussion1)

End of Activity

## 2 Comparing top coaches

Those coaching international teams will be more successful if they can support athletes in meeting their needs, such as those described previously. Good coaches are also likely to be consistent, as their work is underpinned by a clear set of beliefs and values and what some might call a ‘coaching philosophy’. You start your comparison by looking at two coaches working in the most popular team sport in the world, football.

Start of Activity

**Activity 2 Pia Sundhage (Team USA and Sweden)**

Allow about 30 minutes

Start of Question

First listen to some fascinating insights from Pia Sundhage. Sundhage is one of the world’s top women’s football coaches, having led Team USA to two consecutive Olympic gold medals. She then coached the team of her own nation of birth, Sweden, to a silver medal at the Rio 2016 Olympic Games.

Start of Media Content

Audio content is not available in this format.

Interview with Pia Sundhage

[View transcript - Interview with Pia Sundhage](" \l "Unit5_Session2_Transcript1)

End of Media Content

She talks about how she managed the severe discord in the US team when she took over and the way she develops and uses ‘team goals’. Note, that when she mentions ‘the role’ and respect for it, she is talking about individual roles as part of the team jigsaw.

If you had to describe the characteristics of her approach to coaching, how would you do this? Your summary of her approach will be invaluable when you come to compare it to other coaches in a moment. You may find the transcript (under the audio’s play-bar) useful.

End of Question

[View discussion - Activity 2 Pia Sundhage (Team USA and Sweden)](" \l "Unit5_Session2_Discussion1)

End of Activity

Now that you have some insight into Pia’s coaching, let’s start to compare this with another top football coach, Jürgen Klinsmann.

Start of Activity

**Activity 3 Jürgen Klinsmann (Germany and USA)**

Allow about 20 minutes

Start of Question

Listen to a short clip from Jürgen Klinsmann (coach for Germany and the USA at successive World Cups).

Start of Media Content

Audio content is not available in this format.

Interview with Jürgen Klinsmann

[View transcript - Interview with Jürgen Klinsmann](" \l "Unit5_Session2_Transcript2)

End of Media Content

Klinsmann makes comparisons between football and American team sports such as baseball, basketball and the NFL. Interestingly, like Sundhage, he also mentions conflicts within teams.

What similarities and differences can you detect in his approach compared to Sundhage’s?

End of Question

[View discussion - Activity 3 Jürgen Klinsmann (Germany and USA)](" \l "Unit5_Session2_Discussion2)

End of Activity

In neither of these interviews did these coaches present themselves as a coach who directs and tells players what they should do. They suggested that they guide the group of players and try to create a team environment that encourages self-motivation and responsibility to keep on learning.

## 3 What about coaching individual-based sports?

Next, you will hear from Teri McKeever, who has been a swimming coach at the University of California for almost 25 years. She is one of the most successful coaches in the world and is known for her innovation. For instance, her idea of swimming training is one that also uses yoga, skipping and dancing to hip hop music. It was with these types of methods that led to her becoming the first ever female coach of the 2012 US Olympic women’s team (they won 14 medals).

Start of Activity

**Activity 4 Coaching connections or contrasts?**

Allow about 25 minutes

Start of Question

Listen to the interview with Teri McKeever below. As you listen, think about the comparisons between her approach to personal coaching and those of Pia Sundhage and Jurgen Klinsmann. As a reminder, both Pia and Jurgen talked about players taking responsibility and making their own decisions in competition. Note down some of the key terms that she uses to describe her approach. To what extent are there connections or contrasts between the approaches of these three coaches?

Start of Media Content

Audio content is not available in this format.

Interview with Teri McKeever

[View transcript - Interview with Teri McKeever](" \l "Unit5_Session3_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 4 Coaching connections or contrasts?](" \l "Unit5_Session3_Discussion1)

End of Activity

These interviews and research evidence reinforce a view of coaching not being formulaic, but something that is incredibly diverse, with one of the main attributes being that coach’s respond to the individual, while also shaping the environment and the task.

## 4 How would you recruit a team?

Some coaches have the luxury of being able to identify and then recruit those that best fit the group ethos. This is true for professional sports teams, for example. How would you do this? Would you look for physical attributes (e.g. size, fitness)? Their performances as a developing athlete? Their mental attributes? Or the right ‘mix’ of athletes to make the best team?

Teri McKeever is also in the recruitment field with many potential swimming scholarship students applying for the University of California. This next activity describes Teri’s approach using a case study in a business-related publication.

Start of Activity

**Activity 5 Selecting for your team**

Allow about 20 minutes

Start of Question

Read the short section titled [‘Selection and Recruitment: Finding the Right Fit’ from Schroth’s (2013) case study](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Coach%20McKeever). This short reading mentions ‘home visits’, as Teri McKeever’s assistant coach, Cunnane, meets parents and athletes at home as part of their information gathering.

Identify which sentence of the reading best summarises their approach to recruitment? Is there anything you consider to be unusual in their approach?

End of Question

[View discussion - Activity 5 Selecting for your team](" \l "Unit5_Session4_Discussion1)

End of Activity

Mental aspects of sport and broader learning skills, including mindset, are something that are explored in more depth in subsequent sessions.

## 5 This session’s quiz

Now it’s time to complete the Session 4 badge quiz. It is similar to previous quizzes, but this time instead of answering five questions there will be fifteen.

[Session 4 compulsory badge quiz](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%204%20compulsory%20badge%20quiz)

Remember, this quiz counts towards your badge. If you’re not successful the first time, you can attempt the quiz again in 24 hours.

Open the quiz in a new tab or window then come back here when you’ve finished.

## 6 Summary

Congratulations – you have reached the halfway point of the course.

The main learning points from this session are:

* The common themes in the coaching approaches of the three coaches were how they encouraged athletes to take responsibility and make their own decisions. The terms ‘athlete problem solving’ and ‘empowered’ were used by each coach. McKeever, in particular, spoke about quality training.
* A traditional style of coaching, in which the coach holds all the knowledge, is increasingly being challenged by research that suggests alternative types of coaching, for example,where there is a more of a balanced partnership between athlete and coach.
* These coaches don’t just coach technical skills, but also spend a lot of time encouraging appropriate attitudes, beliefs and approaches to learning.

## Join us on Facebook

We have created a Facebook page, [Succeed at OU sport, fitness and coaching](https://www.facebook.com/OUSportandFitness/), in which you can discuss aspects of the course further.

You can use this space to comment on your experiences so far and respond to any of the other questions from this course. You will benefit by developing your understanding of the topics in the course, and you will be able to ask any questions to our experienced staff – Ben Oakley, Ben Langdown or our team of sports psychologists.

Interacting with others on the course will also allow you to benefit from new online material or opportunities (jobs, training other networks or development events) that others identify and allow you to view perspectives beyond your own sport. In fact, you will probably be able to find the answer to many things connected to sport, fitness or coaching.

When posting remember to introduce yourself by telling others where you are from, your main sporting interests and any plans you have for further study or training.

On this Facebook page, you’ll find opportunities to discuss things like:

* How can I find out more about sports psychology?
* I’m interested in working towards being a PE teacher. What are my options?

In the next session, you will explore sports psychology in more detail. There is some very interesting evidence that demonstrates that how you think about learning and sporting performance has an impact on the outcomes.

You can now go to [Session 5](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%205:%20Mindset%20and%20attitudes%20towards%20sport%20and%20learning).

**Session 5: Mindset and attitudes towards sport and learning**

## Introduction

You have started to see how experienced sports coaches, and some workplaces, encourage people to think about their training and progress in certain ways (e.g. personal responsibility, learning, problem solving). The term ‘mindset’ has often been used by contributors to this course: but what is meant by mindset?

This session specifically considers sports psychology. In addition to mindset, you will explore the mental characteristics of those developing in sport and begin to see what topics sports psychology address with athletes and their coaches. You work in sports psychology will continue in the next session.

A lot of the knowledge and skills used in sports psychology can often be applied to situations that you are familiar with beyond sport. You will be able to apply much of what is discussed here to your own experiences or those close to you.

Watch the following video featuring Alex Danson.

Start of Media Content

Video content is not available in this format.

Introduction to Session 5

[View transcript - Introduction to Session 5](" \l "Unit6Transcript1)

End of Media Content

By the end of this session, you should be able to:

* describe the features and beliefs of a growth and fixed mindset
* identify the role of feedback from coaches, teachers and parents in influencing beliefs about ability
* describe mental toughness and the psychological characteristics of those athletes developing towards excellence and how these ideas contribute to your understanding of sporting success.

## 1 Revisiting your attitudes towards success

In Session 1 you completed a short questionnaire about your attitudes towards nature and nurture in sport. At the time, you were told that it is ‘likely that deeply held beliefs and values will influence the way people answer’.

Educational psychologist Carol Dweck and others have investigated the nature of deeply held beliefs about ability and how these influenced the way children learn. Her book Mindset (Dweck, 2012) has resulted in ‘growth mindset’ and ‘fixed mindset’ becoming increasingly used terms. What is meant by these terms will be explained shortly.

Her research made many of those working in education and sport realise that some people avoid challenging situations where they might fail, while others embrace challenge as an opportunity to learn.

## 2 Your experience of ‘mindset’

Carol Dweck has found that people generally hold one of two firm beliefs about their ability: they consider it to be either a fixed trait or something that can be improved over time with effort. She calls these the **fixed** and **growth mindsets**, and there is persuasive evidence that mindset can seriously influence performance in the long run.

If you want to see how she came to these conclusions, the video [Carol Dweck: the effect of praise on mindsets](https://www.youtube.com/watch?v=TTXrV0_3UjY) summarises some key experiments using puzzles with schoolchildren that shaped her theory (Mueller and Dweck, 1998).

Start of Activity

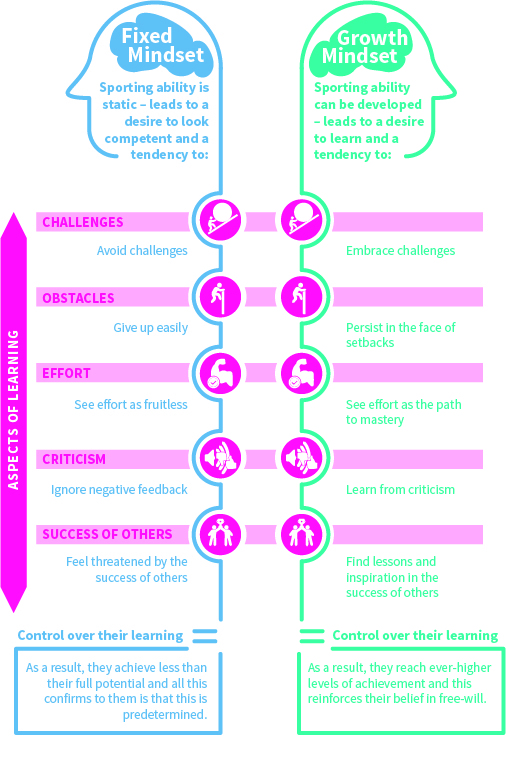
**Activity 1 Explore mindset from your own experience**

Allow about 10 minutes

Start of Question

Failure, mistakes and feedback are part of the DNA of sport and, as you saw in Session 3, they are also a feature of education and the teenage years. Figure 1 summarises Dweck’s theory. To what extent do you recognise the different approaches to challenges, obstacles, effort, criticism and the success of others?

Start of Figure



**Figure 1** The tendencies and likely results of fixed and growth mindsets

[View description - Figure 1 The tendencies and likely results of fixed and growth mindsets](" \l "Unit6_Session2_Description1)

[View alternative description - Figure 1 The tendencies and likely results of fixed and growth mindsets](" \l "Unit6_Session2_Alternative1)

End of Figure

End of Question

[View discussion - Activity 1 Explore mindset from your own experience](" \l "Unit6_Session2_Discussion1)

End of Activity

## 3 Where do beliefs about ability come from?

Many beliefs about sport and coaching (including ability) are **implicit**. They are taken for granted and not directly expressed. Therefore, these beliefs are very difficult to change because you are either unaware that you hold them, or they are so obvious to you that they don’t warrant your attention.

Part of the process of sport and coaching education, such as this course and others, is to help make these beliefs **explicit** and, therefore, open to reflection, criticism and change.

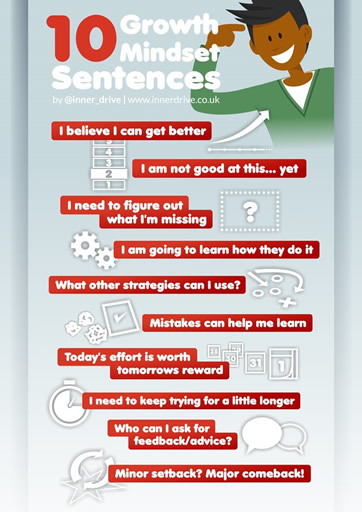
Dweck suggests beliefs are partly fostered by the kind of praise and feedback you get from others such as teachers, parents and coaches. For example, think about the influential position of coach and parents in the ice skating video, which you watched as part of [Activity 2 in Session 2](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%202:%20Coaching%20children:%20enhancing%20fun%20and%20friendships&targetptr=ice-skating-activity) (‘The making of an ice princess’).

Research suggests that being praised for ability (e.g. ‘you’re really talented’ or ‘you’re a natural’), despite the initial thrill of a compliment, soon gives way to reduced motivation and overall performance (Mueller and Dweck, 1998).

It is preferable to encourage athletes by using expressions such as ‘you worked really hard at that’, which encourage the development of a growth mindset, as long as praise is not so frequent it loses its impact.

Figure 2 is a summary of sentences that young people can be encouraged to use as a starting point to move them towards a growth mindset.

Start of Figure



**Figure 2** Sentences that you can use to encourage young people to use to support a growth mindset

[View description - Figure 2 Sentences that you can use to encourage young people to use to support a ...](" \l "Unit6_Session3_Description1)

[View alternative description - Figure 2 Sentences that you can use to encourage young people to use to support a ...](" \l "Unit6_Session3_Alternative1)

End of Figure

In fact, if you search online for ‘mindset sport coaching’, you will find many resources that reinforce the above points. Figure 3 comes from another researcher in the field of educational research, Angela Duckworth, and illustrates a similar focus on effort and persistence.

Start of Figure



**Figure 3** The Iceberg Illusion

[View description - Figure 3 The Iceberg Illusion](" \l "Unit6_Session3_Description2)

[View alternative description - Figure 3 The Iceberg Illusion](" \l "Unit6_Session3_Alternative2)

End of Figure

## 4 Making it early in sport

In Session 3 you saw a vivid example of the hunger, drive and mindset needed to work towards mastery of rowing. Often in sport, a rising teenager (15–18 years old) bursts onto the adult national or international scene: what can happen to your hunger and mindset beliefs if you ‘make it’ early in sport (i.e. aged under 18)?

Author Rasmus Ankersen explains what his and others’s research has shown.

Start of Quote

My definition of a winner is basically ‘a loser who has evaluated themselves’. This relates very well to a study that looked at the golden generation of Swedish tennis players. Back in the 80s and 90s Sweden had 5 of the top 10 best (male) tennis players in the world (e.g. Bjorn Borg et al) and the research showed that almost every one of them were not in the top 5 in the country as youngsters.

It’s interesting because those who start out with a big advantage or talent as youngsters don’t make it; it can be a disadvantage to be too good too early because you kind of feel entitled. Whereas a lot of these young Swedish tennis players had to struggle, they had to think about ‘how can I improve?’ and ‘why is this important to me?’ and ‘am I willing to do what it takes?’ So they all had an evaluation mentality and that is what made them winners.

(Ankersen, 2016)

End of Quote

Consider the following statements.

* Most children who are very successful in sport in childhood do not go on to later sporting success.
* Most people who are very successful as adults did not achieve amazing things in childhood.

You may be able to think of exceptions to these statements. However, they are in the minority. One thing is certain though, the appropriate motivation to continue learning is vital.

## 5 Sports psychologists explain their work

You have explored learning, feedback and those who experience failure, but what about something you so often hear in commentary and observations about those competing in sport: what are the qualities of ‘resilient’ or ‘mentally tough’ sportspeople?

In the next two activities, you hear from two leading sports psychologists who articulate what these terms, or their own versions of them, mean.

Start of Activity

**Activity 2 What is this thing called mental toughness?**

Allow about 20 minutes

Start of Question

This activity (which takes its name from Jones’ 2002 article on mental toughness) introduces you to sports psychologist Peter Clough, who explains why ‘mental toughness’ is important for school children to master for their general development. Listen to this interview between a BBC interviewer and Peter Clough, and respond to the two questions below.

Start of Media Content

Audio content is not available in this format.

Peter Clough on toughness

[View transcript - Peter Clough on toughness](" \l "Unit6_Session5_Transcript1)

End of Media Content

1. What are the characteristics of Peter Clough’s version of mental toughness?
2. What steps does he describe for enhancing mental toughness?

End of Question

[View discussion - Activity 2 What is this thing called mental toughness?](" \l "Unit6_Session5_Discussion1)

End of Activity

Next, you will hear from another sports psychologist, Dave Collins, who talks about the ideas that come from his research: he calls them the Psychological Characteristics for Developing Excellence (PCDE)

Start of Activity

**Activity 3 Negotiating challenges on the rocky road**

Allow about 20 minutes

Start of Question

Listen to the following interview with Dave Collins, one of the key authors of the PCDE research.

1. Dave Collins talks about psychological characteristics. What characteristic of sporting development does he focus on?
2. What is the connection to snow ploughing and his reference to super champs (champions) and champs in the second half of the clip?

Start of Media Content

Audio content is not available in this format.

Dave Collins on PCDE research

[View transcript - Dave Collins on PCDE research](" \l "Unit6_Session5_Transcript2)

End of Media Content

End of Question

[View discussion - Activity 3 Negotiating challenges on the rocky road](" \l "Unit6_Session5_Discussion2)

End of Activity

Next, you will go on to explore psychological characteristics in more detail beyond responding to challenges.

## 6 Psychological characteristics explained

There is debate among the sports psychology community about the concept of mental toughness and the ability for it to be measured and developed. There is agreement, though, that sportspeople need to possess key psychobehavioural characteristics in order to progress (e.g. Abbot et al., 2002). One way to investigate such characteristics is by interviewing top athletes, and there are many researchers who have done this.

You will focus on MacNamara et al.’s (2010) work with Dave Collins, who you have just heard from in Activity 4. Their interviews are particularly useful since they cover research from sport, as well as musical performance.

Start of Activity

**Activity 4 Developing young athletes**

Allow about 25 minutes

Start of Question

Read the article [Developing excellence in young athletes](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Developing%20excellence%20in%20young%20athletes), which provides a fascinating overview of the nine Psychological Characteristics for Developing Excellence (PCDE). Consider which of the nine characteristics provide you with **new** insights not yet fully explained on the course and which overlap and connect in some way with what you have already read about.

End of Question

[View discussion - Activity 4 Developing young athletes](" \l "Unit6_Session6_Discussion1)

End of Activity

You will be investigating some of these in greater detail in Session 6, which specifically focuses on some of the psychological skills used in sport and in life generally.

## 7 This session’s quiz

Check what you’ve learned this session by taking the end-of-session quiz.

[Session 5 practice quiz](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%205%20practice%20quiz)

Open the quiz in a new window or tab then come back here when you’ve finished.

## 8 Summary

The main learning points from this session are:

* The main features of fixed or growth mindsets stem from people’s beliefs about ability and incorporate attitudes and behaviours towards challenges, obstacles, effort, criticism and the success of others.
* Mindset beliefs influence the overall control people feel they have over their learning and when striving for continuous improvement. For a player with a growth mindset, failure and mistakes are viewed as feedback opportunities.
* The behaviour and communication of coaches, teachers and parents influence beliefs about ability and hence a growth mindset.
* There are similarities between the ideas of mental toughness and the psychological characteristics of developing excellence (PCDE). The nine items used in the description of PCDE encompass a breadth of skills that psychologists often develop for performance in music, sport and education.

In the next session, you will discover how psychological skills and strategies are used to help make sense of fear, anxiety and emotion in sport. It is a fascinating topic.

You can now go to [Session 6](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%206:%20Psychological%20skills%20for%20life%20and%20sport).

**Session 6: Psychological skills for life and sport**

## Introduction

In this session, you will take a look at a few of the more common psychological skills used both in life and in sporting competition, which can be used to respond to fear, anxiety and emotion. In your work, family or sporting life, you are likely to face situations in which you need to perform under pressure, such as giving a speech or being assessed for something (e.g. a driving test). You will look at case study videos and examples, which will give inside knowledge of how people such as Alex Danson use sports psychology in action.

The session starts with Michael Johnson and Chris Hoy discussing mental preparation for high-pressure situations, before moving on to how athletes and psychologists make sense of emotions and ways in which they can be controlled. Some of the specific techniques that athletes use before and during competition are then explored, including pre-competition routines, imagery and self-talk. You will finish by hearing how others face an intense situation, such as taking a penalty, and then play an online penalty shoot-out game.

By the end of this session, you should be able to:

* understand how psychological skills complement physical skills in sport and that both can be developed
* identify ways of making sense of fear and anxiety and also controlling the emotions created from these
* describe, in outline, three psychological terms: imagery, pre-performance routine and self-talk.

## 1 Chris Hoy’s story

Chris Hoy’s diverse childhood sporting background supports what was written in previous sessions about not ‘making it’ early. In Box 1 you will look at his route to cycling, before watching a video about his use of **psychological skills** at a key point in his career.

Start of Box

**Box 1 Chris Hoy’s route to cycling**

Chris Hoy was one of Great Britain’s most successful track cyclists, but he had an indirect path into cycling. In adolescence, he participated in rugby, athletics and rowing. He was proficient at them all, especially rowing, which he loved, but found that he was most physically suited to cycling. After international BMX racing from age 7 to 14, he transferred his skills to mountain biking, then road racing. Eventually, when he was 17, he found track cycling and he was smitten with the experience.

His father emphasised the benefit of Chris not being a child champion:

Start of Quote

He [Chris] was never up there but he just kept plugging away. You’ve seen other kids who were winning all the time and when they get beaten they don’t like it so they stop what they’re doing. As long as they’re enjoying it and they’re doing pretty well, there is not a lot between first and second.

(Hoy, 2013)

End of Quote

End of Box

Start of Activity

**Activity 1 Chris Hoy’s experiences of using psychological skills**

Allow about 15 minutes

Start of Question

Watch the following video, in which Chris Hoy catches up with Michael Johnson. Which of the psychological skills does he describe as the most useful to him? You may find the PCDE list from the previous session useful.

Start of Media Content

Video content is not available in this format.

Chris Hoy’s experiences of using sport psychology

[View transcript - Chris Hoy’s experiences of using sport psychology](" \l "Unit7_Session1_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 1 Chris Hoy’s experiences of using psychological skills](" \l "Unit7_Session1_Discussion1)

End of Activity

Chris Hoy’s story of excelling under intense pressure should help you to identify in more detail what performing under pressure entails.

## 2 The art of performing under pressure

There are times in our lives when we all have to face performing under pressure, for example, an exam, a presentation, an interview or an intimidating social event. Dave Alred (elite performance coach to Rugby World Cup hero Jonny Wilkinson, as well as top golfers) has identified a range of strategies that he uses in his coaching. In addition to refining people’s technique, Dave Alred works with:

* posture and body language
* imagery
* designing practices with pressure (covered in Session 7)
* trigger phrases.

Start of Figure



**Figure 1** Dave Alred

[View description - Figure 1 Dave Alred](" \l "Unit7_Session2_Description1)

[View alternative description - Figure 1 Dave Alred](" \l "Unit7_Session2_Alternative1)

End of Figure

You will cover trigger phrases as part of self-talk later in this session, but the purpose of introducing you to Dave Alred now is to allow you to read an article about him on OpenLearn: [The art of performing under pressure](http://www.open.edu/openlearn/health-sports-psychology/health/sport-and-fitness/sport/the-art-performing-under-pressure).

In the next section, you will consider some of the things he talks about in a little more detail: fear, anxiety, emotions, routines and self-talk.

## 3 Fear and anxiety

The fear and anxiety experienced by players about to take crucial shots is a natural human response to a demanding situation. In this activity, Michael Johnson explores a sport in which there a huge mental challenge, largely because there is a very real threat to life and limb: downhill ski racing.

Start of Activity

**Activity 2 A ski racer crashes − primitive fear**

Allow about 10 minutes

Start of Question

In the following video, you will see Michael Johnson hearing about fear and anxiety in ski racing. Please avoid watching the whole film. Your main task is to summarise how neuroscientist Ben Seymour describes fear and anxiety.

Go to the video [Michael Johnson downhill skier – BBC Inside Sport special](https://youtu.be/8zBgeGLXoi4?t=750) and start watching at 12:35 for one minute only until Ben Seymour finishes. If you want to watch ski racer Scott McCartney’s stomach-churning crash including the reactions of those watching go back to 08:06 in the video, but be warned that you may find it uncomfortable to watch.

This puts Ben Seymour’s words into a graphic context and it is his academic explanation of fear and anxiety that should be your main focus.

End of Question

[View discussion - Activity 2 A ski racer crashes − primitive fear](" \l "Unit7_Session3_Discussion1)

End of Activity

Next, you will discover how people manage their emotions of fear and anxiety.

## 4 Managing your emotions and anxiety

Psychologists working in all fields of human endeavour are seeking ways of helping people deal with fear and anxiety. Fear is not just about primitive threats to life; it is also about the broader range of negative emotions and anxieties that can sabotage even simple tasks. The causes of this fear could be a phobia about spiders, threats to one’s self-esteem (e.g. asking for a date) or the stressful situations athletes face.

Over the years, psychologists have developed ways of helping people to distract themselves from focusing too much on negative emotions and thoughts. One example is psychiatrist Steve Peters, who talks of a primitive chimp-like voice representing a part of the brain. This echoes with our primitive evolutionary past, which Ben Seymour spoke of in the ski racing film in Activity 2. This reference to a chimp is a teaching tool that helps people understand and thus control their emotions better. In the next activity, you will hear directly from multiple snooker world champion Ronnie O’Sullivan on how he learnt to control his negative emotions with the help of Steve Peters. This falls under the ‘resilience and self-regulation’ part of PCDEs.

Start of Activity

**Activity 3 Controlling your emotions in sport**

Allow about 20 minutes

Start of Question

Watch the video below. How did Ronnie O’Sullivan develop his understanding that enabled him to help control his emotions?

Start of Media Content

Video content is not available in this format.

Ronnie O’Sullivan on controlling his emotions

[View transcript - Ronnie O’Sullivan on controlling his emotions](" \l "Unit7_Session4_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 3 Controlling your emotions in sport](" \l "Unit7_Session4_Discussion1)

End of Activity

Ronnie O’Sullivan (2013) has also reported a five-point ‘anchor’ that helped control his emotions, which is summarised below:

1. Do my best; that’s all I can do.
2. I want to be here competing.
3. I’m an adult, not a chimp. I can deal with anything.
4. It’s impossible to play well all the time.
5. What would I say to my children if they said their game was not right?

Again, you can see these statements reinforce his logical self, rather than any emotional impulses, and help displace negative thoughts.

## 5 Seeing challenge as an opportunity

As you have heard from both Chris Hoy and Ronnie O’Sullivan, performing under pressure is partly about how challenges are framed. While ‘butterflies in the stomach’ from anxiety can be unsettling, the only way to get them to ‘fly in formation’ (Hanton and Jones, 1999) is to try out new strategies of dealing with situations rather than avoiding them.

Skilful coaches and parents therefore talk through how young people might approach a pressurised event and help give them the skills (e.g. imagery, self-talk, appropriate goals – see PCDEs in [Session 5, Activity 4](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%205:%20Mindset%20and%20attitudes%20towards%20sport%20and%20learning&targetptr=developing-young-athletes)) to cope with the demands they face. You may recall that there was a scenario related to this in the Medal Quest game – you will get a chance to try it again at the end of the next session with the help of this new knowledge.?

## 6 Emphasising the familiar: pre-competition routines

There is something very safe and familiar about a routine (or even a ‘ritualistic pattern’) that you adopt when you prepare for work, to drive your car or to go out with others. Sportspeople emphasise these principles of familiarity and control, so that they can prepare to face the most intense situations with a consistent approach. It partly distracts them from feeling anxiety. A routine becomes a sort of safe haven. This is the unseen side of sport.

Muhammed Ali once said, ‘the fight is won or lost far away from witnesses – behind the lines, in the gym, and out there on the road, long before I dance under those lights’, and although it is unclear to what he was referring, these words are appropriate for pre-competition routines.

Start of Activity

**Activity 4 Behind the lines**

Allow about 15 minutes

Start of Question

Watch part of the video [BBC Sport – London 2012 psychology](https://youtu.be/BxgQ61aKANw?t=340), in which Jonathan Edwards and Matthew Syed briefly summarise pre-performance routines. This is a deliberately short clip.

What three elements do they outline that people might draw on to help overcome self-doubt and/or nerves? How does this compare to your own preparation moments before a key high pressure moment in sport of work?

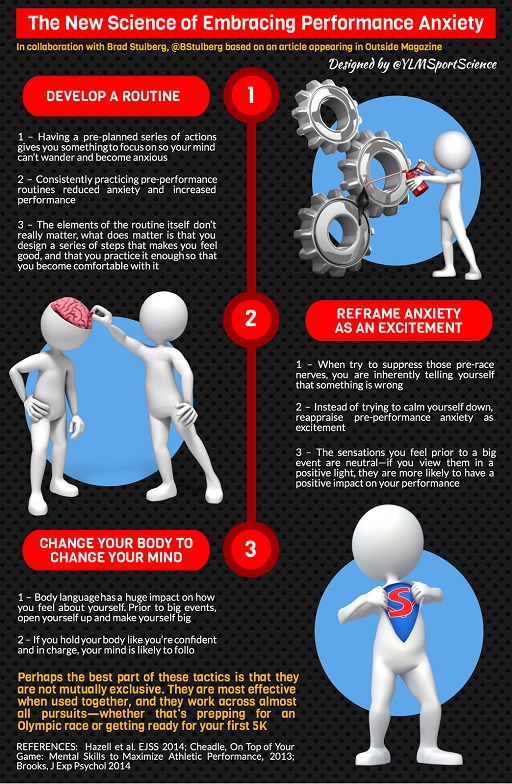
End of Question

[View discussion - Activity 4 Behind the lines](" \l "Unit7_Session6_Discussion1)

End of Activity

Figure 2 gives a useful summary of some of the latest thinking and research in this topic.

Start of Figure



**Figure 2** The new science of embracing performance anxiety.

[View description - Figure 2 The new science of embracing performance anxiety.](" \l "Unit7_Session6_Description1)

[View alternative description - Figure 2 The new science of embracing performance anxiety.](" \l "Unit7_Session6_Alternative1)

End of Figure

The routine athletes construct before they compete is therefore part of their armoury, but they can also use another powerful tool to help them as part of their routine: what they say to themselves.

## 7 Self-talk before important sporting moments

When you are learning to drive, you are often taught a bit of self-talk to remind you what to focus on next, for example, ‘mirror-signal-manoeuvre’. Earlier Dave Alred described these as trigger phrases. What do you say to yourself when you face important moments in sport, such as a penalty, tennis serve or golf shot?

Here is more detail in how self-talk is used from a large online study. Michael Johnson used four different types of self-talk in a [BBC Lab UK online experiment](http://www.bbc.co.uk/guides/zwr2mnb) in which 44,700 people took part (Lane et al., 2016). You are not required to work through BBC Lab UK resource – it is for information only.

In the online study before users completed an online concentration task, Johnson showed participants one of four types of self-talk, each with a different focus. Here are the four phrases with their associated focus:

* ‘I can react quicker this time’ – the **process** of completing the task
* ‘I can beat my best score’ – motivation towards a **positive outcome** of the task
* ‘I will stay calm’ – the **control of excitement/anxiety** during the task
* ‘I will focus completely on each number I need to find’ – **instructional** guidance for the task.

In this experiment, a focus on process and outcome was found to be the most effective use of self-talk. If you want to read the full academic study, see [Brief Online Training Enhances Competitive Performance: Findings of the BBC Lab UK Psychological Skills Intervention Study](http://journal.frontiersin.org/article/10.3389/fpsyg.2016.00413/full).

Now let’s consider how this applies to penalty taking.

## 8 Self-talk before penalty taking

Read about Alex Danson’s experiences before taking a penalty. How can her use of self-talk be categorised into a process, a motivational outcome, a control of excitement/anxiety or an instructional focus?

Start of Box

**Alex says ...**

During the semi-final of the Olympic Games we won a penalty stroke, almost immediately I knew it was my job to step up to the spot. The last time I took a penalty stroke was at the European Nations Cup, and I had missed. I had consciously changed a few behaviours after this last experience. Firstly, in this instance, I outwardly celebrated winning the stroke. I then picked up the ball and very slowly walked to the spot where I put the ball down. I stood up very tall and looked at the goal and visualised exactly where I would put the shot. I then paused, took a deep breath and remember thinking, ‘this is going in’. I didn’t let any negative thought pass through my mind. I had done all the practice, I had a physical and mental routine and although I was in an Olympic semi-final, it felt like I was just taking another shot back at our training base at Bisham Abbey. In this example, I scored and we went through to the Olympic Final.

In contrast, at the end of the Olympic Final, I had a penalty shuffle, a different skill to a stroke, but requiring the same mental skills. I employed all the same techniques and this time the keeper saved it, but this was an outcome I had already accepted was a possibility before the game had even started. This was important as my mind and body had to be ready if I was needed to step up and take another, in case it got around to sudden death. For me, the acceptance of either outcome before the game meant on both occasions I took the stroke and shuffle without nerves and full of confidence.

End of Box

Notice how Alex had consciously adjusted her behaviours from the European Nations Cup. Her routine was deliberately orientated towards a positive outcome of the task (i.e. saying ‘this is going in’) and her body language (i.e. standing tall), visualisation (i.e. the placement of the ball in the goal) a set routine and acceptance of either score or saved outcome all helped towards **controlling excitement/anxiety**.

## 9 This session’s quiz

Check what you’ve learned this session by taking the end-of-session quiz.

[Session 6 practice quiz](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%206%20practice%20quiz)

Open the quiz in a new window or tab then come back here when you’ve finished.

## 10 Summary

The main learning points from this session are:

* Psychological skills in sport can be refined by practising them as part of the development path in sport. Coaching towards elite levels in sport might therefore be considered as a balance between challenge, support and psychological skills.
* Fear and anxiety are a natural reaction to demanding situations in which the primitive parts of the brain respond to threat. The rational part of the brain can be used to interpret and control heightened emotions.
* The use of imagery as a psychological skill helps athletes reinforce their control, block out distractions and focus on their own performance.
* Controlling emotions can be developed by viewing challenges as active choices and not obstacles, and taking responsibility for thoughts, feelings and behaviours.
* Self-talk is used to help focus thoughts towards relevant aspects of performance and can have a process, motivational, emotional control or instructional focus.
* Pre-performance routines build familiarity and control into pressurised situations and might draw on habits, imagery and self-talk to help achieve this.

In the next session, you will be seeing how the science of learning and teaching can have an important influence on how coaches design effective training sessions. It is connected to coaching and athlete creativity and you may be surprised at how the evidence points towards a fresh look at coaching.

You can now go to [Session 7](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%207:%20A%20fresh%20look%20at%20coaching).

**Session 7: A fresh look at coaching**

## Introduction

In this session, you will examine how coaching styles and practice sessions might be changing. The coach is the person who designs practice sessions, and they play a key role in creating imaginative situations in which their athletes can learn and refine technical, psychological and tactical skills.

You will start by hearing from leading coaches describing their work at both a club level and an international level. Both scenarios question the use of repetitive drills and you will find out why. You continue by exploring practice principles developed by Bailey (2014a) who, with some humour, called them ‘coaching commandments’.

Watch the following video featuring Alex Danson.

Start of Media Content

Video content is not available in this format.

Introduction to Session 7

[View transcript - Introduction to Session 7](" \l "Unit8Transcript1)

End of Media Content

By the end of this session, you should be able to:

* describe some outline features of ‘how’ coaches might run sessions that help people learn
* recognise the role of creativity in providing quality practices
* appreciate how principles based on the science of learning and teaching have an important place in influencing coaching, teaching and instruction in sport.

## 1 How do coaches design practice sessions?

Your exploration of coaching sessions starts by considering a typical situation in clubs and gyms. In Box 1, an experienced Irish coach (Adrian O’ Sullivan) describes two friends asking for help with their next coaching session. He identifies a significant contrast between them.

Start of Box

**Box 1 Training session advice**

I get two texts from friends of mine. Both have started taking training sessions with teams in their respective clubs. The first one (A) is along the lines of ‘I’ve just started doing a bit of coaching, have you any drills for me?’. The other guy (B) comes to me and says ‘The under fourteens I’m coaching are weak under the aerial ball; how can I work on it in a training session?’

Both questions might appear to be very similar. But immediately without ever seeing them on the training ground I know that one of these guys is already on a different level to the other. However, I also think that they are both limiting their horizons by seeking the easy option and asking someone for a drill.

Friend A has fallen into the trap that befalls so many trainers out there. He has sixty minutes to **fill** [emphasis added] on a Thursday evening and he wants three drills to fill the time before the kids play a match. Preferably drills that are easy to execute but look complex enough that the … parents looking on and the chairman of the club look at him and say ‘Jeez fair play to him he’s … good’.

He has no goal in mind for the session. No learning outcome that he wants the players to achieve and hasn’t identified any weaknesses to work on.

Friend B is thinking like a teacher [coach]. He has identified a weakness in his team and he is looking for a way to work on improving this in his session.

(O’Sullivan, 2015)

End of Box

Start of Activity

**Activity 1 Training session advice**

Allow about 20 minutes

Start of Question

Read the contents of Box 1 about the contrast between a ‘trainer’ and a ‘coach’ from the perspective of Adrian O’Sullivan. From what sources do most coaches learn how to run their sessions?

End of Question

[View discussion - Activity 1 Training session advice](" \l "Unit8_Session1_Discussion1)

End of Activity

There is a danger that many coaches continue using the practices that they are most comfortable with, without consciously designing learning into sessions and then reflecting on it.

## 2 Richard Bailey’s ‘coaching commandments’

Richard Bailey is an academic focusing on learning and education in sport and has developed five **coaching commandments**, which he describes as the appliance of science in teaching and learning. By science he means:

Start of Quote

thinking coaching through, and using a genuine critical attitude about what we do, there has to be evidence, there has to be science and reasons for doing things; coaching is dominated by tradition, sometimes this is harmless but sometimes it does harm and holds athletes and coaches back.

(Bailey, 2015)

End of Quote

Start of Activity

**Activity 2 Richard Bailey’s first two coaching commandments**

Allow about 10 minutes

Start of Question

Watch the following video in which Richard Bailey describes his five coaching commandments.

Start of Media Content

Video content is not available in this format.

Richard Bailey’s five coaching commandments

[View transcript - Richard Bailey’s five coaching commandments](" \l "Unit8_Session2_Transcript1)

End of Media Content

Identify the main point of the **first two** of his commandments:

1. You learn to play the game by playing the game.
2. It’s quality, not quantity, of practice that matters most.

End of Question

[View discussion - Activity 2 Richard Bailey’s first two coaching commandments](" \l "Unit8_Session2_Discussion1)

End of Activity

## 2.1 You learn to play by playing the game

Richard Bailey’s (2014a) first coaching commandment is not universally used, despite seeming obvious. In the next activity, you will hear Olympic coaching advisor Simon Timson (at the time from UK Sport) talking with Matthew Syed (journalist and former elite athlete) about the absence of stimulating and stretching sessions in some coaching they have watched.

Start of Activity

**Activity 3 Stimulating and stretching sessions**

Allow about 10 minutes

Start of Question

Listen to the discussion and consider the four recommendations about practice sessions that emerge.

Start of Media Content

Audio content is not available in this format.

Simon Timson and Matthew Syed

[View transcript - Simon Timson and Matthew Syed](" \l "Unit8_Session2_Transcript2)

End of Media Content

End of Question

[View discussion - Activity 3 Stimulating and stretching sessions](" \l "Unit8_Session2_Discussion2)

End of Activity

A highly contextual environment refers to skills being developed in the context of the competitive situation, rather than in isolation, for example, in repetitive drills. Would you teach someone to play golf solely on a golf driving range or teach netball unopposed? These ideas are similar to a model called [Teaching Games for Understanding](http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.470.4539&rep=rep1&type=pdf) (Kirk and MacPhail, 2002).

One of the aims of this section is to draw attention to coaching creativity, but you may wonder ‘what is creative about game-like practice sessions?’ Alex Danson’s hockey coach explains his innovation in the next section.

## 2.2 Coaching and creativity

Danny Kerry is the Head Coach of the England and Great Britain’s Women’s Hockey team, and is responsible for coaching them at the Olympics. He describes his design of practices moving beyond drills and repetition.

Start of Box

**Box 2 Danny Kerry talks about his session design**

Danny is an advocate of … challenging his athletes to find solutions to problems themselves rather than [them] hang on his every word.

‘I’m a massive believer in continually creating the problems for the athletes to self-organise solutions to,’ he says.

‘I’m constantly thinking about session design with the other coaches and with some of the other practitioners … **thinking creatively about how we can create problems** [emphasis added] in the environment and discuss what a really great outcome might be. Then tell the athletes to work towards achieving that outcome.’

There tends to be more of a reluctance among the older players to strike out on their own, preferring an approach of repetitive drilling.

‘They’ve grown up in an environment where they have had a lot of this type of coaching and perceive it as good coaching. I try to challenge back and tell them that the hockey environment is changing half second by half second, and you have to [continually] decide which method or skill to use ...’

(Richardson, 2015)

End of Box

Start of Activity

**Activity 4 Danny Kerry's creative session design**

Allow about 10 minutes

Start of Question

Read the contents of Box 2 and consider why athletes and parents in your sport or gym environment might prefer repetitive drills to this more creative approach.

End of Question

[View discussion - Activity 4 Danny Kerry's creative session design](" \l "Unit8_Session2_Discussion3)

End of Activity

Alex Danson backs up Danny Kerry’s approach to session design.

Start of Box

**Alex says …**

As a young athlete, I spent many hours training and practising on my own. On one level, this was an excellent use of my time and meant that technically I became very good. However, as I have progressed in my career I have realised the art of ‘skill’ is to be able to apply it in the right situation, which is forever changing in hockey. In our world, I could be the most technically gifted player at reverse stick shooting, but if I am unable to choose the appropriate time to use this skill in a game, then my technical excellence is cancelled out. We spend ninety per cent of our training week in training drills that ensure we have to make decisions. We do not use cones or play many small-sided games, but use game-related drills to make sure that we learn to make the correct decisions under the pressure of a changing game environment.

End of Box

Perhaps athletes and parents need to appreciate why a shift in coaching style to something similar to Alex’s experience helps people to learn. The second of Richard Bailey’s coaching commandments explores this shift in style further.

## 3 Quality not quantity of practice

When you listened to Teri McKeever in [Activity 4 in Session 4](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%204:%20Comparing%20international%20level%20coaches&targetptr=coaching-connections-contrasts), she was largely agreeing with this commandment when she said:

Start of Quote

I think there’s a place for volume but there’s also a place for quality. And I don’t always mean quality is faster, I think quality is about quality technique, quality is about purposefulness, intention, the relationship to your racing event.

(The Documentary, 2014)

End of Quote

If you also consider team sport, Eddie Jones (England rugby union coach) emphasises that sessions are sharp with no stopping to rectify mistakes.

Start of Quote

The saying **practice makes perfect is untrue** [emphasis added] when it comes to preparing for a match. A game of rugby is chaotic, not structured. You have to be able to react, make decisions and work out where you went wrong. The old way of training was nice and slow, everything done methodically, but that is finished now because rugby is not like that any more.

(Rees, 2016)

End of Quote

This principle suggests, at higher levels of sport, an increasing intensity and focus to practice that encourages athletes to solve problems in varied situations. This requires detailed planning from coaches. The old methodical approach, often using drills, was easier to control and manage, which is partly why coaches are so comfortable using it.

## 4 Richard Bailey’s other commandments – how to coach

You now revisit the coaching commandments video to focus on Richard Bailey’s final three commandments.

Start of Activity

**Activity 5 Richard Bailey’s final three coaching commandments**

Allow about 10 minutes

Start of Question

You will now go back to think about Richard Bailey’s five coaching commandments. You may like to watch the video again.

Start of Media Content

Video content is not available in this format.

Richard Bailey’s five coaching commandments

[View transcript - Richard Bailey’s five coaching commandments](" \l "Unit8_Session4_Transcript1)

End of Media Content

Identify the main point of each of the **final three** coaching commandments:

* Praise and criticism should be used wisely.
* The way you coach is as important as what you coach.
* It is impossible to tell the future.

End of Question

[View discussion - Activity 5 Richard Bailey’s final three coaching commandments](" \l "Unit8_Session4_Discussion1)

End of Activity

All of these coaching commandments are supported by research. If you want to find out more about his final three coaching commandments, you can read the articles below. This is optional and not a requirement.

* Coaches should use praise and criticism wisely: [The problem with praise: praise is not always a good thing (Bailey, 2014b)](https://www.psychologytoday.com/blog/smart-moves/201411/the-problem-praise)
* The way you coach is as important as what you coach: [Let the creative sparks fly: the ‘C’ system (Richardson, 2016)](https://www.connectedcoaches.org/spaces/17/coaching-children-ages-5-12/blogs/general/218/let-the-creative-sparks-fly-the-c-system-chapter-two)
* It is impossible to tell the future: [Survival of the fittest or survival of talent (O’Sullivan, 2015)](https://footblogball.wordpress.com/2015/02/27/survival-of-the-fittest-or-survival-of-talent/)

## 5 Final thoughts: a fresh approach?

Throughout this course, coaching that emphasises athletes making decisions and different styles of quality practices has been discussed.

Box 3 is a snapshot of how the English Football Association’s (FA) youth coaching badge scheme is adjusting its approach. This extract is taken from the start of a Guardian newspaper article entitled [FA’s youth coaching game-changer means more ball-work and less shouting](https://www.theguardian.com/football/blog/2016/jul/28/fa-coach-youth-award).

Start of Box

**Box 3 FA’s youth coaching game-changer means more ball-work and less shouting**

A fresh approach to the education of coaches moves away from the command-style model to a method that is more about whispering than hairdryer treatment.

‘Hey Thomas. Love your bravery to try that first-time pass. Keep it up. Your next challenge is to make sure you leave the ball playable for Adam or Conor ...’

(Fahey, 2016)

End of Box

You may think from ‘hairdryer treatment’ to ‘whispering’ is rather far-fetched. However, if you look carefully at the quote at the start of the article about Thomas’s ‘bravery’ and ‘your next challenge’, you can begin to see feedback on effort and challenge that closely resembles Dweck’s (2012) ideas on a growth mindset. Is coaching changing? Your own experience of sports coaching as a parent or participant will be a good judge of this. Contribute to the dialogue on the [Succeed at OU sport, fitness and coaching Facebook page](https://www.facebook.com/OUSportandFitness/).

## 6 This session’s quiz

Check what you’ve learned this session by taking the end-of-session quiz.

[Session 7 practice quiz](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%207%20practice%20quiz)

Open the quiz in a new window or tab then come back here when you’ve finished.

## 7 Summary

The main learning points from this session are:

* Some of the features of coaching sessions that help people learn include:
  + coaches have a clear learning goal
  + providing variety
  + allowing a trial and error approach
  + reviewing the session afterwards.
* Creativity in designing training sessions helps provide quality practices by encouraging participants to:
  + react to game-like situations
  + solve problems
  + make decisions, even if some of their solutions are unorthodox.
* Richard Bailey’s five commandments are principles based on the science of learning and teaching and can help guide coaching.

In the next session, you will explore the future of coaching in light of technological developments. By focusing on two examples of technology, you will develop your ability to question and critique what is often reported about such developments in the media.

You can now go to [Session 8](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%208:%20The%20future%20of%20coaching:%20technological%20influences).

**Session 8: The future of coaching: technological influences**

## Introduction

This final session explores how sport, coaching and exercise may change in the next 20 years. There has already been a discernible shift in coaching to a more evidence-based approach; now you will consider technological developments that might influence a coach’s work. You will do this with the help of Michael Johnson, who has travelled to various organisations looking at what the future might hold.

This session starts with three short videos from Michael Johnson, each casting light on some significant likely changes in sport. The first video features interviews with a Red Bull sport scientist, the second focuses on the recovery from exercise and the third on wearable technologies.

Critically examining online and media sources will help you to make sense of your sporting interests and the world around you. For this reason, you will be asked to respond to an important question: how much can we trust what journalists say?

By the end of this session, you should be able to:

* list two type of broad claims made about technological innovation in sport and exercise
* outline key themes from technological developments that may influence coaching and instruction in the future
* start understanding how to evaluate evidence and journalist’s claims in sport, coaching and exercise.

## 1 Where next in coaching and exercise?

Gazing into the future can be fascinating and can be used to help identify some of the main themes that are starting to influence coaching and instructional practice today. Throughout this session, you will consider how much of what you see or read is verifiable with evidence.

Start of Activity

**Activity 1 What sporting future?**

Allow about 15 minutes

Start of Question

Watch the following video, in which Michael Johnson hears from sporting professionals on what they think the future of sport holds. Can you identify three to five overall themes that are shaping the future of sport? To give an example, one of the themes is clearly about **technological developments**.

Start of Media Content

Video content is not available in this format.

What sporting future: risks and rewards

[View transcript - What sporting future: risks and rewards](" \l "Unit9_Session1_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 1 What sporting future?](" \l "Unit9_Session1_Discussion1)

End of Activity

If you want to understand more about a very real example of technological augmentation, you may want to read this article about a Paralympic long jumper, [Should ‘Blade Jumper’ Markus Rehm be allowed in the Olympics?](http://www.bbc.co.uk/sport/athletics/35568770)

## 2 Recovering from intense exercise

Recovery from exercise is a very good example of an area in which rapid gains in technology and understanding have been made since 2010.

Start of Activity

**Activity 2 Recovery: the new frontier?**

Allow about 15 minutes

Start of Question

Watch the following video , in which Michael Johnson hears from physiologists and trainers about developments in this field. What, if anything, surprised you in this video?

Start of Media Content

Video content is not available in this format.

Recovery: the next frontier in sporting progress?

[View transcript - Recovery: the next frontier in sporting progress?](" \l "Unit9_Session2_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 2 Recovery: the new frontier?](" \l "Unit9_Session2_Discussion1)

End of Activity

The **how the body works** theme, including recovery, has benefited from equipment/devices becoming more available; however, some of the equipment is costly (e.g. ice cryogenic chamber), so is not yet accessible to all.

## 3 Wearable technology

One device that is modestly priced, very portable and influencing many people is wearable technology. For example, you may have a better understanding of how your body responds by using a wearable device (e.g. measuring sleep patterns, steps taken, skin temperature, heart rate).

Start of Activity

**Activity 3 Johnson investigates new smart devices**

Allow about 15 minutes

Start of Question

Watch the video below which has two sections: first, Michael Johnson visits the developers of new smart clothing in the USA and second, he heard from David Brailsford (UK) about a possible future with real-time nutritional aids. How useful are these two innovations likely to be for coaches and sports people?

Start of Media Content

Video content is not available in this format.

Looking inside the engine: US and UK perspectives

[View transcript - Looking inside the engine: US and UK perspectives](" \l "Unit9_Session3_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 3 Johnson investigates new smart devices](" \l "Unit9_Session3_Discussion1)

End of Activity

There is a lot of hype and excitement about developments and, while you can trust some sources when they speak about these advances, you have to treat many with caution. For example, numerous ambitious claims are made for technological advances on the internet and through social media, but the scientific credibility of some of these is highly questionable. It is worthwhile reflecting on the ways in which you might be able to evaluate the reliability of some of the claims made about ‘sport science’ advances. What clues are there that the claims are realistic and based on sound science? What clues are there that you are being presented with a scam?

## 4 How much can we trust what journalists say?

You certainly cannot believe everything you read and fact and fiction often become blurred in sporting practice. For example, the media and public perception of coaching is often a long way from the reality of what scientists and coaches actually do.

Next, you will be asked to choose one claim from WIRED magazine, who describe themselves as ‘bringing you the people, the trends and the big ideas that will change our lives’ (WIRED, 2016), and look at the veracity of their journalistic claims.

Start of Activity

**Activity 4 Read about two innovations you will investigate further**

Allow about 15 minutes

Start of Question

Read **part of** the following WIRED article [15 innovations pushing human performance to the limit](http://www.wired.co.uk/article/sport-science-technology-human-performance). The purpose of this activity is to read about two of the innovations (innovation 7, ‘The filter that spots trainability’, and innovation 14, ‘Tools designed to warm up the mind’). Identify which of the two claims you may already know something about from this course.

End of Question

[View discussion - Activity 4 Read about two innovations you will investigate further](" \l "Unit9_Session4_Discussion1)

End of Activity

## 5 How to evaluate a claim or innovation

It is worth pausing for you to think how you will evaluate such claims or innovations. You will take three steps:

1. First, you will need to pin down exactly what is the claim that is being made? Often the words, language and, perhaps, use of a newsworthy story can often make it difficult to extract the central argument or, in this case, the claimed impact of an innovation.
2. Second, look for research evidence, preferably from a scientific journal or credible publication, or examples showing the support of other unbiased organisations. Remember the support of a commercial organisation might be more about money, rather than an endorsement of any claims being valid.
3. Finally, short articles such as those in WIRED will often present the information in a very short outline. Is there any key information missing that would help evaluate the claim further?

You will briefly consider these points for innovation 7 (‘The filter that spots trainability’) before spending more time on innovation 14 (‘Tools designed to warm up the mind’).

## 6 Examining ‘The filter that spots trainability’

This section will help you check your early ideas in evaluating the way this innovation is described and any claims made.

Start of Activity

**Activity 5 Evaluating innovation 7**

Allow about 15 minutes

Start of Question

Read [The filter that spots trainability](http://www.wired.co.uk/article/sport-science-technology-human-performance) again and identify:

1. What is the claimed innovation?
2. Does anything help support its credibility?
3. Is there any key information missing that would help evaluate the innovation further?

End of Question

[View discussion - Activity 5 Evaluating innovation 7](" \l "Unit9_Session6_Discussion1)

End of Activity

You may reach a conclusion that the claims made in this part of the WIRED article are partly supported by evidence, although the journalistic language is very sensational.

You have started to evaluate online material and ask questions about this claimed innovation but you will now explore innovation 14 in more detail.

## 7 Examining ‘Tools to warm up the mind’

Since innovation is entirely new to you, we will evaluate the way this innovation is described and then look for further evidence with the help of Michael Johnson.

Start of Activity

**Activity 5 Evaluating innovation 14**

Allow about 15 minutes

Start of Question

Read [Tools to warm up the mind](http://www.wired.co.uk/article/sport-science-technology-human-performance) again and identify:

1. What is the claimed innovation?
2. Does anything help support its credibility?
3. Is there any key information missing that would help evaluate this innovation further?

End of Question

[View discussion - Activity 5 Evaluating innovation 14](" \l "Unit9_Session7_Discussion1)

End of Activity

You have started to evaluate this, but you can now explore a little deeper.

## 7.1 Exploring further

Here you will spend a few more minutes looking further into innovation 14.

Start of Activity

**Activity 6 Michael Johnson visits Halo Neuroscience**

Allow about 15 minutes

Start of Question

In this video, Michael Johnson hears from Daniel Chao, the founder of Halo Neuroscience. How does the video expand your understanding of the claims made about this innovation? Can you detect any opinion that Michael has about this innovation?

Start of Media Content

Video content is not available in this format.

Michael Johnson meets Daniel Chao

[View transcript - Michael Johnson meets Daniel Chao](" \l "Unit9_Session7_Transcript1)

End of Media Content

End of Question

[View discussion - Activity 6 Michael Johnson visits Halo Neuroscience](" \l "Unit9_Session7_Discussion2)

End of Activity

If you visit the [Halo Neuroscience](https://www.haloneuro.com/) website, the details of the electrical pulses are explained under [Frequently Asked Questions](https://www.haloneuro.com/faqs), as are questions about user safety.

One of the best independent summaries of the evidence and ethics of this innovation is provided by a short readable article [Brain stimulation in sport: is it fair?](https://theconversation.com/brain-stimulation-in-sport-is-it-fair-55284) Your conclusion from evaluating this innovation may, like Johnson, be slightly circumspect. However, this example does illustrate how you should be cautious in what you interpret from online sources, while also recognising that sport, coaching and exercise could look very different in the years ahead.

## 8 Thinking about where your sport and/or coaching is going

To finish your work for this week, you will now use social media to express your views.

Start of Activity

**Activity 7 Where is coaching and sport going next?**

Allow about 15 minutes

Start of Question

Make a post to an appropriate online network (i.e. [the Succeed at OU sport, fitness and coaching Facebook page](https://www.facebook.com/OUSportandFitness/) or your own blog) about where your sport and/or coaching is going, based on you what you have read. Articulating your thoughts is a good way of making them explicit and will help clarify your thinking.

End of Question

[View discussion - Activity 7 Where is coaching and sport going next?](" \l "Unit9_Session8_Discussion1)

End of Activity

## 9 This session’s quiz

Congratulations on almost reaching the end of the course.

Now it’s time to complete the Session 8 badged quiz. It is similar to the quiz that you took at the end of Session 4, with 15 questions in total.

[Session 8 compulsory badge quiz](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%208%20compulsory%20quiz)

Open the quiz in a new tab or window and come back here when you’re finished.

## 10 Summary

The main learning points in this session are:

* Some of the claims made about technological innovation in sport and exercise are that developments will increase human performance and the ability to monitor the working of the body and/or mind.
* The key themes from technological developments that may influence coaching and instruction in the future are:
  + the reduced cost and availability of wearable digital devices
  + an increased understanding of body and mind
  + the access to sport being broadened
  + an increased understanding of genetics.
* Evaluating the language used in journalists’ descriptions, along with any supporting evidence, is a useful first step in considering the credibility of claims made about sport, coaching and exercise.

## 11 Where next for developing your future?

In working through this course, you have hopefully learned new perspectives and noticed how studying online in this way can be fascinating. The unique advantage of viewing quality learning material, supported by rich videos, is that it is engaging, flexible and at your fingertips wherever you go.

Also, it means that you can learn and work/play close to your sporting environment. Learning so close to your sport means that you can easily make connections and applied links between theory and practice as you work through the intriguing material.

If you are new to The Open University and already enrolled or about to enrol on the Open University [BSc (Hons) Sport, Fitness and Coaching](http://www.open.ac.uk/courses/qualifications/q76), this course represents great preparation for studying with us.

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## Solutions

## Activity 1 Your beliefs about sporting ability

#### Discussion

Your response about the sport that you are most interested in is likely to depend very much on the sport itself. For instance, if we asked a group of competitive anglers this question, we might expect the average response to be towards the nurture end of the scale. This is because angling is a heavily skill-based sport in which the interpretation of varied environments is required and physical attributes (e.g. being tall or short) have limited influence. Therefore learning and picking up tips from others is crucial – in other words, their skill has been ‘nurtured’. However, consider the sprinting events in athletics, which require distinctive physical characteristics such as fast limb movement, explosive power and perhaps a certain stature. A group of sprint coach’s average response might be further towards the ‘nature’ end of the scale than the anglers.

There is a second important factor: attributional effects. People who do their sport well tend to attribute success to hard work (i.e. they are responsible); people who are not as competent tend to attribute success to luck (e.g. genetics, parents, school).

The way that you answer the second question is fascinating, since you could say ‘it depends on the sporting interests of those responding’, but it is also likely that deeply held beliefs and values will influence the way you answer. By the end of this course, you may well have challenged some of your beliefs about sport. Soon, we will introduce a new way of collecting peoples’ responses to these questions online so if you return you can see how others have responded to this question.

[Back to - Activity 1 Your beliefs about sporting ability](" \l "Unit2_Session2_Activity1)

## Activity 2 A giant leap for mankind?

#### Discussion

Some of the main words and phrases are shown in Figure 1. The size or colour of the words has no particular significance other than there are a range of components.

Start of Figure



**Figure 1** Some of the main words and phrases used in the article.

[View description - Figure 1 Some of the main words and phrases used in the article.](" \l "Unit2_Session3_Description1)

[View alternative description - Figure 1 Some of the main words and phrases used in the article.](" \l "Unit2_Session3_Alternative1)

End of Figure

Your challenge was to begin to make sense of these and you may have identified three main categories in the article:

Start of Table

|  |  |
| --- | --- |
| **Category** | **Contributing words and phrases** |
| Mental | Resilience, coping with pressure, sports psychology, supreme confidence |
| Physical | Conditioning, rest and recovery |
| Childhood | Where you grow up, rich mix of different sports |

End of Table

In addition to this, while there are no direct references to coaching: the ‘craft of athlete improvement’ and ‘jumping technique’ are obviously both integral parts of a coach’s work.

[Back to - Activity 2 A giant leap for mankind?](" \l "Unit2_Session3_Activity1)

## Activity 3 What makes champions successful?

#### Discussion

If you group the word **mental** together with **psychology**, it would definitely emerge as the most popular theme. Also, **dedication** and **commitment** were often used, suggesting that the athletes considered drive and motivation as key aspects that they felt separated them from their colleagues; there is plenty of research evidence which supports these opinions. This video reinforces the mental components used to explain Jonathan Edwards’ success in Activity 2.

[Back to - Activity 3 What makes champions successful?](" \l "Unit2_Session4_Activity1)

## Activity 4 Injury rehab in rugby: keeping it personal

#### Discussion

Devices and data at Saracens contribute to monitoring each individual training load and help design an appropriate intensity of training. In this situation, a coach and psychologist might discuss the balance between physical **challenge** and the amount and type of **support** provided by those around the injured players. If you have ever had an injury, you will appreciate that there is a mental aspect to getting over the injury and fears that it may reoccur. Academic research is increasingly influencing the psychological aspects of recovery.

[Back to - Activity 4 Injury rehab in rugby: keeping it personal](" \l "Unit2_Session6_Activity1)

## Activity 5 2020 vision: exploring talent development for Tokyo

#### Discussion

1. The characteristics of the learning environment were all about providing challenges and learning opportunities in a structured way. The fact that this was held in colder winter months, living and training away from home and learning a new skill in front of others made it more demanding.
2. The coaches were looking for the athletes’ determination to continue despite setbacks, their willingness to learn and accept coaching guidance and their ability to set realistic goals.

If you are interested in finding out more, take a look at the article [London 2012 champion launches new Girls4gold Talent ID campaign](http://www.uksport.gov.uk/news/2013/11/01/london-2012-champion-launches-new-girls4gold-talent-id-campaign).

[Back to - Activity 5 2020 vision: exploring talent development for Tokyo](" \l "Unit2_Session6_Activity2)

## Activity 1 Michael Johnson on early specialisation

#### Discussion

The key words/phrases you noted might include: ‘wrong sport’, ‘enjoyment/fun’, ‘injury’, ‘body awareness’ or ‘early selection’. Some of these merit a little more explanation. For example, the reference to ‘wrong sport’ suggests that people are physically or mentally suited to different sports and, by sampling a range of sports, we are more likely to come across the sport most suited to us. In sampling, you also develop a broader range of movement patterns and ‘body awareness’. The danger is that ‘early selection’ of children for specialist training risks killing off the enthusiasm that they will need to maintain for many years if they pursue the sport.

Epstein mentioned an uncertainty over the idea of sampling sports applying to golf, but ask yourself this: do 15 year olds win world class adult golf events? The principle to apply here is whether elite adult performance **before** puberty is possible. Junior golfers, to the best of our knowledge, have not won adult major events, but in girl’s gymnastics this has occurred (and this success is discussed later in this session).

[Back to - Activity 1 Michael Johnson on early specialisation](" \l "Unit3_Session1_Activity1)

## Activity 2 Children, coaching and choices

#### Discussion

The level of commitment to training at such a young age might be a little unsettling to watch for some. You mostly saw Lily on the ice and it appears that she is self-motivated, with parents who facilitate her training. The tone of her interactions and behaviour with her coach appears to be warm.

In contrast, Genevieve appears to be shy with a closely involved mother who contributes to coaching. Her mother says that aspects of their parent/child relationship can be hard to balance in relation to sporting matters. It is not clear how much autonomy or control over her sporting world Genevieve has: in the clip her mother appeared to push her.

[Back to - Activity 2 Children, coaching and choices](" \l "Unit3_Session2_Activity1)

## Activity 3 The magic of a holistic tennis coach

#### Discussion

He seems to be special due to his **holistic** approach in trying to develop the whole person, not just the aspiring tennis player. He is teaching character (respect for societal rules, integrity and empathy for others), connection (positive bonds with people in sport), compassion and confidence whilst also providing challenges for the young people to rise to. The inspiring aspect is perhaps due to a **magical** combination of enthusiasm, knowledge and a caring approach. Perhaps if all coaches were able to be so effective, more children might maintain their zest for sport. This mirrors UK Coaching’s [‘C’ system](https://www.connectedcoaches.org/spaces/17/coaching-children-ages-5-12/blogs/general/105/a-coaching-system-that-will-help-you-c-the-light).

[Back to - Activity 3 The magic of a holistic tennis coach](" \l "Unit3_Session3_Activity1)

## Activity 4 Football academies main focus

#### Discussion

One clear message Roddy describes is maintaining a passion for their sport, but he does not specifically describe how this is done. Alongside this, he identifies creating a thirst for learning as being important throughout a successful professional career. This links to a ‘growth mindset’ (Dweck, 2012), which you will explore further in Session 5.

[Back to - Activity 4 Football academies main focus](" \l "Unit3_Session4_Activity1)

## Activity 5 What would 10-year-old children choose?

#### Answer

**Right:**

I love playing football because it’s fun

It’s a really good game and I love it

Trying my hardest is more important than winning

I like playing football with my friends

It helps keep me fit and healthy

I like meeting new friends through football

**Wrong:**

I like playing matches against other teams

I love scoring or stopping goals

I like to show off my skills

I like skilling people

It’s important to me I win the league

I like learning new skills

I play because it makes my parents happy

It’s important to me I try to win matches

It’s important to me I win trophies and medals

Winning is more important than trying my hardest

[Back to - Activity 5 What would 10-year-old children choose?](" \l "Unit3_Session5_Activity1)

#### Discussion

It is revealing that the children are driven by internal motivators and not by winning or trophies. Two of the statements in the top six are about children’s friendships, so making connections and sharing experiences with others is equivalent to fun and enjoyment for them. Levett found that the children’s top answer by far was that trying their hardest was more important than winning. How do you think this compares to the values that an adult brings to game day?

[Back to - Activity 5 What would 10-year-old children choose?](#Unit3_Session5_Activity1)

## Activity 1 Investigating height and growth

#### Discussion

1. A label of ‘peak height velocity’ draws our attention to the maximum surge in growth, with a striking difference in the lines between boys (blue) and girls (red). The duration of this period of accelerated growth, called the **adolescent growth spurt**, is usually greater in boys than girls, although there is considerable variation. In girls, this typically occurs around 10 to 13 years of age; in boys, it occurs between 12 and 15 years of age. On completion of the adolescent growth spurt, men are, on average, taller and heavier than women. This is typical of all cultures and ethnicities. The graph suggests that peak height gains can be in the region of 10 cm/year, which are quite substantial changes, particularly in any activity where size is important.
2. The line is changing but irregular. We have to assume that this is an average among a number of young people. Most people differ from such an ‘average’.

[Back to - Activity 1 Investigating height and growth](" \l "Unit4_Session1_Activity1)

## Activity 2 Bradley Busch explains his work in schools

#### Discussion

The most common topic that teenagers discuss is about their **self-control** (control of impulses). Bradley talks about people having different approaches to how much they can persist at something for an eventual reward (delayed gratification). Studies have shown that this is a key life skill. Teenagers often identify how they can easily get distracted and give in to impulses. Removing distractions to help them keep on task was one practical tip Bradley raised, and it is clear that sticking at revision or practice over time is an important aspect of those who wanted to progress in education or sport.

The second topic is thinking about how sensitive the teenage brain is to social status and the influence of **peer pressure**, and how this can often dominate actions. The example of smoking was given in which, if they are alone, teenagers may not make certain decisions, but in the company of their peers they often choose differently: there is a link here to self-control with regards to being distracted from original intentions.

The third topic is handling **failure or mistakes**. Bradley Busch suggested a tip for schools, and coaches, is to create an environment in which mistakes are not mocked or criticised: a place where it is safe to fail as part of learning and questions such as ‘what would I do differently next time?’ are posed.

[Back to - Activity 2 Bradley Busch explains his work in schools](" \l "Unit4_Session4_Activity1)

## Activity 3 Bradley Busch’s top teenage topics in sport

#### Discussion

**Confidence** frequently features in Bradley Busch’s dialogue with teenagers in sport, in a similar way to how Rachel mentioned this in the family audio clip. Whilst adults have often heard about the advice of focusing on controlling the controllable features of performance, this is a new concept for many teenagers and one he says they find particularly useful.

The other common topic is controlling **emotions** (e.g. nerves or frustrations) in sport. He explained how he encourages people to think about situations as less threatening and framing them as opportunities. This includes encouraging people to have less regard for what other people might think about them and to focus on their own competition routine and performance.

[Back to - Activity 3 Bradley Busch’s top teenage topics in sport](" \l "Unit4_Session5_Activity1)

## Activity 4 Peers as role models in PE

#### Discussion

Ali Oliver has a lot of experience of working with teenagers, and she makes the distinction between role models such as a PE teacher or elite sportsperson, who represent a certain way of engaging in sport, and bottom-up **peer role models**. She thinks the latter have far more of an influence over teenagers. Interestingly, research supports her opinion: those who are ‘like us’ are far more powerful role models.

[Back to - Activity 4 Peers as role models in PE](" \l "Unit4_Session6_Activity1)

## Activity 1 Heart and soul in rowing

#### Discussion

1. The video links to what you saw in Session 2 about fun and enjoyment in children’s sport, but there is considerable nuance amongst these athletes because they can express themselves very well. Here are some of the things that may have stood out for you under each category, which also coincide with research about motivation.

**Mastery of skills**: the feeling of the movements when carried out optimally was mentioned often and the ambition of what they were attempting is perfectly represented by, ‘[it is] elegant and precise, but powerful and delicate but strong’.

**The sport’s environment**: the outdoor surroundings and the tranquillity of being ‘free’ in open space was a recurring theme.

**Being with others**: the special atmosphere of being part of a well-functioning team, which includes supporting each other and developing strong bonds, was important for some.

1. If videos were made for other sports, the evidence suggests that sports participants would also talk about mastery, as most other top athletes focus on working towards an elusive personal best performance. Those in team sports are likely to talk about the social aspect of being together and shared experiences.

[Back to - Activity 1 Heart and soul in rowing](" \l "Unit5_Session1_Activity1)

## Activity 2 Pia Sundhage (Team USA and Sweden)

#### Discussion

Listening and open communication, which together lead towards trust, might be one way of summarising part of her philosophy. She also talked about how shared team goals need to be discussed and often act as a reference point. When talking about her ‘coach healthy’ approach, it seemed to be mainly about inspiring players to reach towards being better rather than overemphasis on what mistakes they made. The research evidence supports her observation that creating an environment that players want to belong to, and one in which everyone can improve, is a valuable approach

[Back to - Activity 2 Pia Sundhage (Team USA and Sweden)](" \l "Unit5_Session2_Activity1)

## Activity 3 Jürgen Klinsmann (Germany and USA)

#### Discussion

Klinsmann makes some interesting observations about players being the main decision makers on the pitch and that coaches in football have limited opportunities to direct play, which contrasts with the American team sports that have numerous time-outs. So, one key similarity is that both Klinsmann and Sundhage are trying to encourage players to take responsibility on the field, which is supported by academic research. They also want players to take responsibility for their own learning and improvement.

Klinsmann describes how there is no perfect coaching tone or approach since every coach and player is different. Like Sundhage, he talks about trying resolve conflict through talking, but he also mentions the situation of sometimes using the ultimate sanction of removing one party from a group if a conflict is too deep-seated.

[Back to - Activity 3 Jürgen Klinsmann (Germany and USA)](" \l "Unit5_Session2_Activity2)

## Activity 4 Coaching connections or contrasts?

#### Discussion

The list of terms that we noted were: ‘environment’, ‘athlete problem-solving’, ‘empowered’, ‘learning’, ‘training quality’, ‘mind–body connection’, ‘partnership’ and ‘different training being fun’. The first four of these terms were points of **connection** and similarity to themes mentioned by Pia Sundhage and Jurgen Klinsmann. Perhaps all three coaches have a view of a coaching model where ‘I have information, the athlete has information and we’re partnering in that’ (The Documentary, 2014). The research evidence on effective coaching mirrors these views.

One of the striking **contrasts** (differences) with Teri McKeever was her willingness to be creative and try out different physical training methods. She observed how an athlete’s mindset to approaching new tasks could often be revealing. She talked about a characteristic of quality training being how she asks athletes to use their imagination to connect emotionally, physically and mentally to ‘race time’ in their sessions. This is all part of her view of the interconnection between mind and body. She concludes ‘there’s more than one way to be successful at the highest level’ (The Documentary, 2014).

[Back to - Activity 4 Coaching connections or contrasts?](" \l "Unit5_Session3_Activity1)

## Activity 5 Selecting for your team

#### Discussion

There are a few sentences that you might have identified as providing the best summary. We identified this sentence as one of them, ‘they look for independent, smart, and hardworking athletes who have good self-insight, want to learn, and are willing to grow as people’. Did you identify this sentence too? This approach emphasises independence, self-awareness and diligence qualities useful not just in sport, but in life.

The unusual aspect was how they looked out for mental attitude and holistic life skills being a key factor in making choices. For example, over-involved parents or an indulgence in text messaging by the athlete indicated they may not be selected.

[Back to - Activity 5 Selecting for your team](" \l "Unit5_Session4_Activity1)

## Activity 1 Explore mindset from your own experience

#### Discussion

The different approaches to aspects of learning in the left-hand column provide some attitudes and behaviours that you may have encountered. They can either hinder or help learning, although it might not be quite as clear cut as a fixed or growth mindset as is shown in the table. Notice how in the ‘success of others’ row, there is a strong connection to what you learned in Session 3 about role models: ‘finds lessons and inspiration in the success of others’ clearly describes the potential impact of role models.

Some of the things Bradley Busch said about mistakes and failure among teenagers in [Session 3, Activity 3](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%203:%20Guiding%20teenagers%20towards%20success%20and%20life&targetptr=busch-top-topics) also links to these ideas of a growth mindset.

The claimed difference in the overall ‘control over their learning’ is stark between those with a pre-determined (fixed) mindset and those with a free-choice (growth) mindset.

[Back to - Activity 1 Explore mindset from your own experience](" \l "Unit6_Session2_Activity1)

## Activity 2 What is this thing called mental toughness?

#### Discussion

1. Peter Clough talks about people coping in pressurised environments, describing people as
   * not being fazed by challenges
   * having control of the things they can control
   * controlling levels of confidence/commitment
   * learning from mistakes

He describes how high potential or ability cannot be realised when mental toughness is lacking.

1. He explains the importance of having clear and realistic goals and setting expectations based on a person’s potential. He also outlines the importance of regulating emotion i.e. not letting feelings distract from what you are doing. In addition, the ability to deal with heightened emotions from anxiety and stress is mentioned. In each case, it is not entirely clear how these ideas are put into practice to enhance mental toughness, but some guidance is provided about goal setting and exposing people to challenges.

[Back to - Activity 2 What is this thing called mental toughness?](" \l "Unit6_Session5_Activity1)

## Activity 3 Negotiating challenges on the rocky road

#### Discussion

1. He focuses on the degree of challenge that a person faces in their training environment and their response to it – in fact he mentions ‘challenge’ eight times and also refers to this development journey as ‘the rocky road to success’ (part of the title of one of his team’s research papers).
2. He makes reference to snow ploughing as a removal or obstacles and challenge in peoples development paths often being counterproductive. Dave Collins goes on to describe his most recent work comparing super champs and champs and how they cope with adversity; more importantly learning from challenge to enhance their skills and therefore take this into the next challenge. He suggests in his final comment that this is the biggest distinguishing characteristic between super champs and champs. It is not stated in the interview clip but a super champ is one who has 50+ national appearances in team sport or 5 or more world/Olympic medals.

[Back to - Activity 3 Negotiating challenges on the rocky road](" \l "Unit6_Session5_Activity2)

## Activity 4 Developing young athletes

#### Discussion

Of the nine characteristics identified in the article, two may be familiar to you from what you have already read. The first of these was the item about **commitment**, while the second was about **quality practice**, which McKeever discussed in particular. In Activity 3, Clough briefly mentioned **resilience and self-regulation** and touched upon **focus control** when mentioning controllable aspects of performance.

Some of the new insights were probably things you have heard of but might not have read about before. For example, **imagery** (picturing successful future performances), particularly in pre-performance routines, is a very important skill. When **realistic performance evaluation and attribution** is described, does it make you think about people who attribute something to misfortune or anything other than themselves? Also, you have heard of **goal setting** before, but perhaps not in such detail.

The importance of **creating and using support networks** was last mentioned in the very first session of the course. However, support networks are not often recognised in sport: asking for help is a sign of strength and can play a key role in times of adversity.

[Back to - Activity 4 Developing young athletes](" \l "Unit6_Session6_Activity1)

## Activity 1 Chris Hoy’s experiences of using psychological skills

#### Discussion

Chris Hoy discusses his use of sports psychology and how seeking psychological support can allow athletes to be as prepared as possible when going for gold. He talks about his visualisation technique, which psychologists would call **imagery**. He used this in his preparation and pre-performance routine for the 2004 Olympic final. He discusses focusing on the process of performance and what he could control, so it partly relates to the **focus and distraction control** part of the PCDE. Before using such techniques, he describes the anxiety he felt before crucial competition and, in particular, a time when he panicked and finished poorly.

[Back to - Activity 1 Chris Hoy’s experiences of using psychological skills](" \l "Unit7_Session1_Activity1)

## Activity 2 A ski racer crashes − primitive fear

#### Discussion

Ben Seymour outlines panic and fear as being a battle between the primitive part of the brain from our evolutionary past and the part of the brain trying to gain control over our actions, trying to get us to make rational decisions. He describes sports peoples’ attempts to suppress automatic primitive fear responses. But fear and panic don’t just apply to sport: we all face it in different ways through the challenges of daily life.

[Back to - Activity 2 A ski racer crashes − primitive fear](" \l "Unit7_Session3_Activity1)

## Activity 3 Controlling your emotions in sport

#### Discussion

Ronnie learned to understand himself better by looking at what stimulates his emotions. In particular, he learnt that the conflict in his mind between the logical self and more emotional self could be controlled. By embracing Steve Peters’ ‘chimp’ model, he was able to distance himself from the emotional part of his brain by talking about it in the third person (i.e. ‘sometimes I can fire him up and sometimes I can take him down’ (O’Sullivan, 2013)). Thinking about emotion as a detached third person in itself is likely to make it easier to regulate and control.

[Back to - Activity 3 Controlling your emotions in sport](" \l "Unit7_Session4_Activity1)

## Activity 4 Behind the lines

#### Discussion

In this clip, Jonathan Edwards emphasises the individualised nature of pre-performance routines and ultimately you have to find your own way. It is not stated but he implies that you often do this by trial and error. Then Matthew Syed goes on to suggest that routines often follow a ritual pattern in which prayer, superstitions and visualisation are sometimes used; he describes the process as being about helping to provide reassurance and control. You will find that Figure 2 gives more specific advice along with subsequent sections on ‘self-talk’ and Alex Danson’s experiences.

[Back to - Activity 4 Behind the lines](" \l "Unit7_Session6_Activity1)

## Activity 1 Training session advice

#### Discussion

An approach like Friend A (i.e. based mainly on using drills) is most commonly influenced by previous playing experiences of how they were coached: O’Sullivan calls him a trainer. They learn from watching what other coaches do. These are powerful shaping forces that are hard to change (Potrac et. al., 2007); training courses often struggle to change this perspective as beliefs about practice are handed down. In contrast, it is claimed Friend B (teacher/coach) is thinking about the learning goals of a session and sees participants as learners.

[Back to - Activity 1 Training session advice](" \l "Unit8_Session1_Activity1)

## Activity 2 Richard Bailey’s first two coaching commandments

#### Discussion

The main point in his first commandment is that practices are most effective if designed to resemble the competitive environment as closely as possible. This makes it more likely that the skills and understanding will be developed to properly prepare athletes for their activity. In his second commandment, he focuses on attempts to stimulate full mind and body concentration in practices, rather than concentrating on ‘mindless repetitive drills’. You will explore examples of these principles in the sections that follow.

[Back to - Activity 2 Richard Bailey’s first two coaching commandments](" \l "Unit8_Session2_Activity1)

## Activity 3 Stimulating and stretching sessions

#### Discussion

A summary of the recommendations made were for coaches to make use of:

* highly contextual ‘decision-rich environments’
* competitive practices
* feedback including allowing a trial and error approach
* coaches and athletes reviewing their training afterwards.

This throws more light on Bailey’s commandment ‘you learn to play by playing the game’.

[Back to - Activity 3 Stimulating and stretching sessions](" \l "Unit8_Session2_Activity2)

## Activity 4 Danny Kerry's creative session design

#### Discussion

Danny Kerry is an advocate of decision-rich practices in which athletes solve problems. The ‘norm’ for older athletes, and some parents, was for the coach to be the centre of all activities and their knowledge was seen as one of the most important facets of good coaching. The problem is, increasing amounts of research shows that you don’t retain skills as effectively if they are just practised using repetition (Patterson and Lee, 2013; Schmidt and Lee, 2011).

[Back to - Activity 4 Danny Kerry's creative session design](" \l "Unit8_Session2_Activity3)

## Activity 5 Richard Bailey’s final three coaching commandments

#### Discussion

For his third commandment, Richard uses the analogy of praise and criticism being a bit like salt on a meal: used sparingly it can enhance the experience, but too much can ruin it. He suggests that there is a tendency for those coaching young people to use praise too much, which can damage self-esteem by harming the coach–athlete relationship.

In his fourth commandment, he is talking about encouraging creative, innovative athletes who are often unpredictable in their performances. For example, Lionel Messi was deemed too small to succeed in football but compensated by becoming an exceptional dribbler of the ball; or consider Michael Johnson who used an unorthodox upright running style. To encourage alternative approaches, he suggests coaches need to coach imaginatively and concentrate on the outcome of any techniques, not how it looks compared to the coaching manual. Fewer coaching robots: more flair, finesse and thinking outside the box.

Finally, in his fifth commandment, Richard considers the impossibility of predicting, especially in primary-aged school children, who might have sporting talent. His plea is for coaches and sporting organisations to keep as many young people engaged with positive sporting environments for as long as possible, out of which the best players will emerge. By keeping the selection open for more people, the net is cast wider, which benefits all.

[Back to - Activity 5 Richard Bailey’s final three coaching commandments](" \l "Unit8_Session4_Activity1)

## Activity 1 What sporting future?

#### Discussion

Contributors talked about the impact of the ‘**technological revolution**’ on sport, which includes the development of prosthetic devices. The timescale of these technological advances was quoted as being since about 2010. Another speaker claimed that our understanding of **how the body works** and, in particular, nutrition and the muscular fuelling systems, will lead to future improvements in performance. Perhaps a less tangible leap forward was suggested to be in the increased knowledge of **cognition** (mental actions and processes), including human ‘spirit’ and creativity.

Further advances are likely, as a result of worldwide **access to sport being broadened**; it was claimed that groups of the world’s population may be discovered that have a **genetic predisposition** to respond to training extremely well and therefore have sporting potential (termed ‘trainability’). The caveat to these possible developments was that governing organisations in sport need to keep up with such progress in order to maintain fair, balanced competition. Also, notice how it is useful to frame most of these developments as ‘claims’ at this stage, until the evidence of their impacts become clear.

In summary we can say that technological innovation in sport and exercise will a) increase human performance and b) increase the ability to monitor the working of the body and/or mind.

[Back to - Activity 1 What sporting future?](" \l "Unit9_Session1_Activity1)

## Activity 2 Recovery: the new frontier?

#### Discussion

Did the potential link between recovery and genetic responses or gene ‘switches’ surprise you as an example of the detailed research in this field? Or perhaps the visual image of someone stepping out of a dry ice cryogenic chamber (–100 °C and lower) made you realise how specialised the field is becoming?

The statement implying that the placebo effect might be important was perhaps surprising, ‘if an athlete thinks something is working … it is working’. The same contributor also stated that with such rapid advances, if they wait for things to be proven scientifically, then they can be behind the curve of meeting athletes’ and coaches’ needs.

[Back to - Activity 2 Recovery: the new frontier?](" \l "Unit9_Session2_Activity1)

## Activity 3 Johnson investigates new smart devices

#### Discussion

The prospect of people being able to monitor which muscles are being used and the timing of, for example, leg contractions, might make what was once lab technology far more accessible to coaches and athletes. It was interesting that this clothing device picked up an anomaly in Johnson’s movement due to a previous injury.

In the second part of the video, David Brailsford (cycling coach/performance director) was palpably excited at the possibility of devices monitoring the fuelling state of athletes in real time. This could mean that deciding when and what to eat could become far more refined and could transform approaches to nutrition and training.

[Back to - Activity 3 Johnson investigates new smart devices](" \l "Unit9_Session3_Activity1)

## Activity 4 Read about two innovations you will investigate further

#### Discussion

These comments will help you make connections with earlier parts of the course.

* Innovation 7 – ‘The filter that spots trainability’. You have already seen some similar ideas to this in [Activity 5 in Session 1](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%201:%20Exploring%20sporting%20success&targetptr=tokyo-talent), about canoeists preparing for Tokyo 2020. This has a focus on identifying talent and links to your previous exploration of the components that contribute to sporting success.
* Innovation 14 – ‘Tools designed to warm up the mind’. The ideas in this may be entirely new to you and are experimental, as they claim to manipulate the brain in order to improve learning and possibly performance.

[Back to - Activity 4 Read about two innovations you will investigate further](" \l "Unit9_Session4_Activity1)

## Activity 5 Evaluating innovation 7

#### Discussion

1. The claimed ‘filter’ is a screening process that identifies adults who have a talent to thrive in a particular sport. It is claimed that measuring the ‘right stuff’ and ‘commitment’ is possible. Highly planned learning is required, including learning from mistakes. This statement may not be that surprising to you having done this course.
2. Research from the University of Bangor is cited to support credibility. If you look at the source of [Figure 2 in Session 1](http://www.open.edu/openlearn/ocw/mod/oucontent/olinkremote.php?website=ALT_1&targetdoc=Session%201:%20Exploring%20sporting%20success&targetptr=coaching-psychology-performance), you will see that Rees et al.’s (2016) research (Rees is from the University of Bangor) has informed your study experience already.
3. It is not made clear how they identify athletes nor how they measure commitment other than putting athletes through tough developmental challenges, such as winter canoeing tasks, and seeing how they react (see Activity 5 in Session 1)!.

[Back to - Activity 5 Evaluating innovation 7](" \l "Unit9_Session6_Activity1)

## Activity 5 Evaluating innovation 14

#### Discussion

1. The article talks about a programme (the meaning of this ambiguous word is not clear) that delivers ‘pulses’ to the mind before exercise. It is claimed that this ‘upgrades’ the brain’s hardware (a strange, computer-like choice of words) and athletes can go faster and further. Hardware is completely misleading, since it refers to the grey fleshy bits of the brain. The ‘software’ of the brain would be its thoughts, emotions, etc..
2. The mention of the military and medical sectors is attempting to suggest it may have some credibility beyond sport. The bold claim of helping people walk again is perhaps purposefully used to attract attention, much like using the term ‘upgrade’ when talking about the brain.
3. It is not clear what the pulses consist of (e.g. sound, magnetism, heat, microwaves), nor what systems in the body are made more efficient, and therefore how it operates (muscular, cardiovascular, nervous systems). As a reader, one is left uncertain whether this development is about helping human learning (e.g. learning to walk), processing (e.g. thinking) or performance (e.g. walking faster)?

[Back to - Activity 5 Evaluating innovation 14](" \l "Unit9_Session7_Activity1)

## Activity 6 Michael Johnson visits Halo Neuroscience

#### Discussion

The film suggests that it is electrical pulses that are aimed at specific parts of the motor cortex that are responsible for movement in the targeted part of the body; in the case of the film it was the legs. The claim is that the device ‘supercharges the pathways between the muscles and the brain’ and this stimulates learning to be more efficient resulting in improved athlete output for the same level of effort. The participant on the treadmill, Ryan, describes the feeling of a ‘slight tingling’ sensation in the head.

Johnson does not give a great deal away about what he really thinks about the potential of this innovation, but it is noticeable that he does not have a trial of using the device. There perhaps remain unresolved questions about how it operates and precisely what mechanisms explain this heightened learning; there is also the question of the impact of these devices with sustained use.

[Back to - Activity 6 Michael Johnson visits Halo Neuroscience](" \l "Unit9_Session7_Activity2)

## Activity 7 Where is coaching and sport going next?

#### Discussion

By expressing your thoughts, it may well create dialogue with others. It will be fascinating to see how different viewpoints emerge and the influence of what you have read.

[Back to - Activity 7 Where is coaching and sport going next?](" \l "Unit9_Session8_Activity1)

# Figure 1 Some of the main words and phrases used in the article.

## Description

The word cloud contains the following words/phrases: Sport psychology; Coping with pressure; Conditioning; Supreme confidence; Where you grow up; Resilience; The craft of athlete improvement; Jumping technique; Rest and recovery; Rich mix of different sports.

[Back to - Figure 1 Some of the main words and phrases used in the article.](" \l "Unit2_Session3_Figure1)

# Figure 2 A range of factors that contribute to sporting success.

## Description

This is a Venn diagram with three circles. The first, ‘Characteristics of the Performer’, contains the words and phrases ‘Personality’, ‘Motivational orientations’, ‘Psychological skills’, ‘Avoiding injuries’ and ‘Genetics’. The second, ‘Characteristics of Training/Practice’, contains the words and phrases ‘Recovery and sleep’, Practice quality’, ‘Diversity of early sports experiences’, ‘Competition that gradually gets more demanding’, ‘Effective strength and conditioning’, ‘Amount of practice’ and ‘Appropriate nutrition’. The third, ‘Characteristics of the Social Environment’, contains the words and phrases ‘Support (coaches, parents, siblings)’, ‘Development programme characteristics’ and ‘Geography’. The central overlapping part of these three circles contains the words ‘The Coach’, ‘The Performer’ and ‘Sports Performance’.

[Back to - Figure 2 A range of factors that contribute to sporting success.](" \l "Unit2_Session5_Figure1)

# Figure 1 Growth in height for boys/girls age 0–17 years

## Description

This graph plots the height gain in centimetres per year against age for boys and girls. The initial high rate of growth following birth decelerates to a steadier rate of growth by the age of 1. In girls, the rate of height gain accelerates at around age 9, before reaching ‘peak height velocity’ at age 10. This growth rate decelerates and tails off in the teenage years before growth terminates around age 15. In boys, the growth rate accelerates from age 11 to a peak height velocity around age 13. This growth rate tails off and growth terminates around age 17.

[Back to - Figure 1 Growth in height for boys/girls age 0–17 years](" \l "Unit4_Session1_Figure1)

# Figure 2 Teenage brain is different infographic.

## Description

This image is a poster titled ‘The teenage brain is different, and what you can do about it?’. The first piece of advice states that teenagers are more likely to take risks and seek out novelty, so you should encourage positive risk taking. The second piece of advice states that teenagers struggle to get enough sleep, so you should talk to them about common sleep mistakes. The third piece of advice is that teenagers are worse at reading emotions, so you should be clear about what you mean and be patient. The fourth piece of advice is that teenagers are more susceptible to peer pressure, so you should shape group values that encourage academic success. The final piece of advice is that teenagers have worse self-control, so you should remove distractions from study areas.

[Back to - Figure 2 Teenage brain is different infographic.](" \l "Unit4_Session4_Figure1)

# Figure 1 The tendencies and likely results of fixed and growth mindsets

## Description

This diagram compares a Fixed Mindset with a Growth Mindset. A fixed mindset believes that sporting ability is static and that it leads to a desire to look competent and a tendency to: avoid challenges; give up easily; see effort as fruitless; ignore negative feedback; and feel threatened by the success of others. As a result, they achieve less than their full potential and all this confirms to them that this is predetermined. A growth mindset believes that sporting ability can be developed, which leads to a desire to learn and a tendency to: embrace challenges; persist in the face of setbacks; see effort as the path to mastery; learn from criticism; and find lessons and inspiration in the success of others. As a result, the reach ever-higher levels of achievement and this reinforces their belief in free-will.

[Back to - Figure 1 The tendencies and likely results of fixed and growth mindsets](" \l "Unit6_Session2_Figure1)

# Figure 2 Sentences that you can use to encourage young people to use to support a growth mindset

## Description

This image is a poster titled ’10 growth mindset sentences. The sentences are: I believe I can get better; I am not good at this…yet; I need to figure out what I’m missing; I am going to learn how they do it; What other strategies can I use?; Mistakes can help me learn; Today’s effort is worth tomorrows reward; I need to keep trying for a little longer; Who can I ask for feedback/advice?; Minor setback? Major comeback.

[Back to - Figure 2 Sentences that you can use to encourage young people to use to support a growth mindset](" \l "Unit6_Session3_Figure1)

# Figure 3 The Iceberg Illusion

## Description

This illustration is titled ‘The Iceberg Illusion’. It shows an iceberg where two-thirds of it is submerged below water. The top third of the iceberg is labelled ‘Success!’ with an arrow pointing to it labelled ‘what people see’. Underwater, an arrow, labelled ‘what people don’t see’, points to the iceberg and the words ‘dedication’, ‘hard work’, ‘discipline’, ‘disappointment’, ‘sacrifice’, ‘failure’ and ‘persistence’.

[Back to - Figure 3 The Iceberg Illusion](" \l "Unit6_Session3_Figure2)

# Figure 1 Dave Alred

## Description

This is an image of Dave Alred.

[Back to - Figure 1 Dave Alred](" \l "Unit7_Session2_Figure1)

# Figure 2 The new science of embracing performance anxiety.

## Description

This poster is titled ‘The new science of embracing performance anxiety’. The first step says ‘Develop a routine’. ‘Having a pre-planned series of actions gives you something to focus on so your mind can’t wander and become anxious’. ‘Consistently practicing pre-performance routines reduced anxiety and increased performance.’ ‘The elements of the routine itself don’t really matter, what does matter is that you design a series of steps that makes you feel good, and that you practice it enough so that you become comfortable with it. The second step is to ‘reframe anxiety as an excitement’. ‘When try to suppress those pre-race nerves, you are inherently telling yourself that something is wrong’. ‘Instead of trying to calm yourself down, reappraise pre-performance anxiety as excitement’. ‘The sensations you feel prior to a big event are neutral - if you view them in a positive light, they are more likely to have a positive impact on your performance. The final step instructs to ‘change your body to change your mind’. ‘Body language has a huge impact on how you feel about yourself. Prior to big events, open yourself up and make yourself big’. ‘If you hold your body like you’re confident and in charge, your mind is likely to follow’. The poster concludes, ‘Perhaps the best part of these tactics is that they are not mutually exclusive. They are most effective when used together, and they work across almost all pursuits - whether that’s prepping for an Olympic race or getting ready for your first 5K'.

[Back to - Figure 2 The new science of embracing performance anxiety.](" \l "Unit7_Session6_Figure1)

# Introduction to Session 1

## Transcript

ALEX DANSON

When I look back at my sporting career, I really realise how lucky I was at a young age to play so many different sports. Before hockey became probably my priority about age 17, I did everything from surfing to squash, climbing, cycling.

But I think the reason I became more successful at this was definitely my parents, my coaches, the club environment I came from, and also my school, and I think along with that, a real desire to learn and an ability to be able to push myself from quite a young age.

If I could go into a transfer programme to change sports, I think I’d choose heptathlon. Now, I’d probably be terrible at heptathlon, but for me, it is the ultimate challenge of power, endurance. And I think the mental capacity an athlete has to have to compete over two days and seven events is simply phenomenal.

The fact that people can now swap or do dual sports like Kadeena Cox at the Rio Paralympic Games, who won a gold medal on the track and also won a gold medal in athletics, is just testament to both the quality of coaching and how this influences an athlete’s journey.

But when learning is involved, it’s so important that you’re able to both take on feedback and not get disheartened throughout that learning process. I really hope you enjoy your first week, and you’ll hear more from me again throughout the course.

[Back to - Introduction to Session 1](" \l "Unit2MediaContent1)

# Champions talk: what makes a champion?

## Transcript

[MUSIC PLAYING]

SIR CHRIS HOY

Being a champion athlete is about behaving like a champion every day, not just when there's thousands of people in the stadium cheering you on, TV cameras, you know, medals to win. It's about getting up in the morning, and whether there's someone there to stand over you or not, you have to behave like a champion. So it's the discipline and training. It's the focus for day after day, month after month, year after year, to become an Olympic champion at the end of a four-year cycle.

DINA ASHER-SMITH

I'd probably say the overarching theme would be just a drive. So you've got to want to get better and you've got to be willing to work. You've got to be able to be evaluative, so you've got to be able to look at your flaws and not get offended if somebody points out you're not very good at that, because you've got to understand that they're trying to help you. And you've got to want to improve all your weaknesses and just continuously work hard all year around, apart from a little break period. But yeah, continuously work hard all year round. Being a champion is more of a lifestyle than a part-time thing.

RONNIE O'SULLIVAN

To be the all-around champion, I think you need to obviously have ability in the beginning. I think you have to have a ruthless discipline inside you to just be focused on being the best you can possibly be. And then obviously, I think there's also the side of just having the right temperament and being able to manage your emotions, if you like, when you're out there playing.

AP MCCOY

I think what sets those serial winners apart from other people is they have great mental strength. Especially in terms from a jockey's point of view, you have a lot of injuries, spend a lot of time in hospital, and you have to have the mental strength to get through that. And obviously, it's a physical thing, but it's a mental thing that will make you come back quicker.

DAME SARAH STOREY

I think to become a serial champion you have to have a little bit of a twinkle in your eye, a bit between your teeth of an ambition to make a career out of something. And I guess there's some of us that are that sort of makeup, that we want something that's even more challenging than the most difficult challenge. And for me, it was the idea that you could be a serial winner. And I guess I've probably milked it now, as well.

Most of the time when you step on the start line for an elite final, the physiology-- the physical aspects-- of every single one of your competitors you're pretty much on a par. But the psychological side of it is that the mental toughness, the ability to cope with pressure, or not even see that pressure as being pressure, that stands you out and makes you the winner at the end of that race.

MICHAEL JOHNSON

At the end of the day, when I look back on my career, I was able to break the world records and win the medals, and win only gold medals, because I wasn't just focused on winning the gold medal. I wasn't going into training each day and saying to myself, OK, so now what time do I think it's going to take for me to become a gold medalist? I went to training every day asking myself, how fast do I really think I can run? How strong can I get? How powerful am I capable of being? It takes a tremendous amount of commitment, dedication, and sacrifice.

[Back to - Champions talk: what makes a champion?](" \l "Unit2_Session4_MediaContent1)

# Injury rehab in rugby: keeping it personal with devices and data

## Transcript

[MUSIC PLAYING]

ALEX SANDERSON

We pride ourselves here at Saracens about looking for new ways to get an edge. And if sport science is one avenue, then we'll explore that avenue. The players are the resource so the rehabilitation and injury prevention of our best players and all our players is paramount to our success over a 10, 11-month season.

And for that, we have one-to-one rehabilitation. We've got guys that see them through every step of the way. And our players actually come back, I'm proud to say, stronger, better, physically better specimens than they were when they were injured because of the amount of resources and energy and time we put into the rehab of players. And part of that is technology.

JOE COLLINS

Rugby is an extremely progressive sport. It marries innovation with the art of coaching and science extremely well and that's versus any other sport that I've seen. I came from professional football and Olympic sports to rugby union. And actually, I was very surprised about how advanced the sport was, really, in terms of screening, monitoring, injury prevention, load management, the use of GPS-- essentially, the holistic management of a pro rugby player.

The aim of the game for us really is to balance innovation with doing the basics incredibly well. We're definitely an analytics-based club. So we use stats and information gathering on a whole variety of different parameters on the players-- so their wellness, their recovery, their readiness to trade and play-- and then balance that with the art of knowing the player, how ready they are in themselves really to get back on the pitch. So there's a whole degree of information collection that we'll have here.

TOM SHERIFF

This is the GPS receiver and the heart rate receiver. It picks up all the information from the equipment the lads are wearing. We have 30 GPS units, they're the ones they wear in the bra tops. They sit in between the shoulder blades and they transmit information around distance and speed and these days will pick up accelerations, impacts, tackles, and changes of direction. So it's a mechanical load.

And they've all got their heart rate straps that they wear under their shirt. In session, we'll just look at how much time they spend above 85 per cent of their max heart rate. If you want to get a conditioning element out of it or if you want to keep it low-intensity, make sure they're below that threshold. So that all comes in real time to the laptop.

The guys who've been here a while, they've got four or five years’ worth of data. So we can start seeing if there's any trends, as if they do pick up an injury, is it related to any sort of common features of how we load them and try and avoid that in the future?

JACQUES BURGER

The game of rugby, is it brutal on the body? I think it kind of feels like you've been in a car accident every weekend. Your body is just wrecked for two days off. And I think the way we are looked after scientifically and how the game has evolved in itself, it's incredible. And I think it's something that's really helped me in my professional career.

TOM SHERIFF

It used to be, can they sprint and can they cover 4K? But a lot of people can do that and can't play a half of rugby. So it's how you get to that 4K or how you get to that speed and how many times you get to that speed, which is where we're at now. So it's a very sort of individual process.

PAUL GUSTARD

Because of the sport science, because of GPS, because of heart rate monitors, we can measure them more accurately in terms of what they're actually putting their body through. We now recognise that it's not just what you do training-wise. It's the rest. It's the recovery. It's the nutrition. It's the sleep-- these things that weren't really spoken about 15, 20 years ago.

We thought, more is good. More is good. More is good. We now understand less is more. The boys actually train way less but are bigger, faster, stronger, heavier, and more powerful.

[Back to - Injury rehab in rugby: keeping it personal with devices and data](" \l "Unit2_Session6_MediaContent1)

# Michael Johnson on early specialisation

## Transcript

[MUSIC PLAYING]

MICHAEL JOHNSON

David, I want to get your opinion on early specialisation in sport because I see it as a big problem in this country, where parents feel that the earlier I get my kid involved in a particular sport, the more time they’re going to have to develop this incredible amount of skill.

DAVID EPSTEIN

Yeah. So I think the burgeoning body of science in this area is suggesting that that early hyperspecialisation is not good in a number of ways. Now, it might get you the best 10-year-old, but it’s not the strategy to get you the best 20-year-old for a number of reasons. One, the earlier you pick, especially pre-puberty, you’re more likely to put the wrong person in the wrong sport.

You’re also more likely to put them psychologically in the wrong sport, right? No matter how gifted you are now, for the most part, it takes a heck of a lot of commitment to get to the very top level because there are other really talented people who are committed. And if you have someone in the wrong psychological fit, I think it’s not very likely they’re going to make it that far.

PETER HESPEL

We have been very involved in elite cycling for many years in the track and field and you definitely see that if young kids, you start to specialise them at a very young age, in the end, they lose the enjoyment of sports. And if at the age of 16, 17, kids don’t have fun anymore in a sport, they will never become an athlete.

LAWRENCE OKOYE

I had great experiences playing rugby. I had great experiences playing soccer, football. I had great experiences doing track. I had great experiences with my friends playing all kinds of sport. And all those things will never go away and that’s contributed to the athlete that I am today. Maybe I wouldn’t be as athletic or as physically capable as I am now if I hadn’t have done all the other stuff in the past.

LIZZY YARNOLD

Growing up, I learned a lot from taking part in loads of different sport, not only in athletics doing lots of different events. But the fact that you were doing different sports meant I wasn’t getting bad tennis elbow. It means that my back wasn’t sore from the javelin. It meant that I could always have a rest and recovery from all the different injuries.

And also, by the time I got to skeleton, my body was kind of fresh into that movement pattern. So it wasn’t something that I’d overpracticed and something that I’d got into bad habits with.

PETER HESPEL

The danger is that you would always use the body in exactly the same way, using the same muscle with the same metabolic profile. And the chance to create an overload in a kid is much greater when you specialise than when you present a variety of exercise moves that make him develop as an athlete. And most of the overuse injuries occur because of very specific training at a young age.

DAVID EPSTEIN

Study after study’s coming out now that while elite athletes do train more than sub-elite athletes, they actually train less early on and then in the mid-teen years usually cross over. And before that, they have what’s called a sampling period.

So I think Roger Federer is a great example of this. His parents I think could be described as ‘pully’, not pushy. They said, you can’t focus on tennis yet. You have to play soccer, basketball, badminton before you can focus on tennis.

And it looks like the kids who have become athletes first, learned a range of skills – both the complex neurological skills, like anticipating objects, as well as just developing body awareness – ultimately then pick up any subsequent sport skill more rapidly and are a lot less injury prone and have the chance to find a sport that they might actually be motivated to do for a decade.

I think there are multiple pathways to success and some athletes, whether they’re diversified or specialised, are going to make it for a variety of reasons, physiological and mental. Golf, I think the jury’s out. Hyperspecialisation early may in fact be better. Most sports, I think the evidence is pushing toward it’s not as good.

The earlier you push selection, the more likely you are to put the wrong person in the wrong sport. So I think there are advantages but that we’ve overdone it in early selection.

[Back to - Michael Johnson on early specialisation](" \l "Unit3_Session1_MediaContent1)

# The making of an ice princess

## Transcript

LILY

It is quite unique that I have self-motivation to wake up at 4:30 in the morning and go to the rink. I’ve always wanted to be a skater since I was about three. But my mum wouldn’t let me because she thought I was a bit too young.

MUM

For her seventh birthday, we bought her an ice skating lesson. It was only ever going to be a half hour lesson. At eight, she’d already decided this was what she was wanting to do. She wanted to be the best that she could be. She wanted to be a British champion, and then she wanted to do European’s and World’s, and ultimately, of course, it will be the Olympics.

She makes all the decisions. She dictates how much she wants to train. Everything is driven by her, and I don’t know where it comes from. Just something within her. It’s not genetic. It is just Lilly.

CATHERINE HUDSON

OK. That’s tine. One more time. I really like the fact that when you did the Mohawk, there was a really strong push there before you went into it, OK? As you step forward –

NARRATOR

The reason Lily and her mum decided to come to the ice rink in Blackburn is so she can be trained by former Olympic competitor Catherine Hudson.

CATHERINE HUDSON

She’s super talented. You ask her to jump, she wants to do it twice. Tell her it’s time to get off, she wants to stay on longer. She’s brilliant.

NARRATOR

Catherine has been training Lily now for two years.

CATHERINE HUDSON

Many of the girls she’s competing with have literally grown up on skates. They’ve started as toddlers and gone through, or even started at five or six. So she’s got a lot of years of just trying to catch up.

The more you train everything for speed, the more confidence you’re going to have in the competition to do it. Because it’s more normal, isn’t it? Yeah?

MADELINE

I want to see tight knees, heels coming off the floor first.

This is the painful bit.

NARRATOR:

Giving Genevieve another advantage is that she’s trained three times a week in this gym by a national gymnast champion from Bulgaria – her mum, Madeline.

MADELINE

Genevieve, shoulders back. If you’re going to be sitting, sit up. Higher, higher, higher.

GENEVIEVE

I’ve been coming to gym since I was three, because I remember being in one of them baby carriers on the bench. And I come three times a week.

MADELINE

It is difficult being a coach and a mum at the same time, because I know when we go to the ring, she wants me to praise a lot more. I tend to focus a lot more on her mistakes and what needs improving. And I know she wants a lot more of me to be a mum and a lot more to say, well done and you did well. Which I try to, but we’ve got an understanding that when there’s something that needs correcting, I’ve got to tell her as well.

Genevieve, faster! Knee in tighter – it’s too slow.

[Back to - The making of an ice princess](" \l "Unit3_Session2_MediaContent1)

# Kick off: science of high performance special

## Transcript

Ged Roddy

When the boys come in they come in bright eyed and when they are eight, nine years of age we've got an unbelievable opportunity to shape the way they think about their futures and about the potential of their professional careers. But you know one of the key things for us to do right at the outset is just to make sure the kids are having fun. We talk a lot about systems and the science behind all of these things but actually the more you systemise the academy environment the more you are in danger of losing the joy of the game and we mustn’t lose sight of that for those players that are starting out.

So I think for me two things when they are absolutely at the start of their academy careers - is there joy? Have they got smiles on their faces? Are they acclimatising themselves in the environment? If so, that’s a great thing. Now add to that a learning environment where we develop the skills of just the sheer ability to learn to be coached and to understand that failing is part of the process of succeeding. And if we develop those early skills we give ourselves a half-decent chance. Now we need parents that understand this. We need coaches that buy into it as well and if we can build that type of environment we give ourselves a fighting chance because down the road what we know is approaching those players that stay in the system are all of those distractions that are going to come when the money comes along, when the agents come along and the sponsors and the like. So we need to build a resilience and a grit and a focus to these young men so that when those distractions do arrive they're in a balanced place and they can deal with them.

[Back to - Kick off: science of high performance special](" \l "Unit3_Session4_MediaContent1)

# UK Coaching animation

## Transcript

ON-SCREEN TEXT

What makes your session unmissable for young people? As a coach, you have the key to creating inspiring sessions, the right environment. So now … consider the building blocks of an unmissable experience: rewarding, personalised, interactive, social, inspiring, creative.

Personalised. Understand what is important to young people? Dreams and aspirations. Fun. Family and friends. Getting better.

Inspiring. Inspire young people to: be their best; be proud; stay active.

Creative. Let young people make decisions, be creative. and change things.

Social. Social time is important. Help young people connect.

Interactive. use technology.

Rewarding. Young people want positive feedback, incentives, recognition.

Better supported coaches.

[Back to - UK Coaching animation](" \l "Unit3_Session5_MediaContent1)

# Introduction to Session 3

## Transcript

ALEX DANSON

I have really good memories of my adolescence. I was more increasingly attached to my sport because it gave me a real sense of identity and of confidence.

I remember my role model growing up was my PE teacher, Mrs Berry. I remember she was the first person that really gave me that sense of belief. I remember she sat me down and said, you could-- not you would, but you could be a county hockey player or more. She taught me the ethic of working hard and really setting a goal as high as I dare to dream.

But I know not all young people are so fortunate, which is a big reason why I and many other athletes go into schools and spend time, hopefully, trying to engage and inspire young people because the transferable values from elite sport into any young person’s life is huge. You think about self-confidence, the ability to work hard, resilience, working together as a team-- all transferable into a young person’s life.

And that was a huge reason why I decided to study with The Open University, because the doors it now opens for me to perhaps go into schools more, perhaps go into a world of teaching, is something that’s always been very, very close to my heart.

[Back to - Introduction to Session 3](" \l "Unit4MediaContent1)

# Interview with Bradley Busch (Part 1)

## Transcript

BEN OAKLEY

Bradley, you’re a psychologist working in school with teenagers and teachers. Now, we know that physical development finishes between the ages of roughly 15 and 17. When does the brain stop developing?

BRADLEY BUSCH

Well, I guess the brain is always developing. It’s constantly evolving and changing. This is what neuroscientists call ‘neuroplasticity’. I think the biggest change happens in the adolescence year, often peaking at about age 22, 23.

With advancements in technology, I think in the last 10 or 15 years, we’ve been able to learn so much about the brain. And what we now know is this adolescence, this period of change in the brain, happens much longer and into much later in life.

BEN OAKLEY

When you’re working with teenagers in your sessions, what are the three things that they talk about most, afterwards?

BRADLEY BUSCH

So the three things I think they find most interesting are, one, areas about self-control, two, about the impact that peers have on your decision-making, and three, how they deal with mistakes and failures. So first of all, if we look at impulse control, they’re fascinated. There’s a really interesting study called the ‘marshmallow experiment’. It happened about 40 years ago.

A researcher gave young students a marshmallow. And they said, if you can wait, when I come back I’ll give you two. So it was basically a test of delayed gratification. Can you put off instant rewards, for long-term success?

Now, for some of the students, as soon as he left the room they ate the first marshmallow, but others were able to wait much longer. In follow-up studies of these same students, they found that those who were able to wait, who were able to delay their gratification, performed much better, not only in school but also later on in life.

Self-control is quite hard to improve. So one of the things we recommend to them is, where possible, avoid the temptation in the first place. In the first study, the students who were able to close their eyes and not look at the marshmallow waited longer. And so we take this as an indication. So, for some students-- say, for doing revision-- much better to have your phone turned off or completely out of the room, so you’re not even tempted by it in the first place.

The second thing that teenagers talk about a lot is the issue of peers on their decision-making. We know that the teenage brain is much more sensitive to social status than adults. We know teenagers seek out and crave the approval of their peers.

To give an example, everyone knows that smoking, in the long run, increases your chance of getting cancer. But the risk for students if they don't do that is they might be socially excluded from the group. And the risk of social exclusion is much more prominent in teenagers than in adults and, as such, often drives their behaviour.

BEN OAKLEY

And what practical guidance do you give them, in that scenario?

BRADLEY BUSCH:

One of the things we tell them is to ask themselves, would they do these decisions, these behaviours, if they were on their own, as opposed to part of the group. Also, I think if they can go home at the end of the day, look themselves in the eye in the mirror, and say they were happy with how they performed, how they behaved, that's the main aim.

The third thing that students find really interesting is the role and actual importance of mistakes and setbacks. Often students are so driven by not wanting to look bad, not wanting to make a mistake, not wanting to look dumb. Whereas what we actually teach them is that mistakes and failure at some stage are inevitable and actually, if used right, can help them improve.

So we often talk to them about the importance of failing better. One thing that we find quite useful is, after a mistake or after a setback, for them to ask themselves, what would I do differently next time? What would I do differently next time is a really good questions for students to ask, because it shifts the focus away from the past, onto the future. It isn’t a judgement on who they are and their abilities, but it focuses on how they can develop and how can they get better.

BEN OAKLEY

Bradley, thank you so much for those useful insights.

BRADLEY BUSCH

No problem at all. Thank you.

[Back to - Interview with Bradley Busch (Part 1)](" \l "Unit4_Session4_MediaContent1)

# In secondary school we have a lot more responsibility

## Transcript

Rachel

At secondary school I think the traits that have helped me get through it are probably a good sense of humour, determination and confidence because without those things you would have just been really sad.

Oliver

In our old schools we didn’t have much responsibility, but now, secondary school, we’ve got a lot more. We’ve got to pack our books and make sure we’ve got them, and homework, there’s a lot more of it. And we’ve got to make sure it’s there. And also the teachers trust us to do these things.

Rachel

I think that good characteristics will help you, getting further in life because once I went for a country trial with netball and to be in counties you need to be really determined and confident because you need to be one of the best.

Helen

She’s had both disappointments and successes in sport. And on both occasions she’s dealt with them admirably really, with the disappointment she’s looked back, laughed about it, moved on. Tried not to dwell on it and in the successes when perhaps some of her friends haven’t been as successful she’s dealt with that with humility and been mature. I think that as a parent we don’t necessarily intend to teach our children good character, however teaching your child how to behave, how to interact with others, how to show respect, I think those are all the useful tools that as a parent you should equip your child with because in the academic world there is always the chance that the child might not achieve perhaps what they want to achieve. But if they’ve got some of the character skills then those can help them find an alternative and be equally happy in life.

[Back to - In secondary school we have a lot more responsibility](" \l "Unit4_Session5_MediaContent1)

# Interview with Bradley Busch (Part 2)

## Transcript

BEN OAKLEY

Bradley, when you’re working in sport with teenagers, what are the two topics that they most commonly ask for?

BRADLEY BUSCH

Well, the two main areas that most athletes come to us asking to get better is, one, about improving their confidence, and, two, managing their nerves. The first, improving their confidence, one thing that we know the brain craves is certainty. But when you look at what a lot of people think about before an event, they’ll often focus on things that they can't change or things that they can only influence, such as the crowd, the referee, their opponents, what the score might be.

We help them identify what they can control and focus on those things. And that typically looks like focusing on their effort, focus on executing their game plan, focusing on being the best teammate they possibly can be. And by focusing on the things you can control, you give yourself more certainty and, as such, perform with more confidence.

BEN OAKLEY

So, when you have a group in front of you, what specifically do you ask them to do, to help with confidence?

BRADLEY BUSCH

Well, the first thing we get teenagers to do is to try to improve their self-awareness. We get them to write down what it is they're focused on in the build-up to a match. Once they’ve got that list written down, we can then help them identify which are the things they can control, which are the things they can influence, and which are the things they can’t change. That’s usually the first step to really improving their confidence.

BEN OAKLEY

Are there any other little techniques or strategies that you guide them towards?

BRADLEY BUSCH

Yes. A big part of how confident you feel comes from how you talk to yourself. We help people identify their negative thoughts and replace them with positive, helpful, and energised language, so that they can go out feeling as confident as possible.

The second most common area that we work on with athletes is helping them improve their emotional control, managing their nerves or frustration. Because, when you think about it, the difference between nerves and excitement, in terms of what happens to your body, is very small. Both involve a fast heart rate. Both involve lots of adrenalin, lots of butterflies, and excess energy.

The biggest difference between nerves and excitement often isn’t what happens to your body, it’s what’s going through your brain. And we help people focus on making it an opportunity not a threat. Sometimes I think students and teenagers and athletes are so worried about what other people are saying about them, they have this worry that people are judging them the whole time. And, as such, it makes them more stressed and more nervous and increases their fear of failure.

But, by helping them focus on executing their routine, by helping them do the best that they can do and focus on performing to their abilities, and not so much what other people might say about them, helps them improve their nerves.

BEN OAKLEY

Bradley, thank you so much.

BRADLEY BUSCH

Thank you very much. Been a pleasure.

[Back to - Interview with Bradley Busch (Part 2)](" \l "Unit4_Session5_MediaContent2)

# Interview with Ali Oliver

## Transcript

Ali Oliver

So I was a PE teacher and I think I was a role model for maybe ten, fifteen per cent of the kids that I taught because I represented a certain, you know, way of engaging with sport. And young people themselves are now role models for each other and in fact they are probably the most powerful role models.

Interviewer

And does that reel in that other eighty-five per cent, do you think?

Ali Oliver

If we take our girls active programme, it is completely designed around finding the least active young women who potentially have the greatest impact on their peers. They’re the influencers, they’re the heart of the social group.

Interviewer

The cynics in the class.

Ali Oliver

Absolutely. But what we know is those young women are incredibly powerful in the peer groups. So we need to work intensively with them rather than ignoring them or viewing them as the problem, they are the solution.

Interviewer

So bottom-up role models rather than top-down?

Ali Oliver

Absolutely. Quite right. Well, you need both. You need both. Because of course there is young people with a whole range of interests. But we shouldn’t just assume that the role models have to come from the elite community.

[Back to - Interview with Ali Oliver](" \l "Unit4_Session6_MediaContent1)

# Hearts row to Rio

## Transcript

[MUSIC PLAYING]

ANDREW T. HODGE

Why do I love rowing? That's a fantastic question. There's a beauty about the sport. It's hard to describe. But it's when it comes together, you feel the boat run, you feel the team work together-- it's quite irreplaceable.

ALAN CAMPBELL

It really is the best feeling in the world. You can feel what's happening in the water. And you can feel how you're affecting it, how you're gliding on top of it. And there's just like a really nice sigh and really nice rhythm.

KATHERINE GRAINGER

And the boat just ignites and just flies. That is a feeling-- I don't think I'll find anything else in my life, the rest of what I do.

PETE LAMBERT

That's basically one of the reasons why I row is because of that feeling.

POLLY SWANN

Once you get that click, the feeling of the boat is amazing. That's what you want to come back to every time. So you're making the boat just soar underneath you.

HEATHER STANNING

You can almost hear, like, a little kind of sizzling. I think you'd kind of liken it to a frying pan. And it's just the water running alongside of the hull.

MATT GOTREL

It just feels like a machine. Feels like you're in a machine.

PAUL BENNETT

Elegant and precise but powerful and delicate but strong.

WILL SATCH

And you can just inch away from the crew behind you.

ANGUS GROOM

It's a really special feeling. It's a real buzz.

TOM AGGAR

First and foremost, when I first started, it was just to be out on the water.

SCOTT MEENAGH

I love being out on the water and being free.

IMOGEN WALSH

Having that sense of open space-- it's just something that I love doing.

RACHEL MORRIS

We had a day the other day-- it was a really frosty morning. There was a mist over the water because the sun was coming up. And it was just stunning.

HEATHER STANNING

And you are totally out there with nature and no one else around. It can be totally silent, other than the noise of us dropping the blades in the water.

PETE REED:

I'm so happy that I found rowing, and rowing found me. And I love the team atmosphere and work with your crew. And they help you get better. You help them get better.

PAMELA RALPH:

What you get is more than the sum of the individual athletes. And that's something that's really, really special.

GEORGE NASH

You form these really strong bonds with everyone that you row with, kind of almost as soon as you join the sport.

SIR DAVID TANNER:

I get my thrill from walking the shop floor with those people trying to live their dreams, but also the ambition that people have. It's a heady mix, and it gets you really.

GRAEME THOMAS

And it really does become something that you want to keep doing more and more and more.

RICHARD CHAMBERS

Because as soon as you get into a boat, and you start to learn to row, you can always improve on what you're doing.

ALEX GREGORY

It is addictive.

MOHAMED SBIHI

It's one of those sports that you do get better with every stroke that you take.

NATHANIEL RILEY O'DONNELL

If you push through the feet, it comes up through and out through the hands.

WILL SATCH

It's exciting. It's aggressive. It's dramatic. I just love it.

SAM TOWNSEND

You're working really, really hard. But you don't feel like you're working hard.

ALEX GREGORY

I like getting up every day. I like training seven days a week. When I stop rowing, I'm going to be in trouble.

KAT COPELAND

I just do it because I love it. And that's something that can carry me through every day.

ANDREW T. HODGE

And you're able to share those moments with people that you'll be friends with-- share those memories for the rest of your life.

[Back to - Hearts row to Rio](" \l "Unit5_Session1_MediaContent1)

# Interview with Pia Sundhage

## Transcript

Jane Garvey

This is Jane Garvey, and this is the BBC World Service.  We’re in conversation with Pia Sundhage, who is the coach of the Swedish women’s football team.  Pia, you’ve had a hugely successful career, you’ve played for Sweden, you’ve coached all over the world.  Your biggest job - I know that Sweden’s a big job for you now - but your biggest job in the past that people will know you from is when you were coach of the American football team, USA.  And you joined the team at a particularly interesting, some would say challenging, time. This was 2007.

Pia Sundhage

December.

Jane Garvey

Describe the atmosphere in that USA team at the time.

Pia Sundhage

I felt that they were disappointed, the fact that they did not win the World Cup 2007.  So they wanted a change, and that is important. They wanted a change and I was the change.  The fact that they pick a Swedish coach, a foreign coach, was huge.

Jane Garvey

You did have to make some tough decisions about players didn’t you, the goal keeper in particular, is that right?

Pia Sundhage

The story is 2007 many things happened with the team.  They won the bronze medal, but the goalkeeper was excluded.  She said different things, and she hurt the team … some say.  What I did, when I came, and she was the best goalkeeper.  So here we have Hope Solo, the best goalkeeper in the world, and I listened to five different stories what actually happened, that was the first thing I did.  I said, ‘tell me what happened’ so I at least understand how serious it was.  And I get five different stories, from players, from the general manager, from the press officer, from the ex-coach, from myself.  And I thought, ‘okay, so what am I going to do?’  So I had some of the players coming in and we’d talk about the situation.  I said ‘I don’t expect you to forget, so many things happened, but I expect you to forgive and move on.  Because if, do you want to win, I want to win, do you want to win?’ [they said] ‘Yeah, I want to win.’ [I said] ‘Okay, in order to win, you have to trust me, we need goalkeepers, not only one or two, and right now Hope Solo probably is or will become the best goalkeeper in the world.’ So I sorted that out, I listened and I talked about it out loud, like this, ‘so this is what I want us to do’, and I gave them time to think about it.

Jane Garvey

And how quickly did they move on?

Pia Sundhage

Quickly.  I'm really proud.  They did such a good, a good job.  The whole atmosphere, after a while, and we had a lot of camps, and I think it was a smart move by US soccer.  They were brave enough to pick a coach from Sweden, but a smart move to change   and I started with fresh eyes and a little bit new coaching style. And I told them over and over again, ‘so whatever happened 2007, if we can forgive, if you can forgive, then we will have a bright future.’  So I talked about it in different angles, and I gave it time, I took time to show them respect.  It’s not the well we’ll just have to move on, like left it; I ran and listened quite a bit.

Jane Garvey

Now you have this phrase, coach healthy, don’t you, which means what?

Pia Sundhage

Well instead of trying to fix every mistake, I do the opposite.  So the way it works, we have a video clip and we show them, they have comments, and I ask them ‘what do you see, what is good, could it be better’, and let them talk as much as possible. So coaching the healthy part.  So let’s say she has two good crosses, but we want, well the game planning she has at least five or seven, we say ‘well you should do more of this’, just double it, instead of looking at a cross where it didn’t go well. When I analyse the game with the coaches, we look at mistakes of course, but analysing’s one thing, coaching is another thing.  So in order, we have analysed that, we don’t have that many crosses on the right side, then what? And then we show the right back ‘this is what we want’. But maybe she’s not playing the next game because she had only two crosses.  So I think it’s important to recognise analysing this is what we need to do the next game, but coaching well you know, you're almost there.  It’s okay to make a mistake. And what I do know is there are three things that motivate players.  One is if you win.  The other thing is to be around the certain environment.  You want to be in the team and belong here.  And the third thing is the fact that you improve.  So if I can inspire her to grab that, well you know what, I can do this as well, I can add something to my game, that is my job.

Jane Garvey

Can you give me an example of bad coaching that you had when you were a player?

Pia Sundhage

When I was not inspired and I was threatened or I was annoyed or I was, I can't find the right English words, but, I didn’t like the situation, is somebody saying ‘well I'm the coach, you're going to do what I'm telling you.’  I have a hard time with that kind of coaching, because I thought I had so many things to say as a player, and we had the same goal, we want to improve football.  But he was just telling me ‘no, your thoughts are not good enough’, and he didn’t know what I was thinking.

Jane Garvey

How, when you take over a team, Pia, do you establish the shared goals of the team?  And presumably you’ve got to do it really quickly.

Pia Sundhage

Well you started off with a goal, and then it’s so important to get to know the team.  So it’s not that I'm just picking the goal, ‘there we go’, we need to do it together.  And there are certain things that it’s important, like I do have my philosophy, and I have the power to decide the journey to that goal.  That’s the beauty of, to be a leader.

Jane Garvey

And what if a player challenges you, how do you deal with that?

Pia Sundhage

My job is to make sure that she respects the team goal, so to speak, or my leadership, and it’s [an] ongoing discussion.  It’s ongoing, looking at situations where are we actually doing what we’re saying, is that in a room or out on the field, it’s so important to be almost like a mirror.  So we have decided this, are you acting like we decided?

Jane Garvey

Presumably there’s always going to be a certain amount of conflict within teams and in dressing rooms.  Is it possible to avoid it, or is that crazy?

Pia Sundhage

I think it’s possible to avoid it.  But it’s important to understand the role.  I’ll give an example, if we have a team and you're centre-mid[field], and you have to understand the role but also accept the role, and respect the role.

Jane Garvey

What about when you worked in China, which was before you did the American job?  What was the atmosphere around the game like there?

Pia Sundhage

It was more complicated because I don’t speak Chinese, and it’s a little bit … I felt they took orders more so than if you say, you want them to go from A to B and then to C, well they went A to B, ‘here I am, okay’, ‘well you're supposed to go to C’, ‘yeah’, they'd just wait for orders a little bit, I thought.  We wanted to create a little bit of a chaos, you know, take the initiative, ‘it’s your game’, and I think we succeeded a little bit but not, well, we didn’t play the finals, I don’t think we were that successful.

Jane Garvey

I imagine is one of many reasons why you're such a good coach, because you really do know what it’s like.

Pia Sundhage

Well I know how I felt, and I really try to understand how it feels out there when I'm coaching.  Because it’s one thing to coach a game, watch a game, compared to actually playing it.  So that’s why, I think that’s one of the reasons why I've become a better listener, and trying to understand what they're actually saying.  It’s not that when we have pregame talks, for instance, or we analyse the games, it’s not that ‘this is what we see’, yes, that’s part of it, but ‘how does it feel?’

[Back to - Interview with Pia Sundhage](" \l "Unit5_Session2_MediaContent1)

# Interview with Jürgen Klinsmann

## Transcript

Peter Bowes

And you mentioned the word tone, how do you adopt the right tone with players? You are a very, I can detect a very easy going guy and coaches sometimes are actually not that easy going, they’re quite aggressive, and some teams I suspect there is a certain element of fear between the players and the coach; what is your attitude?

Jurgen Klinsmann

I think there you need to turn it around, because I don’t believe in that the coach has to have the right tone, but I try, if a player really understands that he is in the driver’s seat, he is the decision maker on the field, because football is players driven, they make the decisions on the field. Yes, you will put the 11 on the field but then the game goes and it’s them.

It’s very opposite to the other American sports, baseball, football, even basketball you can call time out and you have always stops and you can explain things, and football is the very, very opposite of it because it’s inner driven, it’s the athlete that makes the call, that makes the decision. I think over time a real big player learns to take the coach’s messages the right way, learns to read the messages, learns to take it for him in order to improve, because you have, let’s say, 20, 25 players on a roster and there is no coach in the world that has the right tone for every one of those 25, it doesn’t exist.

So I think it’s much easier to say, you 25 players need to figure out a way to take those messages from the coach, if it’s now a stronger voice, a more aggressive voice, a calmer voice, whatever it is, and pick out those things that are good for you. Then I think you will grow as a player. I don’t think somebody, a coach makes Messi or Ronaldo or Steven Gerrard. Those went through x amount of coaches throughout their career and I had about 16, 18 of those, and every one taught me something, told me something, but there was no perfect one, so the tone has to be found actually by the player and not given by the coach, because you are not making it right for 25 altogether.

Peter Bowes

And when there is conflict within a team how does that affect the individuals?

Jurgen Klinsmann

Oh, it affects everybody, so there are two ways. The best way is to solve the conflict, you know, to talk it through, to work it out, and to create even more positive energy out of that conflict. That is the ideal scenario. When you over time, and that’s just my personal experience, see that we are not solving this issue, it’s too deep, it’s too personal, it’s too distracting, you as a manager then have to make the decision to let one of those two go.

[Back to - Interview with Jürgen Klinsmann](" \l "Unit5_Session2_MediaContent2)

# Interview with Teri McKeever

## Transcript

Interviewer

I’m at the huge outdoor swimming pool on the campus of the University of California Berkeley, which is just outside San Francisco.

So as you started your coaching journey how soon did you begin to question what were the conventional training methods and develop your own system?

Teri McKeever

Honestly I think I probably started questioning them as a collegiate athlete myself.

Iwas in an environment where if we all swam a 200 butterfly and there was four of us then we were all supposed to have the same race plan and race the same way and that didn’t make sense to me either because I didn’t think my strengths were the same strengths that my teammates had, so why would we all want to do it the same way.

Interviewer

And one key aspect of training, simple aspect, that you questioned relatively early on was this idea of distance over quality.

Teri McKeever

I think there’s a place for volume but there’s also a place for quality. And I don’t always mean quality is faster,I think quality is about quality technique, quality is about purposefulness, intention, relationship to your racingevent. There are elements of racing and if I can put the athletes in those situations and they know that they can manage them and they develop their own problem solving then when they’re in the race they’re empowered to be faster, better and it’s them doing it, it’s not a plan that a coach has given, it’s a plan that they’ve developed for themselves.

Interviewer

So you put a large part of the onus in terms of development on the athletes themselves, you can’t tell them everything?

Teri McKeever

Absolutely, absolutely, that is huge, a cornerstone to what I believe is different. I think a lot of people think the difference is about the volume or end quality, I believe the greatest difference is in those subtleties of asking the athletes to use their imagination to connect with the race experience, to put themselves there emotionally, physically, mentally.

Interviewer

And one interesting part of your training techniques is that some days you will actually avoid the pool completely.

Teri McKeever

Absolutely, I think initially I felt that being in even the weight room or doing dance or having a spin class or taking a boxing class, I saw it as a diversion from what can be a very monotonous, boring sport.

I think often times the traditional model is coach has the information, athlete needs to do it. I want to have a model where I have information, the athlete has information and we’re partnering in that.

And then kick, see the difference? Now you can feel it in your stomach right, go like that – see – that’s how you swim, that’s how you want to go…

You know it’s not about me standing on deck giving information, you take the information, do something with it, it’s me giving information, it’s me asking, just like you’re asking me questions to get an essence of who Iam, myj ob is to ask them good questions to get to the essence of what they’rethinking.

Right? Do you feel that? That right there, if you make that adjustment, golden.

It’s not for everybody, I fully know that not everyone is motivated or I would not be the right coach or the right team leader for everyone.

[Back to - Interview with Teri McKeever](" \l "Unit5_Session3_MediaContent1)

# Introduction to Session 5

## Transcript

ALEX DANSON

I find the mental side of sport absolutely fascinating. And that’s because, first hand, I understand how important it is. As a striker, you may think I’m just talking about penalty strokes or taking a shuffle, perhaps at an Olympic games, in front of 9 million people. And yes, of course, I have my routines.

If we go back to the semi-final, I had to take a penalty stroke. As soon as the whistle went, I felt calm, composure. I knew that I'd practised that routine over again.

I walked up to the penalty spot. I visualised exactly where I was going to put that ball when the whistle went. And then I just stayed calm.

And that preparation beforehand, and how you use your mind, is absolutely essential to try and find success.

So what goes on in your head affects your whole life and your whole team-- your attitude to training, facing challenges, and being able to push yourself every single day. In our team, we spoke a lot about the commitment it would take for the whole of our group to try and win this gold medal at those Rio Olympic games. But it was very behaviour-driven-- what we did, every single day, to make us the best that we could possibly be. Because, when you get down to Olympic games, and you get down to that final moment, what it takes is a collective commitment, based upon training, so when you’re there in the moment, you believe that you can win, and you can believe that you can make it happen.

My absolute standout moment in Rio was in the final, in our last quarter time. We ran in, and our coach simply said to us, look at each other. And I remember looking up, and all of our teammates connected with our eyes. And at that point, I knew, we knew, that it would take one chance, and we would make sure that game became ours.

And I think, if you can have that strength of mind on an individual level, as a collective with your colleagues and your team, you know when your moment comes, when the pressure is on, that you can go in there with absolutely no self-doubt. Then your individual mental battle is won.

You’ll hear again from me soon, as I find the power of your mind absolutely fascinating.

[Back to - Introduction to Session 5](" \l "Unit6MediaContent1)

# Peter Clough on toughness

## Transcript

Liz Barclay:

Now, children have to be tough to succeed, according to Dr Peter Clough, Head of Psychology at the University of Hull. He’s developed a system to teach schoolchildren to be mentally robust, less likely to regard themselves as victims of bullying and to cope with initial failure. He says students with higher levels of mental toughness perform better in exams. Dr Clough, you say your interest in mental toughness stems from working with professional athletes, Nadal and Federer. Are they the ideal examples?

Dr Peter Clough:

I mean, they’re ideal in mental toughness. They’ve also got a lot of talent. Many of us are not blessed with the same levels of talent, but what brings it all together, what I’m interested in is working in high pressure environments, and being a schoolchild nowadays is a high pressure environment.

Liz Barclay:

What exactly do you mean by mental toughness?

Dr Peter Clough:

I think that’s what we’ve achieved at Hull. It’s often mentioned, it’s often mentioned in radio and in interviews, we’ve operationalised it, so mental toughness is the ability to perform at your maximum in hostile environments. You can split it down a little bit more to say, but you see challenge as an opportunity, high levels of commitment, you control the things you can control and you have higher levels of confidence.

Liz Barclay:

So what can learning mental toughness achieve? Are you saying that low ability can be made up for with drive?

Dr Peter Clough

I think to some extent, and I think most listeners would recognise that’s a way forward. But I think on the other side of the coin high ability can be lost on the basis of lacking mental toughness. So what learning mental toughness allows you to do is learn. You need to be put in a situation to fail to move forward in my view. My job then is simply to allow people to learn from their mistakes and be willing to challenge themselves.

Liz Barclay:

So how do you measure the effectiveness of your theory?

Dr Peter Clough:

Well I think it’s a key question, because, you know, it does sound like a bit of a dinosaur theory sometimes, you know, it seems like an old-fashioned approach and perhaps it is. We have a questionnaire developed with my colleagues in AQR, and we can measure mental toughness, that’s a starting point. But more than that, when we actually give people these mental toughening interventions, at the end we measure their mental toughness again. Well obviously, they’re going to say they’re more mentally tough because they’ve been on a mental toughness course. We also look at their psychological, psychophysiological reactions to stress, and we’ve got clear evidence that they can deal with pressure more effectively.

Liz Barclay:

To practically, at a practical level what does a mental toughness course consist of?

Dr Peter Clough:

It’s… it started off life, because I’m a Sports Psychologist and an Occupational Psychologist, it started off life, yeah looking at things like the tall ships race, sending old people ice climbing, a whole range of, you know, what you’d expect. We’ve then developed a classroom version, which obviously most people aren’t interested in outdoor activity, and what it involves, the first, the starting point is getting people to set clear realistic goals. And that is a real issue, you know, with the X-Factor culture we now have, people setting realistic goals based on their talent is the starting point and it’s the crux. Once you get past that, we have an issue then where we can deal with what goes on between people’s ears.

Liz Barclay:

You’re saying that this may be seen as an old fashioned approach. Are you saying it should be out with the sensitive, caring, sharing approach altogether, no more prizes for all happiness lessons and talking therapies?

Dr Peter Clough:

I don’t, it’s never black and white or clear. I am certainly more of the end where, in my view, my research, what we find is happiness isn’t a precursor to successful education, unhappiness certainly stops it, but education’s not about happiness per se, it’s about challenge. So you’re rewarding children. I’ve got a seven-year-old, Emily, who, yeah, is the pride of my heart, and if she’s in a situation where she fails things obviously I feel bad as a parent. However, without that failing experience, without the ability to fail, I think even seven and eight-year-olds are sophisticated now, and they twig that they’re going to get a certificate no matter what they do. So it loses its power.

Liz Barclay:

You expect teachers and parents to be part of this developing mental toughness. But how positively is your theory being received in those circles?

Dr Peter Clough:

I think it’s been received more positively than I thought. It is a positive. If I claim is the answer to everything, obviously people react negatively against it, and absolutely as a Psychologist there is no clear answer to everything, but I think people do see the point, that it’s a tough world. We then get into the debate, do we make it less stressful, or do we allow people to deal with stress more effectively, and I’m of that latter group, that we’re not going to make the world less stressful. It is stressful. When you go into the world of university, when you go into the world of work it gets even more stressful. My job is, therefore, to allow people to prosper in that environment.

Liz Barclay:

Dr Peter Clough. Thank you.

[Back to - Peter Clough on toughness](" \l "Unit6_Session5_MediaContent1)

# Dave Collins on PCDE research

## Transcript

Dave Collins

The thrust of our work I should say first has been mostly in the teaching of skills, the teaching, testing and developing of skills in young athletes. We developed a set of criteria, which draws heavily on the work of Terry Orlick that we call the PCDEs – the psychological characteristics of developing excellence. And that was really where we sort of came in sort of the mid-nineties in terms of saying ‘This is what someone needs to get them to the top’.

As we then started to extend that into looking at the Talent Development Environment or the TDE. We spotted that a lot of the talent systems, especially in the UK and elsewhere where there were lots of resources, were focused very much what might call a professional setting whereby you removed all the challenges – I think you guys might refer to that as snow ploughing – snow plough clearance certainly - remove all the challenges from the path of the young, developing athlete enabling her or him to focus on – on the challenge of the sport. And what we actually recognised was that that seemed to be a pretty counter productive approach so we came back with this idea which we published in sort of the late twenties that looked at The Rocky Road to Success. For a catchy title we went for ‘Why Talent Needs Trauma’. And since then that’s been a big thrust of our research, If you're a super champ and I'm a champ we might both encounter some challenges around say the growth spurt around thirteen/fourteen. It’s how well I cope with them but more importantly how well I learn from that and enhance my skills and my competence that I take into the next challenge. Does that make sense? So it’s not the incidence of challenge, it’s what I get out of it, what I learn from it and therefore what I bring to the next challenge because of course any pathway is a series of challenges that is the distinguishing characteristic, the biggest distinguishing characteristic between the super champs and the champs.

[Back to - Dave Collins on PCDE research](" \l "Unit6_Session5_MediaContent2)

# Chris Hoy’s experiences of using sport psychology

## Transcript

[MUSIC PLAYING]

MICHAEL JOHNSON

So we’re in Manchester on the way to see Chris Hoy and talk to him about his mindset – talk to him about his career and his journey to Olympic success. One of the things that I’ve always gathered from Chris is that he is a very, very tough competitor mentally and that is one of his strengths, one of his weapons.

Chris, how are you? Good to see you. I’m well. How about you?

CHRIS HOY

Yeah, good, thanks.

MICHAEL JOHNSON

Good.

CHRIS HOY

Busy?

MICHAEL JOHNSON

Always.

CHRIS HOY

Yeah. Me, too.

MICHAEL JOHNSON

Chris, I think most people would think, going to see a sport psychologist, there must be something wrong. But that wasn’t the case with you. So what was it that prompted you to go and seek the sport psychologist’s help?

CHRIS HOY

The reason that I engaged with Steve Peters initially was because I just felt as though I wanted to be as well-prepared as possible. So I knew that I wanted to tick every single box that I could to get to the start line knowing there was nothing more within my powers that I could have done. And it wasn’t like I had any major issues with dealing with pressure or lack of focus in competition.

But there was an example in 2003 at the World Championships where I changed my strategy based on watching a rival’s race. So I saw someone do an incredibly fast time. Instead of thinking maybe it was a fast time because the conditions are really quick and we’re all going to go quick, I changed the gear on the bike and I attacked way too hard at the start. And I died off at the end and did a really poor performance.

So it was just little areas. I thought, if I go and see him, even if it makes no difference at all, then I can feel that I’ve done everything within my powers to be in the best possible shape when the race starts. And with Steve, I think what he was great at explaining was that he can’t magic some performance out of thin air. You don’t find some sort of superhuman strength out of nowhere.

But what you’re aspiring to do is to be able to do what you know you can do, what you physically are capable of doing, under the most extreme pressures. So stepping up there could be the one shot in your whole career. Like you’ve experienced – I experienced – in front of a home crowd at an Olympic Games, this is your one shot. You’re never going to get this chance again.

And if you get distracted, if you focus on the wrong things, as you well know – and you dealt with it, I’m not sure how you dealt with it yourself but for me, it was about focusing on my performance. And Steve really helped me just to see anything that’s irrelevant, anything out with your control, forget it.

Hone in on the ABC, that kind of process, not the outcome. If you focus on the process, the result will take care of itself. That really helped me in many ways. It helped me in Athens.

Two weeks before, we were at a training camp in Newport. Steve was there and he said to me, what are you going to do if somebody breaks a world record right before you step up there? And I was like, well, I just won’t think about it. And he said, well, if I say to you right now, don’t think about a pink elephant, what’s the first thing you think about? This pink elephant pops in your head.

He said, you can’t say, I’m not going to think about something. You have to focus on something else to displace this negative thought and focus on what you want to do. And he said, from now on, whenever you get a negative thought, any anxious thought between now and the games – two weeks to go – I want you to visualise your race. It’s only a minute long.

Do it in real time. From the moment you’re in the start gate, the countdown, your deep breaths, the snap out the gate, the first half-lap, second lap – visualise the whole race. I was like, yeah. OK. No problem.

Went back to my room – logged on to the internet. One of the cycling websites announced that one of the French riders had done an amazing time in training – initial rush of adrenaline, that feeling of oh my god, he’s going to be going really well. I thought, oh, hang on. I’ll just use this little technique. And that’s when I started doing it.

And from then on, I don’t know how many thousands of times I must have gone over this race in my head. Got to the race on the night itself – it was like you had some sort of crystal ball. Four riders to go, the guy broke the world record. Three riders to go, another one – the guy right before me broke the world record again, to a point we never thought anyone would go that fast.

And instead of panicking and changing my strategy, I was aware of it but not consciously. I was just so focused on myself and getting this ride out that I knew, well I hoped, I could do.

MICHAEL JOHNSON

Do you think that people in sport are starting to embrace that a little bit more, where athletes are starting to understand on the athlete’s side that there doesn’t have to be something wrong in order to see a sport psychologist and to benefit from that – but also on the sport psychologist’s side that you don't have to automatically seek to find something wrong with this individual if they come to see you? Your job is to help them to be better in terms of their mental preparation for a competition.

CHRIS HOY

Without doubt, absolutely, and that’s the key. And also, just because someone is a sport psychologist, it doesn’t mean it’s either a good sport psychologist. There are good ones, bad ones - there are good mechanics, bad mechanics, good coaches, bad coaches, and it’s working out what’s right for you.

I know many guys on the team that never actually engage with Steve at all and still produce great performances. But that’s not to say they couldn’t have improved performances without him. And likewise, there are some people who spent a lot of time with Steve and they may not have improved at all. But it’s such a personal thing. It’s how you engage with it. It’s how you use the information and that’s why it’s such a personal thing.

That’s what makes sport interesting. It’s the way that people deal with pressure. It’s the way that there’s always that question that I still think that psychology is becoming a bigger part of sport. But it’s fascinating. It’s what we love about it. I think that’s the most exciting part of sport.

[Back to - Chris Hoy’s experiences of using sport psychology](" \l "Unit7_Session1_MediaContent1)

# Ronnie O’Sullivan on controlling his emotions

## Transcript

MICHAEL JOHNSON

Pressure, It can make you or break you. Decades of scientific understanding has enabled us to hone our physical form, but it is indisputable that what exists above the neck has a huge role to play in sporting success. None more so than in the game of snooker. Perhaps one of the most psychologically demanding sports. Just ask five times world champion, Ronnie O’Sullivan. As one of the most skilful players of all time, Ronnie realised that his raw talent wasn’t enough, and controlling his negative emotions was the key to unlocking sustained success. In order to do that, he sought the help of psychiatrist Professor Steve Peters.

RONNIE O’SULLIVAN

I used to always win tournaments, but I didn’t feel like a champion. I’d always feel like I just kind of done it with my talent? I used the game as a way of – like if I could play well at the game, then my mind was good. And if I didn’t play well then my mind was bad, and I just kind of accepted that that was how I was going to be. So I kind of resigned myself that if I was going to play snooker I was going to probably be battling this negative emotions really. So, I just wanted out. It was just time maybe to say goodbye, but then fate steps in and I meet Steve and then I’ll probably play the – well I know, I’ve played the best snooker I’ve ever played in the last four years. If it wasn’t for Steve I definitely wouldn’t have won the titles I’ve won, in the manner that I won it you know?

STEVE PETERS

My role I think is to come in and help the elite athlete or whoever approaches me to understand their mind better, as a machine, and to get the best out of it. The way I operate, I parallel the physical side, so the coach would do physical training, fitness, techniques and events, and what I do is mirror that with the mind, to say ‘how do you operate your mind in a way that it will get the best out of you during competition’.

RONNIE O’SULLIVAN

I’m now a great believer that the mind is more important than the physical attributes, because I see it other players now, I see it in other sportspeople. I think they’re not the most talented, but they certainly have – are able to deal with their head, out there in the heat of battle. That for me is what great champions have over the other people, it’s just have that strength of mind. I didn’t know how to do it, and Steve showed me how to do it.

MICHAEL JOHNSON

Steve devised a deliberately simple model, to illustrate the interaction between different parts of the brain. His theory suggests that one of those parts, dubbed ‘the chimp’, can override our logical thoughts with emotional ones, often leading to irrational feelings and behaviours.

STEVE PETERS

If you really cut it down to basics, essentially we have what appear to be three competing circuits in the brain, or systems, or areas. So I call them team leaders, and the first team is what we want, our values our beliefs, what we want to happen – so for example simply, I want to go into the sport, enjoy it, do my best and come away with my head held up thinking all I can do is my best. That’s one. The second one which I then coined the term ‘chimp’ because we share the same circuitry with the chimp, and often when we’re losing it big time we do become like chimpanzees. But that part of our brain we’re not directly in control of, we have to learn to manage it and recognise that even if I want to go to a sport, and I’m going to enjoy it, that part might for example – it varies – say no, your ego is on the line here, everybody is watching you, you can’t afford to make a mistake. And it may start saying, typically things like I just want this to end, I don’t want to be here. And yet, me as a human being, I might be saying I do want to be here, I want to enjoy my sport. So you’ve got this inner conflict in a lot of people, and the third system is a computer system, and these are all memory banks and behavioural banks.

MICHAEL JOHNSON

The appeal of Steve’s chimp paradox has been in simplifying a difficult subject to empower people to manage their emotions.

RONNIE O’SULLIVAN

There’s been matches when I’ve not wanted to even go out and play. About five minutes before the match my mates have been trying to get me out of bed, and I’m like, I don’t want to face it. And I’d get there, put my shirt and tie on as I’m walking towards the table, and I’d get out there and I’d think this is going to be a nightmare, and I started to play well. And then I was like, I want to be here now, and I didn’t understand that. It was just kind of like Steve said, it can—the chimp is fickle. Managing it is the key, isn’t it. That’s what it is, it’s always there, it’s just managing it, steering it and kind of, and then we say sometimes the chimp’s really on our side and we’re flying. And I’m like, what? I said Ste, I said, the chimp feels really good, I feel so positive, I feel like I can just knock down walls. He went, just go with that, we like that. And I was like, okay. And then I realised I can actually manage the levels of emotion that I want to put in or take out, you know. I mean, sometimes I can fire them up and sometimes I can take them down. It’s good to know that I can become emotionless if I have to be. I’m a lot better at not sabotaging I think, isn’t it, Steve?

STEVE PETERS

Yes, yes.

RONNIE O’SULLIVAN

My own success really.

STEVE PETERS

You’ve done really well, but I say the key is, you’ve put the work in.

RONNIE O’SULLIVAN

Yeah, yeah.

STEVE PETERS

If somebody gets really physically fit by say jogging, and then they stop for three months, they lose it. And in my experience, if someone gets emotionally fit and learns this skill of managing themselves and getting the best out of themselves, if they don’t practice that, they lose it, it defaults back to the base position.

RONNIE O’SULLIVAN

I feel much more like a 14-year-old kid now, when I first took the game up and played it for fun, enjoyed it and had no fears, if you like. And that’s how I feel now, the last four years. I feel like that young boy again, that’s excited to play, loses, takes it on the chin, comes back for some more, you know, so.

STEVE PETERS

Umm.

RONNIE O’SULLIVAN

That’s because of Steve.

[LAUGHTER]

STEVE PETERS

In all sports, people say it’s all to do with approach and attitude at the end of the day, so if you can learn how to get the right approach and attitude, then the probability of success must inevitably rise.

MICHAEL JOHNSON

O’Sullivan has said of snooker, there are times out there when you’re so close to cracking, but managing and understanding the mind has clearly been essential in getting him back to the top of his game, with two world titles.

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# Introduction to Session 7

## Transcript

ALEX DANSON

I’ve been coached by a wide range of people over the last 25 years, and some of the most rewarding relationships and coaching sessions that I have had have been over the last two Olympic cycles and building into those magical games in Rio. Our coach, Danny Kerry, did an incredible job of devising really challenging coaching practises that meant we worked incredibly closely together and devised this really unique team amongst a squad of 31 athletes.

Now, when I visit schools and clubs, I’m always really interested to see how they organise their practises and see how engaged the players are in those sessions. I really enjoy pushing my mind and body to the limit, whether it’s doing two things at once like this--

[CLACKING SOUND]

--or finessing my hitting. For me, quality of practise beats quantity, and you’ll be able to see what I mean as we go through the course this week.

[Back to - Introduction to Session 7](" \l "Unit8MediaContent1)

# Richard Bailey’s five coaching commandments

## Transcript

RICHARD BAILEY

I’m Richard Bailey, and here are my five coaching commandments.

You learn to play the game by playing the game. Whether it’s golf, gymnastics, judo, or ice dance, the closer the practise is to the competitive environment and the main event, the more likely it is that you’ll develop the skills, the knowledge, the understanding to be properly prepared for that activity.

It’s quality, not quantity, of practise that matters most. Mindless repetition contributes almost nothing to improve performance. What’s needed is highly focused, highly concentrated practise, and that’s the way to improve performance.

Praise and criticism should be used wisely. There’s a common view among coaches at the moment that children require a lot of praise and that criticism should either be kept to a minimum or completely banned. The idea is that praise builds up self-esteem, and criticism knocks it down.

There’s absolutely no evidence that this is true. On the contrary, there is evidence that meaningless, empty praise damages children’s self-esteem because it damages the relationship with the coach. Praise and criticism should be used rarely. Think of it like salt in a meal. A little bit of salt can make the meal special. Too much can ruin the meal. Keep it to a minimum, and keep it special.

The way you coach is as important as what you coach. We all know great athletes are creative, and innovative, and surprising. Think of Ali or the Williams sisters or Messi. Their whole performance is unpredictable, but your coaching needs to be unpredictable as well. If you’re expecting your players to be creative and innovative, you need to coach in a creative and innovative way.

It is impossible to tell the future. Nobody in the history of humanity has been able to predict the future. That seems obvious, but every day, coaches try to act as if they can see what’s happening in the future. They identify talented children. They put them on talent pathways. They put them under enormous pressure.

The simple reality is you cannot predict what will happen with that player. If children are of primary age, it is literally impossible to predict the future sporting success of that player.

What you can do is keep children playing, keep creating positive sporting environments, and keep them coming back, and that is probably the best recipe for a talent development pathway.

[Back to - Richard Bailey’s five coaching commandments](" \l "Unit8_Session2_MediaContent1)

# Simon Timson and Matthew Syed

## Transcript

Simon Timson

What we've learned to do is create what we would describe as highly contextual, decision rich training environment. So it’s moving away from the traditions of just doing drills and creating competitive environments in training that challenge young players, young athletes to make decisions all the time and trial and error, get things wrong, safe environment – that’s fine. Learn from those mistakes. But critically review them in a really structured, systematic way. Review them with your coaches and the other support staff and ensure you learn and then practise those techniques again and again.

Matthew Syed

I mean this goes right back to the issue we were discussing in the last half hour when it comes to football because often it’s easy to think we need to coach this one skill at a time. So if we are teaching dribbling, we get a player to run with the ball and dribble. If we’re teaching to have a look up and find the right pass we do that. But you look at the great players. They're able to run with the ball with their head up and they're looking for the patterns around them. And if you have a training environment which is decision rich – in other words where they are having to integrate the perception, the motor skills and all the other things that are significant in an actual game - they're learning far, far faster than if you divide it down into specific skills and just drill them relentlessly. And I think there needs to be – I don’t know what you think – but just a bit more sophistication in the way we think about football in particular because you're getting this right in the Olympic context.

Simon Timson

I saw a wonderful example of the kind of former way of doing it in action last year. I was out with a NFL franchise and I was just stood watching practise and the head coach said you know what do you think? And I said well, you’ve been talking to me about your players have got all the skills but they made bad decisions on game day and I'm watching your punt returner here practise and the ball’s coming out of the machine. He’s catching it unopposed and jogging through a bunch of stationery defenders. He’s got guys running full pelt at him trying to knock his head off on game days - why are you surprised he struggles?

Matthew Syed

By the way – also when you get it coming out of the machine you're not reading the movement of the player who might be throwing it to you.

That’s exactly – look. You're so right. I see this all the time in sport where they're getting that bit completely wrong.

[Back to - Simon Timson and Matthew Syed](" \l "Unit8_Session2_MediaContent2)

# Richard Bailey’s five coaching commandments

## Transcript

RICHARD BAILEY

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You learn to play the game by playing the game. Whether it’s golf, gymnastics, judo, or ice dance, the closer the practise is to the competitive environment and the main event, the more likely it is that you'll develop the skills, the knowledge, the understanding to be properly prepared for that activity.

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What you can do is keep children playing, keep creating positive sporting environments, and keep them coming back, and that is probably the best recipe for a talent development pathway.

[Back to - Richard Bailey’s five coaching commandments](" \l "Unit8_Session4_MediaContent1)

# What sporting future: risks and rewards

## Transcript

[MUSIC PLAYING]

MICHAEL JOHNSON

Andy, you've been involved in sport for a very long time. Is this time over, say, the last 50 years or so-- are we seeing right now the most advancement in sport performance and what athletes are actually capable of?

ANDY WALSHE

Yeah. That's a great question. I think in the last 5, 10 years-- last 5 years, really-- the technology revolution has just come, like in every aspect of life. And I think right now, this is a point where we can understand things in ways we've never been able to before.

So in terms of where we're heading, the future is wide open. I think we're going to see advancements in the next 10, 20 years that make the last 100 look sort of insignificant. What that translates to in terms of actual faster running, lifting more, things like that, is still to be determined.

But I think as I look at it, if a scale of 1 to 10, we're probably a 1 out of 10 in terms of our understanding of really what it takes to perform at the top. One's good. It helps. But I think there's so much more we're going to learn in the next few years and that's really the beauty of this time. We're going to start to get answers to things and discover things and even learn new things that I think that are going to shed light on how we can help people really get to the top of their game.

DAVE BRAILSFORD

I think we're going to get faster. I honestly believe that. I think we have done for all of the time to this point. I can't see why it's going to stop now. So I think we will definitely get higher, faster, stronger.

It's diminishing returns. We're going to work harder and the rate of progression potential will get slower. But I think there's some super work being done about what are the limits.

I'm particularly interested, we're all interested, in limits and certainly in nutrition. And I think there are still gains to be made and then truly understanding some of the nutritional interventions, for us, which fuelling systems and substrates are being used when and how and can we optimise that? Can we manipulate it a little bit? Can we change it?

And there's a lot of work still to be done in that area. So personally, I think there's a knowledge and an education and research and science, that's all feeding into that. So I can't see why it's going to slow down.

DAVID EPSTEIN

As competitive as sports are, I think there are still large populations in the world that really don't have any access to the sports or to the kind of training that they would need to be successful. And so I think we're going to continue to discover groups of people that have the potential for great performances.

I think a lot of what we're learning about genetics is some of what we learned in sports genetics is what we learned in medical genetics, which is people are set up in different ways to respond better to certain types of training, muscular training, aerobic training, and that what you see on day one isn't always the talents you're really looking at. And I think as we realise more that trainability is part of the most important talent, it'll change the way people are recruited and tested I think.

ANDY WALSHE

And ultimately, I think of performance as being a conversation, the cognition, the body, the spirituality, the creativity, the physicality. That is, I think, really untapped. And that whole combination, we may, because we've been training the 100 since a couple of thousand years, we may be sort of limiting out and that curve is slowing.

But in other areas of overall total function and human function, I think we're still on this trajectory up. And then we get into this idea that things will start to be augmented. Bodies will start to be assisted a bit by machines. And so we're starting to get this whole conversation of really how the human evolves and develops in contrast to the technology.

In the last Olympics, Oscar and his prosthetics really was a window into where the world could diverge. And ultimately, if an individual has a bionic set of limbs that outperform the human limb, in athletics, yes, there's probably a rule that says he shouldn't or she shouldn't be in the event. But outside of that, there are other communities interested in performance which don't have those rules. So then I think you're going to start to see interesting integrations of augmented components of humanity.

MICHAEL JOHNSON

I'm both excited and somewhat concerned about what science will do to sport. I see what it's doing to society and it's a double-edged sword. There are great things that we're able to benefit from technology as a society. At the same time, it creates a new set of problems that we have to then address and deal with and create solutions for.

And I think the same thing will have to happen in sport. I think that governing bodies will have to start to prepare for what is to come with technology and science and how it affects performance and how it affects sport because at the end of the day, personally, I want to see sport always remain fair and balanced for everyone and not turn into something that's unfamiliar to a sports fan.

[Back to - What sporting future: risks and rewards](" \l "Unit9_Session1_MediaContent1)

# Recovery: the next frontier in sporting progress?

## Transcript

[MUSIC PLAYING]

LANCE WALKER

No matter how good your training is out here on the pitch, it’s only as good as your ability to recover from it. And I’ve grabbed a hold of that, that recovery is no longer just this passive thing that you do in between training sessions, that there’s actually recovery training.

PHILLIP BELL

As an athlete, you want to train as intensely as you can to be able to get fitter, faster, stronger. And the idea of the recovery strategy is to allow you to do that. There is a range of recovery techniques that are used in sport currently. Some particularly popular modes-- cold water immersions, compression garments, various nutritional antioxidant-type strategies, neuromuscular electrical simulations.

There are lots of different things out there. Essentially what they’re all trying to do is influence or modulate the stress response to exercise. So things like inflammation, oxidative stress, and muscle damage-- by trying to influence these stress responses to exercise, we’re trying to either reduce the damage response to exercise so we can come back and recover faster or we’re trying to accelerate the recovery of these damage responses.

LANCE WALKER

What’s normal? Well, the normal line of return back to normal is this. Can we steepen that? Are there modalities that we can use to tip that line up like this so now it squeezes down the timeline?

So now instead of 72 hours to recover from a really heavy strength training session, which we’ve seen historically, wow, are there some things we can do with kinotherapy? Are there some things we can do with some of the old school, dry needling? Are there some things we can do or not do with stretching? Are there some things we can do with compression therapy or cryogenics?

Are there some things we can do with the central nervous system in terms of mood and changes? Think of all the crazy things that-- can we potentially steepen that return angle? Now what does that allow me to do? Train more intense and be able to train in more density.

LINDSEY ANDERSON

So they had a hard training day today, but we still have another training day tomorrow. So we need them to start their recovery immediately so by the time they come tomorrow, within 24 hours, 12 to 24 hours, they’re ready to train again.

[GROAN]

So for the contrast baths, we’re going between 56 degrees and 104 degrees. They’re going to spend a little bit more time in the cold tub. They’re only going to spend a minute in the hot tub and they’re going to alternate going back and forth. And what that does is it creates this natural pump.

So you’ve got this constriction of the muscles when you’re in the cold tub and then they relax when you’re in the hot tub. And then they constrict again when you’re in the cold tub. You create this natural pump that is also helping to regenerate the nervous system.

Then we’re also going to use the NormaTec boots and get that even more compression. So we’re working out all those byproducts that have now built up into their muscle in reaction to their training or as a product of their training. And so by actively recovering both in a passive way, we’re just getting the body revved up to start its recovery.

TYLER JEWELL

I think the recovery techniques are constantly improving and changing, as well as the training techniques and the nutrition. And we go down to what’s happening in the blood, the blood levels of the athlete. And of course, we look at CK, which is a precursor for muscle breakdown. And if an athlete has high levels, then we know, OK, maybe today’s not a good day to push the training session.

A lot of the things here we’re really pushing the limit with and we definitely leave a lot up to the athletes. We like to set the buffet and they either like it and they take what they like and they go from there. And if we wait for a lot of things to be proven, then we’re a little bit behind the curve. So in some cases, we do take a little bit of a risk maybe, where it hasn’t been totally proven through research. But at the end of the day, if an athlete believes something is working, it’s working.

It’s very interesting to think about recovery. In some respects, it could be very important. If an athlete were going into a competition, we want to make sure that they’re recovered. But in the off season when they’re training, that recovery modality could possibly spoil the adaptation for the athletes. So also sometimes, it’s good to not go in the cryosauna or not ice or not use the compression pants and allow the athlete’s muscles to get sore so then they have a better adaptation to the training.

PHILLIP BELL

There’s a big head to head on the recovery versus adaptation story at the moment. When we do do exercise, we get these stress responses and it’s these inflammatory and oxidative stress responses that signal to our genes to produce more proteins and adapt in response to these proteins. Now, if we start to try and dampen down these inflammatory responses and oxidative stress responses, are we dampening down the signals to the genes that then express the proteins that then help us adapt?

What we’re trying to do is to take this a level deeper by looking at what we call the methylation of genes within the DNA. There is a theory that if something like cold water immersion is to be having a negative effect on adaptation, it may be because we are switching off some of these genes that are associated with muscle hypertrophy.

LANCE WALKER

We’re close, but we haven’t figured it out yet. And wow, what if we could rewrite some of those curves? What if we could rewrite the steepness of return and recovery for different athletes depending on the steepness? Wow. What if we could do that? What if?

That’s exciting because I think that could potentially be the new frontier is this recovery regeneration space because it could be the limiting factor to how much training and how steep a training we can take on. That’s a pretty exciting space.

[Back to - Recovery: the next frontier in sporting progress?](" \l "Unit9_Session2_MediaContent1)

# Looking inside the engine: US and UK perspectives

## Transcript

MICHAEL JOHNSON:

Wearable technology is a massive growth area. But its impact on performance so far isn't clear. However, if it works, there are some great opportunities. This company is at the forefront of the tech revolution, making clothing that can monitor muscle performance.

JAKE WAXENBERG:

It's just standard compression gear, sweat-wicking fabric like you normally see. The difference is that we have these sensors built directly in. So, all of these sensors fall exactly where they need to.

MICHAEL JOHNSON

So each one of these is a sensor, a different sensor.

JAKE WAXENBERG

Exactly. So these are our electromyography sensors, EMG for short. So, you know how you have a ECG, for your heart? EMG's for your muscles. So what that does is, your muscles when they're being used actually create an electrical signal. And we can record that.

MICHAEL JOHNSON

The sensors sit on the main muscle groups on the chest, arms, and legs, showing what muscles are firing, how hard, and what sequence. And all of that info is sent to your smartphone.

JAKE WAXENBERG

All of the muscles will light up, different colours, in real time, depending on when they're being activated and how much effort they're exerting. So the colour scale goes from blue, yellow, orange, to red, from 0 to 95 per cent muscle effort.

MICHAEL JOHNSON

I can see this being very useful, as it delivers sophisticated data in a very simple format, allowing athletes and coaches to target and test training strategies outside of an expensive lab environment.

JAKE WAXENBERG

Traditionally, EMG technology, although it's been around for a very long time-- as you said, 50, 60 years-- you'd need a PhD to understand it. So it's taking this traditional EMG data and then translating, in a way, in our app, where it's easily understood and actionable for everybody.

I think it's your turn. You ready to have a go and try them out?

MICHAEL JOHNSON

It's not my favourite place, the gym, but, uh-- no, it's interesting. Yeah. I'd love to see how it works.

I've always preferred the track to the gym, but, in the interest of science I was willing to have a go.

Not with that much weight.

JAKE WAXENBERG

No.

MICHAEL JOHNSON

[LAUGH]

JAKE WAXENBERG

Pretty light weight, for you.

MICHAEL JOHNSON

[LAUGH] Even now, still a professional.

JAKE WAXENBERG

All right, perfect. So one thing you might be surprised about is that you use that left side a lot more than that right side.

MICHAEL JOHNSON

The sensors seem to have picked up an old injury on my left side that I struggled with while competing.

I haven't seen my chiropractor in three weeks, so I'm overdue for an appointment. So, if there was anything on that left side out. And so, as an athlete, I had to figure out whether I'm off-balance or not. So, this sort of technology is fantastic for that sort of aid, to an athlete, as opposed to trying to feel it while you're trying to work out and while you're trying to train.

This product is in its infancy, but I feel it's part of the future of democratising data for all, enabling athletes of all levels to make better training decisions. Whether that will deliver better performances on the field is unclear.

You've spent quite a bit of time over in America and San Francisco, kind of the hub of technology and innovation. So, what were some of the things that you saw when you were there that really got you excited about the future of human performance?

DAVE BRAILSFORD

Well, I like the general-- I like the general attitude. You know, everybody I met was going to change the world. You know, here's a product. This is going to change the world. And I'm a sucker for that--

MICHAEL JOHNSON

So they think.

DAVE BRAILSFORD

You know, I like that attitude. And I think if somebody doesn't believe they can change the world, we'll never change the world. And I think there's a lot of real neat innovations coming out. And I think the-- for me, some of the-- certainly in relation to endurance and certain cycling events, the real-time monitoring of hydration status, you know, fuel sort of status, if you like, and what's happening in terms of energy expenditure, and all of those physiological parameters, being able to be measured in real time, and you're getting real feedback.

So you're fueling correctly. You know, you know exactly what's going on. It's like being aware of what's happening in the engine, if you like. I think there's some real smart things coming, in that area. And I think that could be a game-changer, I really do.

[Back to - Looking inside the engine: US and UK perspectives](" \l "Unit9_Session3_MediaContent1)

# Michael Johnson meets Daniel Chao

## Transcript

MICHAEL JOHNSON

So we're in San Francisco. We're on our way to see a company called Halo. And they are a technology company that makes a device and a system that supposedly will create this optimised learning state.

The prototype I'm about to check out has many applications in the medical space, but can also potentially help athletes amplify their training.

I'm always wondering, what's next? What's not out yet that's coming, that's on the horizon? So that really excites me. And in this city, you do get a chance to see some of those things.

Daniel Chao is part of the team of neuroscientists exploring every athlete's holy grail, their own untapped potential.

DANIEL CHAO

We're making a wearable device that stimulates the motor cortex. It's the part of the brain that's responsible for human movement. It puts the brain in a state of what we call hyper learning.

MICHAEL JOHNSON:

So what is the benefit to an athlete?

DANIEL CHAO

Let's think about something very practical. So if I had you just put out one rep as hard as you possibly can-- let's say that's 100 pounds-- on a leg extension machine. If I were to apply an external muscle stimulator to your muscles, I'm sure I could pretty easily get 200 pounds out of you.

So you're leaving a lot on the table. And it's not limited by your muscles. It's limited by your brain. So what we're doing is we're preparing the brain for a workout.

MICHAEL JOHNSON

All athletes understand the importance of warming up their body before they train. So why not stimulate your brain before a performance?

DANIEL CHAO

What we have here is our prototype version of the device. And you could see the business end of the system where the neurostimulation happens. And that we have set up to target the part of the motor cortex that's responsible for the movement of the legs.

Ryan, maybe you could tell us what you're feeling.

RYAN

It's just like a slight tingling. But you really can't feel much.

DANIEL CHAO

Yeah, it's just really a mild amount of electricity that we're using here.

MICHAEL JOHNSON

What is the benefit that you would be looking for specifically in this trial from the stimulation?

DANIEL CHAO

We're hoping to see at a given power output that the cyclist will have a lower heart rate, so that he's more efficient. And that we can measure his blood lactate levels and it would be reflected there as well. So in this case, the cyclist is literally learning how to be more efficient on the bike.

MICHAEL JOHNSON

As incredible as it sounds, it seems as if by sending small electrical signals to your brain, this device supercharges the pathways between the muscles and the brain, in theory, improving an athlete's output at the same level of effort.

DANIEL CHAO

So this is a mathematical model of what's going on with the stimulation in Ryan's brain.

MICHAEL JOHNSON:

So if we were stimulating the brain of an athlete who was, say, a swimmer and focused on shoulder movement--

DANIEL CHAO

Absolutely.

MICHAEL JOHNSON

--would we actually place this in a different area of the brain?

DANIEL CHAO

That's exactly right. So the part of the motor cortex that's responsible for arm movement is just off the shoulder of the skull.

MICHAEL JOHNSON

So depending on the sport, let's say then, that an athlete plays, you can map out what part of the brain needs to be stimulated for that particular sport that they're trying to train for.

DANIEL CHAO

Yeah, absolutely.

MICHAEL JOHNSON

It is pretty out there. The idea makes a lot of sense. And that's what makes it so exciting if this could work, because no one has figured out yet how to tap into that sort of extra ability that is there. That's what this claims to do. If it's effective in doing so, it could truly be a game-changer.

[Back to - Michael Johnson meets Daniel Chao](" \l "Unit9_Session7_MediaContent1)

# Uncaptioned Figure

## Alternative description

UK Coaching logo

[Back to - Uncaptioned Figure](" \l "Unit2Figure1)

# Figure 1 Some of the main words and phrases used in the article.

## Alternative description

The word cloud contains words/phrases,

[Back to - Figure 1 Some of the main words and phrases used in the article.](#Unit2_Session3_Figure1)

# Figure 2 A range of factors that contribute to sporting success.

## Alternative description

This is a Venn diagram with three circles.

[Back to - Figure 2 A range of factors that contribute to sporting success.](#Unit2_Session5_Figure1)

# Figure 1 Growth in height for boys/girls age 0–17 years

## Alternative description

This graph plots the height gain in centimetres per year against age for boys and girls.

[Back to - Figure 1 Growth in height for boys/girls age 0–17 years](#Unit4_Session1_Figure1)

# Figure 2 Teenage brain is different infographic.

## Alternative description

This image is a poster titled ‘The teenage brain is different, and what you can do about it?’.

[Back to - Figure 2 Teenage brain is different infographic.](#Unit4_Session4_Figure1)

# Figure 1 The tendencies and likely results of fixed and growth mindsets

## Alternative description

The tendencies and likely results of fixed and growth mindsets

[Back to - Figure 1 The tendencies and likely results of fixed and growth mindsets](#Unit6_Session2_Figure1)

# Figure 2 Sentences that you can use to encourage young people to use to support a growth mindset

## Alternative description

A poster titled ’10 growth mindset sentences.

[Back to - Figure 2 Sentences that you can use to encourage young people to use to support a growth mindset](#Unit6_Session3_Figure1)

# Figure 3 The Iceberg Illusion

## Alternative description

An illustration is titled ‘The Iceberg Illusion’.

[Back to - Figure 3 The Iceberg Illusion](#Unit6_Session3_Figure2)

# Figure 1 Dave Alred

## Alternative description

An image of Dave Alred.

[Back to - Figure 1 Dave Alred](#Unit7_Session2_Figure1)

# Figure 2 The new science of embracing performance anxiety.

## Alternative description

A poster is titled ‘The new science of embracing performance anxiety’.

[Back to - Figure 2 The new science of embracing performance anxiety.](#Unit7_Session6_Figure1)