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The AIS Coach Learning Guide

A resource to support the development of long-term
context-specific outcomes

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Introduction

Purpose

The aim of this resource is to highlight the complex and serendipitous nature of learning and the various ways it occurs. It is hoped that the information will support the achievement of long-term, context-specific outcomes (sport coaching) for people who operate in a particular domain of practice (coach development) by connecting new ideas to prior understandings.

Use of guide

This document provides practical guidance to support the generation of new knowledge and has been developed in a way that enables readers to navigate to topics that they consider to be of most value.

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Structure

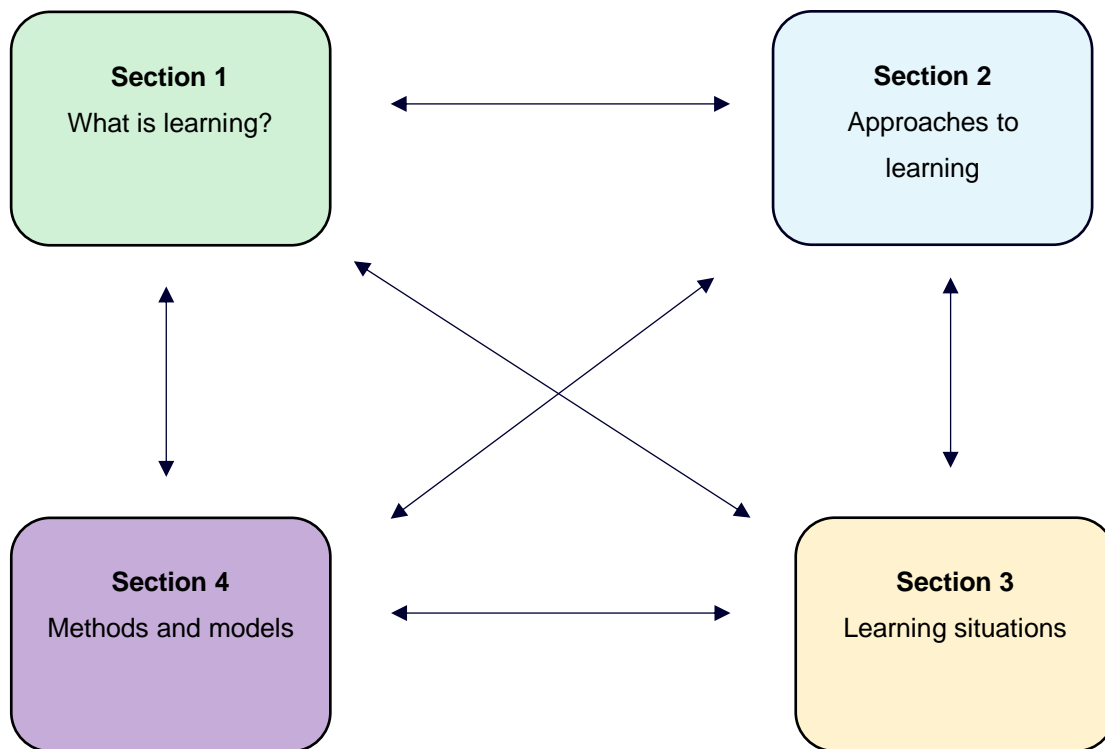
The AIS Coach Learning Guide has four sections:

Section 1: Highlights how learning differs from development, provides a brief overview of the learning process and summarises the different theories relating to it.

Section 2: Covers such important topics as the factors that can affect the learning process and the various ways it can be pursued.

Section 3: Explores the different situations in which learning occurs and provides a number of suggestions and examples showing how internal learning can be enhanced.

Section 4: Summarises the different methods, models and frameworks used to promote and provide effective learning experiences.



“Great coaches are not born - they are made. Beginner coaches become accomplished coaches, and skilled coaches become great coaches, by thinking hard about their coaching and discovering new ways to improve it” - Adapted from: [Becoming A Reflective Mathematics Teacher: A Guide for Observations and Self-assessment 1st Edition](#).



Section 1: What is learning?

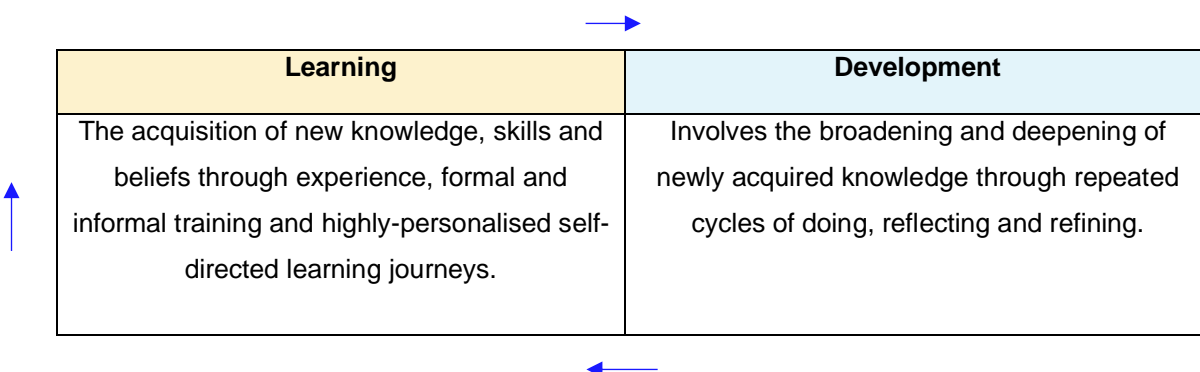
A brief summary

In its broadest sense, learning can be defined as a transformative process that is based on input, processing and reflection and results in a relatively permanent change in behaviour [1,2]. It involves strengthening correct responses and weakening incorrect ones by making sense of new information, reorganising it and connecting it with what is already known [3]. In summary, learning is an ongoing, non-linear and lifelong process that:

- Occurs in complex social environments [4].
- Involves active participation and manipulation of experiences and conversations [5,6].
- Encourages peer-to-peer interactions [5].
- Needs the inputs of more knowledgeable others [5].
- Builds on prior knowledge by connecting new ideas to prior understandings [5,6].
- Is situated in authentic and meaningful contexts [7,8].
- Creates opportunities for learners to engage with and explore personally identified topics of interest [8,9].
- Provides the mechanisms through which new knowledge, skills and behaviours are acquired [10].
- Requires considerable and sustained mental effort and motivation [11].

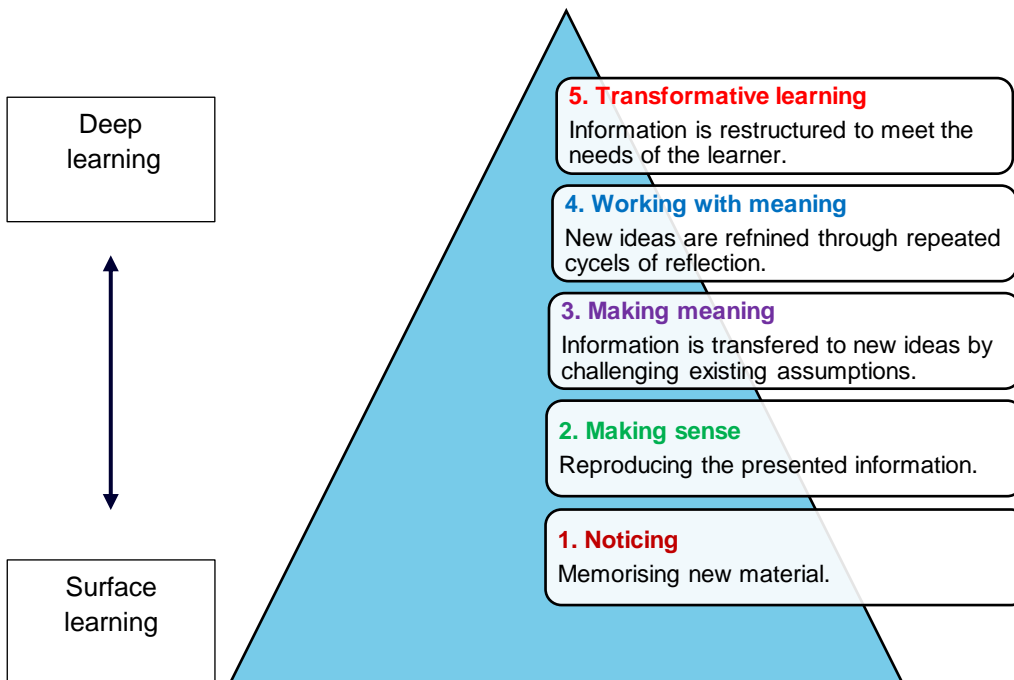
How does learning differ from development?

While learning and development are sometimes used interchangeably to describe the same process, some scholars believe that learning precedes development, and that they should be thought of as two separate but highly complementary concepts [10,12]. For example, educational theorists [10-13] have argued that there are two distinct phases required for meaningful personal and professional growth - knowledge production (learning) and the subsequent deepening and realisation of that knowledge (development). Therefore, and as can be seen in the Figure below, learning should not be seen as a one-off, event-based activity but as something that is part of a bigger and ongoing development experience.



Stages of learning

In 1999, Moon [14] presented a five stage model as a way of demonstrating what she believes is the best possible representation of learning. The Figure below is an adaptation of this work and highlights how an ability to engage in meaningful reflective practice generates the highest level of learning. Nevertheless, it should be noted that whilst exposure to progressively higher levels of activities will move learners up through the levels, the upgrading process requires a deliberate and conscious effort on the part of the learner and a willingness to be critically reflective [14]. Suggestions aimed at assisting with the development of these skills are presented in Section 3.



Underpinning theories

Learning theories attempt to explain the various ways in which knowledge can be generated, processed and recalled [15,16]. Having an understanding of these dynamic and multi-dimensional processes is important in the present context because it could assist with the design and implementation of coach development initiatives that not only take the principles of learning into account but are more likely to support the generation of new knowledge, behaviours and practices. To assist with the understanding of these complex processes, the following provides an overview of the five basic theories of learning and examples of how each of these concepts could be successfully adapted and applied to coach development situations.

“The beautiful thing about learning is that nobody can take it away from you”

- B.B. King.

“Wisdom is not a product of schooling but of the lifelong attempt to acquire it”

- Albert Einstein.



Behaviourism

Behaviourism is a popular learning theory that is based on the idea that all behaviours are learned through interaction with the environment [17] and that teachers can directly influence how their students behave [18]. However, whilst it is widely assumed that learners can passively receive and utilise information through this approach, research has shown that this is not the case, and that learners tend to only focus on and remembering key points rather than absorbing new material as a whole [19]. Motivation and reinforcement therefore play critical roles in this theory and are important factors for effective learning to take place [17-19]. For example, if a developing coach receives praise from a coach developer for drafting a detailed session plan, that person is much more likely to adopt the practice than a coach who does the same thing but receives no praise. The coach who receives no praise is experiencing negative reinforcement [20] (i.e., the lack of recognition is interpreted as meaning detailed session plans do not really matter so the practice of preparing them becomes unimportant to that person). On the other hand, the coach who receives positive reinforcement [20] makes a direct connection to the importance of the task and is more likely to continue drafting and using session plans at future practices. Importantly, it is this association that provides the opportunity for the refinement of ideas and the development of more effective actions through processes known as operant and classical conditioning [18,19] and the support and guidance of more knowledgeable others [5,12]. However, the theory’s focus on observable behaviour and disregard of internal mental processes has led to criticism and a steady decline in popularity. Nevertheless, the underlying principles of behaviourism continues to influence teaching practices and the fields of psychology and has a place in coach development.

View of knowledge	View of learning	Coach development example
Knowledge is developed through behaviour responses to environmental stimuli [17,18].	Learning occurs through the passive assumption of a predefined body of knowledge [17,18].	Information for the successful completion of a task is passed on by the coach developer and absorbed by a coach.

“I have come to a frightening conclusion.

I am the decisive element in the learning environment.

It is my approach that will affect the outcomes.

It is my behaviour that will set the mood.

As the coach developer, I can make the lives of the people I work with miserable or joyous.

I can be a tool for resentment or an instrument of inspiration.

I can humiliate or honour; hurt or heal.

In all situations, it is my response that decides whether an issue will escalate or de-escalate and if a person is humanised or de-humanised” - Adapted from the work of [Dr Haim Ginott](#).



Cognitivism

In contrast to the behaviourist approach to learning, cognitivism is concerned with understanding the mechanisms through which learning occurs [21]. This perception supports the idea that learning involves mental processes (e.g., perception, attention and memory), and that the human mind operates in a similar way to a computer, in as much as they both receive input, have systems for the processing of information and are both capable of delivering an output [22]. However, unlike computers, human learners use different types of memory during the knowledge acquisition process [21,22] and, as can be seen in the Figure below, need to transfer newly presented information from the sensory memory to the long-term memory in order for it to be stored as procedural knowledge (how to do something) and declarative knowledge (information we can talk about) [23]. Therefore, from a cognitivist perspective, it is important for Coach Developers (CDs) to create conditions and strategies that enable learners to build connections between new material and what is already stored in the long-term memory by pairing semantic memories (general knowledge of how to complete a task) with episodic memories (personal experience associated with the task) [24].

View of knowledge	View of learning	Coach development example
Knowledge consists of cognitive structures developed by learners and not simply due to external stimuli [21,22].	Learning is an on-going process whereby new information is linked to existing knowledge [21,22].	CDs use a guided discovery approach in an attempt to positively influence the learning process.

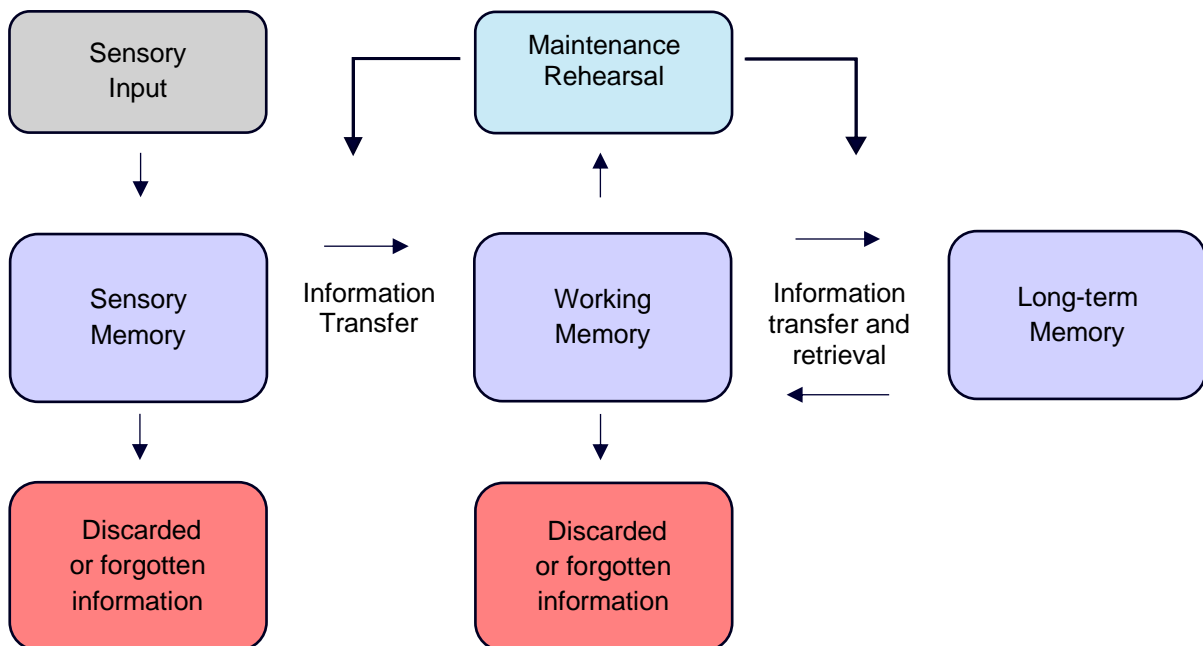


Illustration of the information process that underpins the cognitivist approach to learning and demonstrates how new material gathered from the senses (**input**), is stored and (**processed**) by the brain for the purpose of producing an appropriate behavioural response (**output**).



Constructivism

Constructivism is a theory of learning that is focused on the ways in which individuals are able to construct and apply knowledge in socially mediated contexts [25,26]. The underpinning assumptions of this theory are as follows:

- Learners are active participants in the learning process [5,12,27].
- Learning is a result of an individual's interaction with the environment [5,12,27].
- Knowledge is constructed as learners make sense of their experiences [5,12,27].
- Cognitive dissonance (the tension that comes from holding two conflicting thoughts at the same time) is the stimulus for learning and ultimately determines what is learned [28].
- Social environments play a critical role in the development of knowledge [5,12,27].
- Socially constructed learning enables the acquisition of important cognitive processing skills (self-regulation and problem solving) [27,28], which are critical for the uptake and implementation of new knowledge [10,11].

The above suggests there would be merit in applying a constructivist approach to certain coach learning situations to encourage the generation of new knowledge and/or modify existing beliefs through engagement in activities that promote cognitive dissonance and enable pre-existing schemas to be compared (e.g., presentations, small group discussions and the examination of real world experiences). Adopting such an approach could also support the development of more self-directed and curious thinkers capable of applying judgmental reasoning to complex tasks. This is relevant in the present context, since most coaches operate in highly complex settings and have to manage the many and varied personal, physical and emotional challenges that arise in such settings [29,30].

View of knowledge	View of learning	Coach development example
Knowledge is socially constructed through interactions with a community or group [25,26].	Learners create their own interpretation of reality [5].	CDs promote self-directed learning experiences and encourage cognitive dissonance.

“The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires” - William Arthur Ward.

“Learning is bidirectional. We learn from the environment, and the environment learns and is modified thanks to our actions” - Albert Bandura.



Social learning

Social Learning Theory, later renamed as Social Cognitive Theory, explains how individuals are able to learn and develop new skills and behaviours through the observation of others and the interpretation of those actions [31]. According to the creator of this theory, Albert Bandura, learning can occur through exposure to any or all of three types of modelling summarised below.

- **Live modelling:** An individual observes a behaviour or action in a real-world situation.
- **Symbolic modelling:** An individual observes a behaviour or action displayed by real or fictional characters in books or visual media.
- **Verbal instructional modelling:** An individual is verbally supplied with a description or explanation of a behaviour [31].

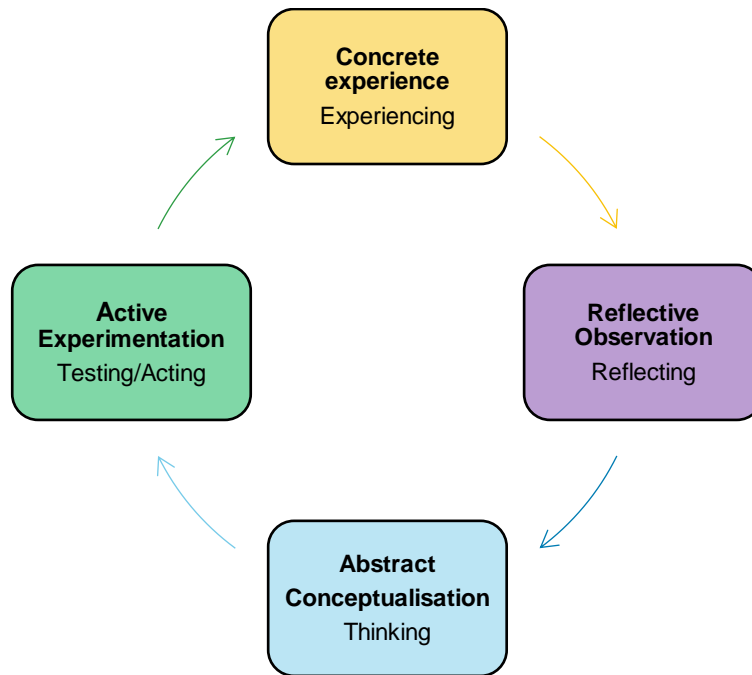
The effectiveness of social learning depends on several factors, including the level of attention a learner directs to the model, the extent to which the learner is able to code and retain the information, the motivation of the learner, and their ability to reproduce the modelled actions [31]. Therefore, and as can be seen below, learning in this context is not just a matter of mentally recording an observed behaviour and then replaying it, but instead depends on the way in which the learner functions as an active agent in transforming, classifying and organising the modelling stimuli into easily remembered schemes that can be accessed for the purpose of reproducing the behaviour [31].

Requirements	Original Descriptions	Coach Development Example
Attention	An individual notices something in the environment.	A developing coach observes the behaviour and attitude of a More Knowledgeable Other (MKO).
Retention	The individual remembers what was noticed.	The model produced: High levels of confidence and passion. Carefully constructed and thought-provoking training sessions. High levels of athlete engagement. Displays of mutual respect and trust.
Reproduction	The individual produces an action that is a copy of what was noticed.	When conducting their own training sessions, the developing coach mimics the observed behaviours of the MKO.
Motivation	The environment delivers a consequence that enhances the probability the behaviour will occur again.	Positive reinforcement and encouragement from the MKO. Positive feedback from athletes and other stakeholders.



Experiential learning

Experiential learning is a dynamic, holistic and multi-dimensional approach to the development of knowledge that is based on the notion that an individual's life experiences play a central role in their learning and understanding of new knowledge [32]. It is applicable not only in various education settings but in all areas of life and positions learning as a continuous process whereby learners bring their own ideas, beliefs and practices to their understanding and interpretation of new information [32,33]. The following utilises Kolb's four-stage model [33] and existing coach learning literature [34-36] to demonstrate how experiential learning could support the development of coaches.



Stage 1: A coach has a concrete experience of something new during a training session. This could be, for instance, the implementation of a novel activity as part of a new teaching method.

Stage 2: The concrete experience is followed by a period of reflection. Here, the coach considers what went well and identifies areas of possible improvement by developing an initial understanding of what aided the athletes' learning and what hindered it.

Stage 3: During this stage, the coach makes sense of what has happened by conceptualising links between what the athletes just did, what the coach thinks they already know and what they think is needed for further improvement. To aid this process, the coach may use a range of strategies to clarify and explore ideas including, the reading of online articles, textbooks, research papers, discussions with other coaches, and conversations with athletes and sport scientists. The important thing here is that the coach modifies the initial ideas based on what has been learnt from the observations and wider research.

Stage 4: The coach now applies what has been learnt by taking the ideas from the reflective observation and conceptualisation stages and turning them into active experimentation. Cycles are then serially repeated and continuously modified by new experiences and the newly acquired knowledge.



Things to consider

The theories discussed above outline ideas concerning the different ways in which knowledge can be created and demonstrate how different pedagogic approaches could be used to design and deliver effective coach development experiences. It is important to note that there is no single theory that explains human learning in its entirety [37] and that strategies derived from different theoretical perspectives are often needed to ensure that a learning intervention achieves its intended purpose [38,39]. For example, methods most frequently associated with a behaviourist approach (e.g., feedback/reinforcement and stimulus-response) could be used in the present context to achieve learning outcomes that require a low degree of information processing (e.g., memorising sport-specific rules). Outcomes that require a higher level of processing (e.g., delivery of effective training sessions) could be achieved through use of strategies that have a stronger cognitive emphasis (e.g., schematic organisation and self-monitoring). Outcomes that demand very high levels of information processing (e.g., problem solving and adapting practices) could be achieved through use of strategies associated with a constructivist perspective (e.g., situated learning, social negotiation and social persuasion). This means that the cognitive demands of a learning objective and the current proficiency of learners need to be considered during the design phase of a coach development initiative and will ultimately determine what approach is used over another.

Additional considerations

The above makes it clear that learning theories need to be combined and applied in creative ways to produce coach development interventions that are more likely to meet the needs of each learner. The following aims to assist this process and provides additional information that CDs may need to consider when developing their programs and events.



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Insights from the adult learning literature

Because most coaches are adults, it is worth considering the principles that presently form the basis of adult education programs. Awareness of these principles may assist in providing more effective learning opportunities by connecting the motivation of coaches with the topics that need to be taught.

Principles of adult learning	Empirical evidence
Learning should be self-directed.	There is a growing body of knowledge suggesting that when adult learners are encouraged to be responsible for their own learning the information is learnt more easily and quickly [1,11,40].
Learning environments should be respectful and encouraging.	Mutual respect and trust encourage people to share their views more openly [1,10,11].
The learning should be experiential and highly participatory.	Most adults are task-oriented, which means they learn best when the information relates to their experience [10,11,40].
Learning should fill an immediate need.	Adults tend to learn better when the information is related to a perceived need [1,10,11].

Motives for coach learning

A key point relevant to design of coach development initiatives is the identification of motives for coach learning. For instance, while studies focused on adult learning have shown that age, time pressure, level of education, occupation and household income have a major influence on participation in courses and programs [41,42], research aimed at identifying factors that would increase the likelihood of further engagement with different forms of coach learning events shows that coaches are more willing to engage in programs:

- When they are certain that attendance would enhance their ability to coach [43].
- When they believe the content is directly relevant to their learning needs [43].
- When the learning fills an immediate need [43].
- When the course it is locally available and free [44].
- When attendance is a mandatory requirement [43].

It is hoped that CDs consider all of the points raised in the above section in their quest to achieve long-term, context-specific outcomes and support the development of more effective practitioners.



Section 2: Approaches to learning

General outline

This section builds upon the previous information by summarising the different approaches used to support the development of domain-specific knowledge and discussing the factors known to affect the learning process. However, as can be seen in the Table below, due to the highly idiosyncratic nature of the process [45], and because *“learning occurs from accessing a range of opportunities”* [46, p:325] multiple strategies and approaches are required for effective professional development to take place.

Formal coach learning	Non-formal coach learning	Informal coach learning
<p>Learning arises from attending a structured formal coach education/ learning course.</p> <p>Outcomes are generally recognised with a qualification and/or certificate [34,36].</p>	<p>Learning occurs through a range of non-formal activities that are not usually evaluated and do not lead to certification [47-49].</p>	<p>Learning takes place in daily work-related settings and in other informal and often incidental ways [49-50].</p>

Formal learning

Formal approaches to coach learning in Australia mostly take place within the context of readily accessible coach accreditation courses offered and administered by National Sporting Organisations and through various programs developed and delivered by experts in higher education settings (universities) [36]. As the name implies, these courses tend to involve a set of sequential and standardised components that are generally highly structured in terms of objectives, curriculum, and attendance requirements, and delivered in ways that enable attainment of formally recognised, prescribed and predetermined outcomes designed to meet competency-based requirements [11,37].

Benefits of formal learning

- It has clear objectives and follows a set curriculum.
- Courses are usually well-organised and have a scheduled framework.
- It provides opportunities for learners and facilitators to solve queries instantly.
- Learners have access to content experts.
- It provides formal recognition of achievement through strict assessment procedures [46-48].



Disadvantages of formal learning

- Learners at different stages of development usually have to study the same topics at the same time [1,11,37].
- The rigid structure and costs of courses are known deterrents to adult learning [41,42].
- Subjects are explored for only pre-determined periods of time [1,11,37].
- Courses provide little opportunity for more meaningful and authentic learning to occur (e.g., experiential and situated learning) [1,14,37].
- In many cases, participation in a course does not adequately prepare coaches for the unique challenges and demands of the role [46-48].

Non-formal learning

Although formal and non-formal learning share many similar characteristics, the latter tends to be more autonomous and less structured, meaning that it does not have to follow a formal syllabus or adhere to an external accreditation and assessment framework [11,37,49]. Regarding the autonomous nature of this mode of learning, it has been suggested that while it is non-mandatory there is still an intention from both the educator and learner to work together to achieve a pre-planned goal [49]. An example of this approach to coach development is a person making a deliberate and intentional decision to improve a certain skill or develop an area of knowledge outside of the formally structured learning system by participating in a subject-specific workshop or structured program that does not lead to the attainment of a formal qualification or award [34,46].

Informal learning

While there is no single authoritative definition of informal learning, the contemporary understanding is that it happens outside the formal education system, is mostly unstructured, does not lead to a qualification and tends to be the outcome of incidental everyday experiences [37,49,50]. Ways in which informal learning can occur in the present context, include:

- Working with more experienced coaches.
- Observing other training sessions.
- Learning from friends and work colleagues.
- Reading web-based information, manuals, research articles and other topic-specific material.
- Attending public lectures.
- Listening to podcasts.
- Learning through on the job trial-and-error experimentation [36,46].

“Tell me and I forget. Teach me and I remember. Involve me and I learn”

- Benjamin Franklin.



Benefits of non-formal and informal learning

- Encourages and promotes self-learning [10,37].
- Enables learners to explore topics in a more natural way [1,10,11].
- Does not impose strict time limits for the of learning new topics [1,11,49].
- It is free from rules and regulations, meaning learners can gain knowledge from multiple sources and in many different ways (e.g., the internet, workplaces, mentorships) [11,37].
- It is much more accessible than formal learning [1,49,50].
- It enables new ideas to be refined through daily work practices [1,14,50].

Disadvantages of non-formal and informal learning

- The internet contains a lot of misinformation, which can be problematic for inexperienced learners and lead to information bias (i.e., only reading easy to access information) [36].
- The highly flexible approach can sometimes result in learning procrastination [1,14].
- Learners can face uncertainty when implementing new ideas as there is often no guidance or support during these sensitive periods of learning [12,14].
- It is still widely seen as less effective because of the lack of quality control measures [49,50].

Considerations for future endeavours

Data from the Australian Bureau of Statistics [51] revealed that in 2006-2007, 1.3 million Australians aged 25–64 years participated in some type of formal learning, while 3.3 million engaged in non-formal learning activities and 8.1 million advanced their knowledge through engagement in informal learning experiences. While the exact reasons for these preferences are not known, the figures are consistent with research showing that the vast majority of coach development occurs outside of formal educational settings and that coaches across all parts of the sport spectrum are influenced by a mixture of individualised and sometimes ad-hoc non-formal and informal learning experiences [34,47]. This suggests that non-formal and informal coach learning opportunities are likely to have a wider reach than formal courses, and that supporting the development of coaches through more social and collaborative approaches may be more effective for the realisation of long-term outcomes across the entire sport participation spectrum.

“I am always doing that which I cannot do, in order that I may learn how to do it”

- Pablo Picasso.

“Every student can learn, just not on the same day, or the same way”

- George Evans.



Factors that can affect the learning process

The following provides a summary of the main factors that have been shown to influence adult learning and is aimed at assisting with the planning and delivery of effective non-formal coach learning events.

Environments

Superior outcomes are often achieved when adult learners feel safe and supported [1] and when their abilities, experiences and skills are acknowledged and respected [10,11]. CDs should therefore acknowledge previous experiences, be highly respectful when working with coaches, and strive to create environments that provide participants with a sense of psychological safety. This in turn, is likely to encourage engagement in ways that align with personal motivations and the construction of meaningful and productive experiences [52,53].

Ownership and agency

People can learn by using previously acquired knowledge and are able to recall this information when attempting to develop a new skill [23,24]. CDs will therefore need to develop strategies aimed at encouraging and promoting this type of learning to ensure coaches retain a sense of control over their actions and consequences.

Motivation

Because adults tend to learn better when they have a reason for learning [1,10,11], CDs should provide a sense of purpose for any training by explaining both the aims and benefits of an event.

Role modelling

As noted earlier, people are able to learn through observation and will quite often try to emulate the behaviour of others [31,53]. Therefore, good and relevant role models that promote opportunities for self-modelling are vital for continued learning and development.

Goal setting

Because an important element of the learning process is having a clear understanding of the intended outcomes [10,54], CDs should encourage coaches to identify the goals they hope to achieve from their participation in an event and encourage self-monitoring of progress (e.g., journaling and reflective practice).

Cognitive conservatism

This factor deals with the reluctance of human beings to admit mistakes and update beliefs [55]. Whilst attempting to address this issue can sometimes be challenging, regular observations, interactions and discussions with peers and more knowledgeable others can often aid this process by getting coaches to reconsider their current beliefs, practices and assumptions [5,12].

Teaching strategies

To be truly effective, high-levels of “cognitive empathy” are required when designing learning events. This entails a desire to understand what it would be like to experience a program as a learner and from efforts aimed at predicting how participants are likely to respond to the questions, problems and activities contained within an event [56].



Section 3: Learning situations

Overview and general outline

This section provides a brief overview of the different situations in which learning occurs, demonstrates the highly personalised nature of coaching pathways and highlights the important role cognitive structures play in coach development (i.e., *“a learner’s conceptions of knowledge, experiences, and emotional make up”* [57, p:7]). The latter is of particular importance because an individual’s cognitive structure influences what that person pays attention to and what they choose to learn [58].

Mediated learning

Mediated learning occurs when someone other than the learner is responsible for deciding what has to be learnt and the ways in which the information is presented [58]. Learning in these situations usually takes place in classrooms and other formal settings and involves facilitators/teachers helping with the assimilation of material by combining their understanding of the learner's needs, interests, and capabilities (i.e., practicing cognitive empathy) in ways that increase the chances that person will profit from the experience [56,59]. However, because coaches do not value this approach as much as real-world learning experiences [34,57], it has been argued that learning in less structured and unmediated ways is required for the optimal development of domain-specific knowledge and effective practices [60].

Unmediated learning

According to Werthner & Trudel [58], unmediated learning situations do not require the direction of an external source and occur when learners take the initiative for choosing what to learn. For instance, a coach utilising a break period at an accreditation course to read an online article about a topic that was discussed during the course is an example of how an unmediated learning situation could take place within a coach development context. This example is important for the present work because it helps to demonstrate the opportunistic nature of authentic and meaningful learning [61] and is consistent with research showing that while most coaches tend to favour informal approaches, self-directed learning is the preferred method for expert coaches [34].

Internal learning

Internal learning takes place once new information has been received from either mediated or unmediated learning situations and involves coaches reconsidering existing ideas and concepts through repeated cycles of reflection (documenting and exploring personal thoughts, feelings and experiences) and engagement in a process known as “cognitive housekeeping” [62,p:6].

“We do not learn from experience. We learn from reflecting on experience” - John Dewey.



Suggestions aimed at assisting internal learning

Although the above provides only a brief description of the internal learning process, the following builds upon this information by demonstrating how regular engagement in reflective practice can enable new ideas to be transformed into practical solutions [62-64].

Reflection: What is it?

In the present context, reflective practice is the process coaches use to think about and reflect on what they did in a given situation so that they can better understand and improve their practice. It is closely linked to the concept of experiential learning (i.e., learning from experience) in that coaches need to consider what occurred and what they would do differently next time [62,63]. It involves critically examining, reformulating and continually testing new ideas through repeated cycles of **planning**, **doing**, **reflecting**, and **refining** [64]. Importantly, nearly all experts agree that reflective practice is a skill that can be learned and refined through experience and the dynamic interactions of everyday living and work [65-67].

What's involved?

The practice involves integrating reflective activities into daily life on a routine basis [64-68], and often improves such valuable skills as emotional intelligence, decision-making, problem solving and critical thinking [62-64]. Essentially, the process entails:

- Listening to ourselves.
- Being aware of our feelings.
- Addressing our assumptions.
- Noticing patterns in what we see.
- Changing how we see things [65-67].

Supporting reflective practice

It is important that coaches try to capture their thoughts and feelings as soon as possible after an occurrence so that a rich and accurate account of the experience is recorded [64]. The following, based on the “3W model” [68], seeks to support and encourage this process by providing a suitable framework for the documenting and exploration of personal thoughts, feelings and experiences.

Step 1: What happened? (Description) Provide a descriptive account of the experience.

- What happened?
- Who was involved?

Step 2: What's important? (Interpretation) Reflect on and interpret the experience.

- What was the most important/interesting/relevant/useful aspect of the event?
- How can it be explained?
- How is it similar/different to other experiences?

Step 3: What's next? (Outcomes) Determine what can be learnt from the experience.

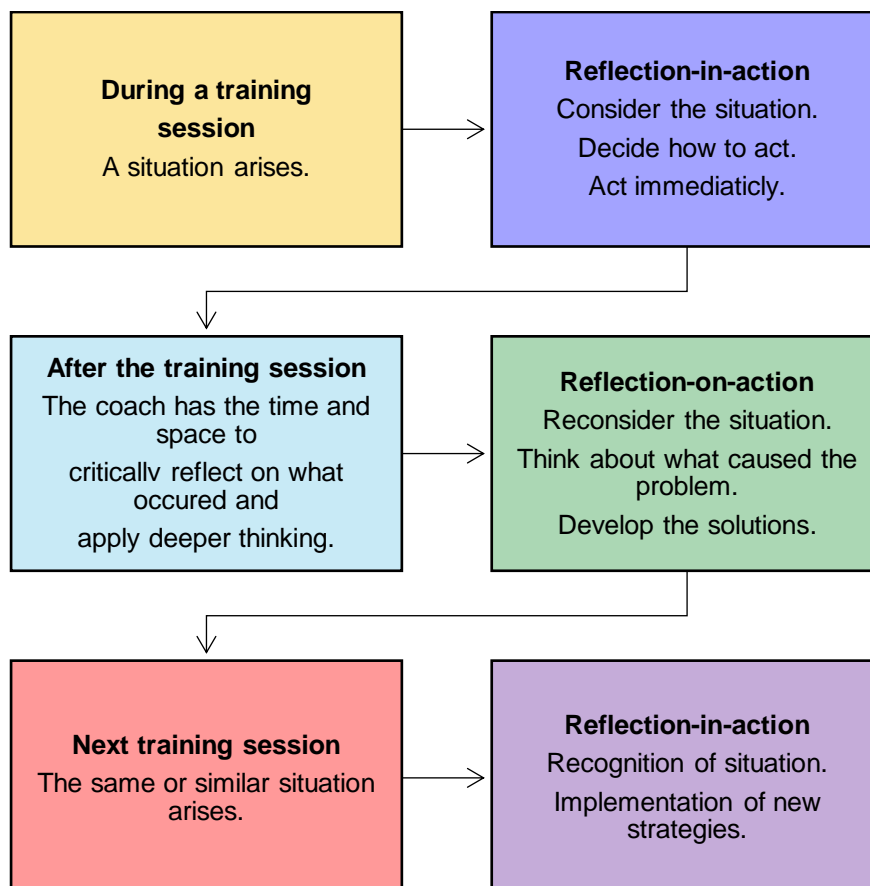
- What have I learned?
- How can this be applied in the future?



A practical example

Similar to the above, the following example focuses on “learning by doing” and provides a practical model for coaches to examine what informs their practice and how these factors might subsequently aid or hinder their future work. In this model, reflection can be seen as having two elements:

- **Reflection-in-action** [66]: In a coach development context, this refers to quick thinking and responses during a training session or competition. For instance, a coach trying to explain something which the athletes do not initially understand may be able to reflect-in-action to quickly recognise the problem, understand why it is occurring, and promptly respond to it by reframing the explanation or approaching the topic from a different perspective.
- By contrast, **reflection-on-action** [66] would take place after the training session or competition. Here the coach has the time and space to critically reflect on what occurred and can think much more deeply about the situation. Critically reflecting on their action not only allows the coach to develop a more refined understanding of what caused the initial problem but enables the development of solutions aimed at minimising the potential for recurrence [64]. It should be noted, however, that the quality of the solutions depends on personal characteristics such as level of knowledge, degree of experience and understanding of relevant theories [65-67].

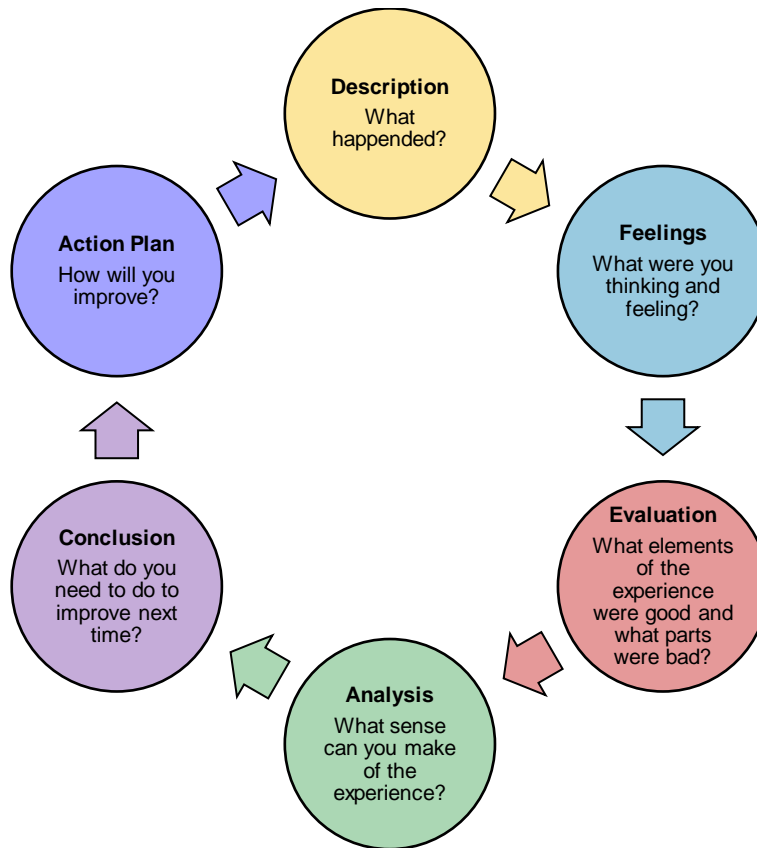


“Competent practitioners usually know more than they can say. They exhibit a kind of knowing-in-practice, most of which is tacit” - Donald A. Schön.



Gibbs' reflective cycle

The six-stage model presented below could also be used to assist with the examination and interpretation of real-world coaching experiences and is another useful framework for understanding the reflection process. As can be seen in Figure, the first three stages are concerned with what happened, while the remaining three entail formulating a response to the experience.



An example of Gibbs' Reflective Cycle in action

Gibbs [67] maintains that capacity for reflective practice can be developed by having a learner consciously step through the six-step process in relation to a specific occurrence. A summary of how this might be done in a coach learning environment is provided below.

Step 1. Description: During the initial phase, a coach should aim to provide a clear and accurate account of an experience. At this stage, the descriptions do not need to be analytical, but the account should be factual and concise [67].

Step 2. Feelings: The coach should use this stage of the process to identify and record any thoughts and/or or feelings they had during the experience, with these directly referenced to specific moments of the experience. It is vital that the coach is completely honest in this task since correct identification of thoughts and feelings is prerequisite to effective development of strategies in response to the experience [67].

Step 3. Evaluation: This phase provides an opportunity for the coach to consider what went well and what did not go as well as initially planned [67].



Step 4. Analysis: During this phase the coach may refer to relevant literature and/or seek the support of a More Knowledgeable Other to help make sense of the experience [67]. For example, if a coach felt the instructions given were not clearly understood, they could consult educational research on effective communication to help develop salient skills.

Step 5. Conclusion: Based on the coach's research, all the different ideas are pulled together resulting in a clear understanding of what needs to be improved and the ways in which it can be done [67].

Step 6. Action plan: The coach creates a step-by-step detailed plan for provision of a new learning experience by utilising information arising from the previous five phases. Here the coach decides what will be kept, what requires changing and what can be done differently [67]. The action plan can also include strategies aimed at gaining further insights. For example, observing another coach's training session, talking to more knowledgeable others and spending time with a mentor can all be effective ways to enhance coach development [34,36].

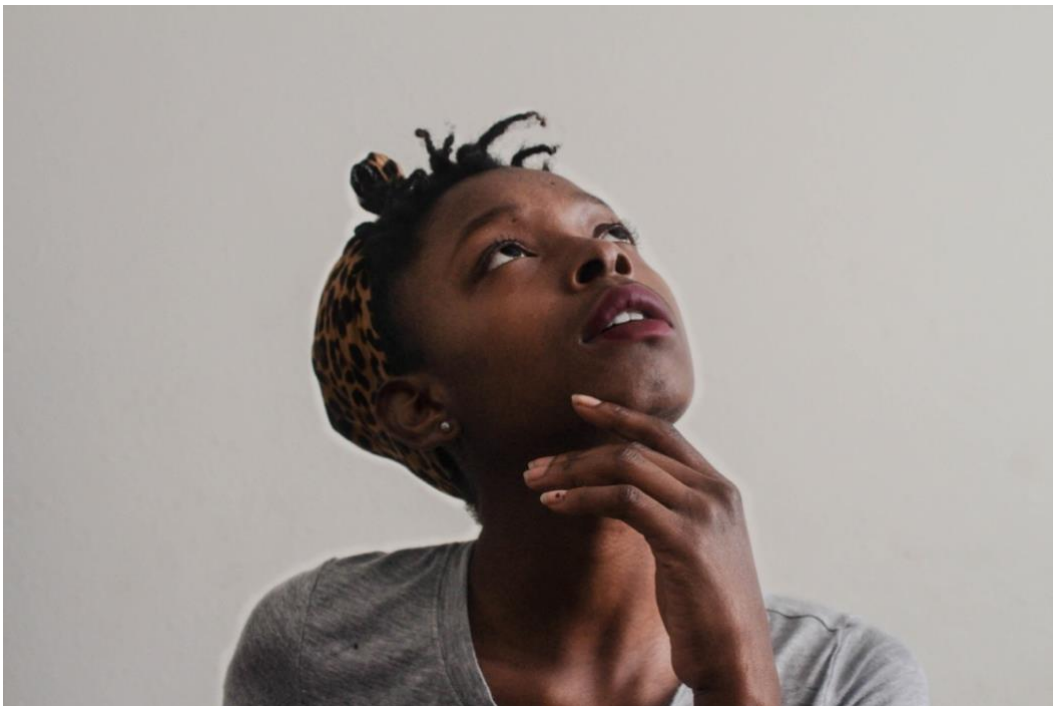


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"Without reflection, we go blindly on our way, creating more unintended consequences, and failing to achieve anything useful" - Margaret J. Wheatley.

"Self-reflection is a humbling process. It's essential to find out why you think, say, and do certain things.... then better yourself" - Sonya Teclai.



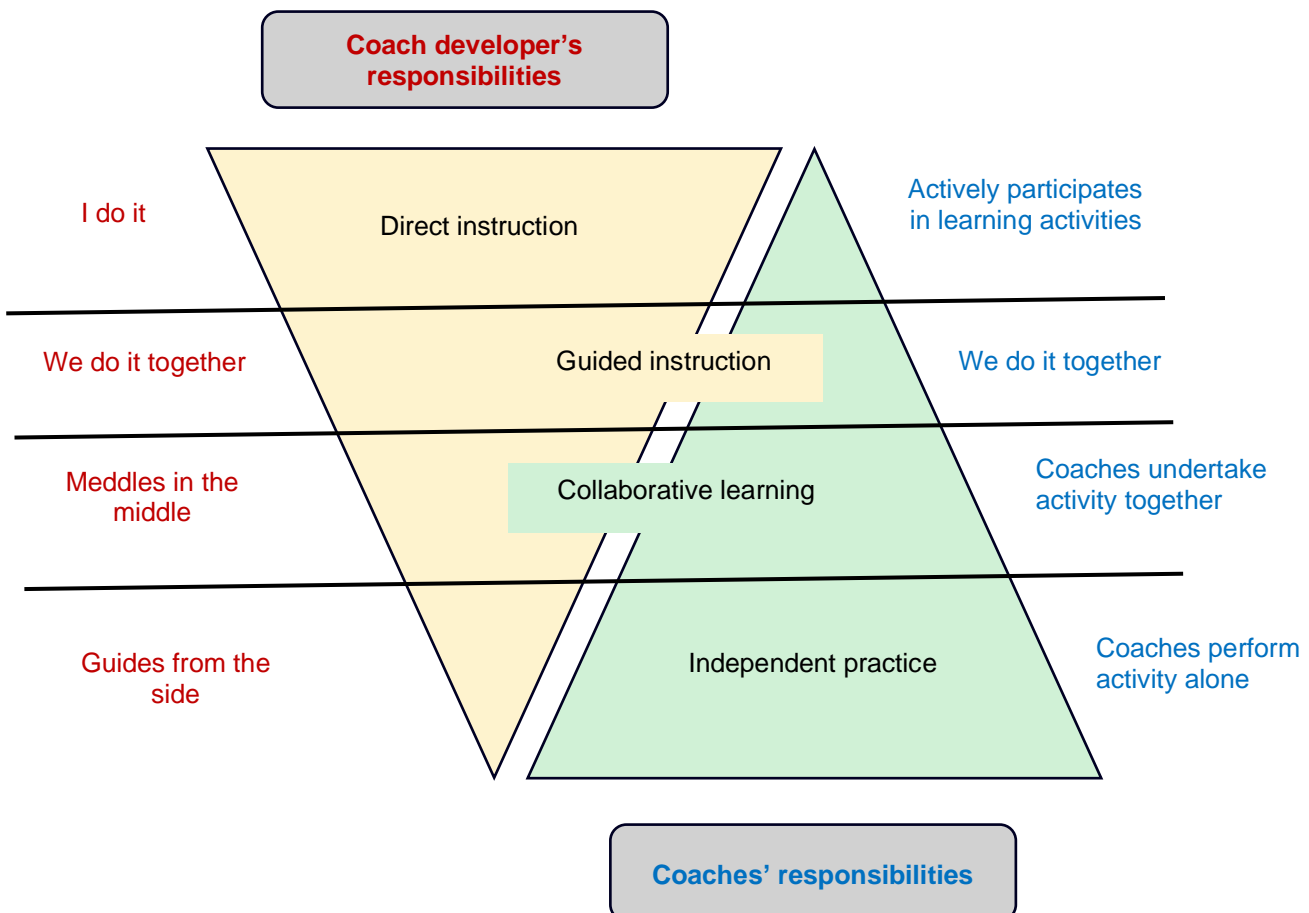
Section 4: Models and methods

Introduction

The final section of the guide is aimed at supporting CDs with their challenging roles by highlighting how some of the previous information can be applied in more practical ways. For example, while the presentation of theories in this guide has been largely explanatory, the following models offer greater context specificity. An attempt is made to demonstrate how to create learning environments that align intended outcomes with activities so that objectives are achieved. The suggestions, however, are intended only to provide CDs with ideas that might facilitate creation of events and programs appropriate to their own unique needs, rather than being in any way prescriptive.

Gradual release of responsibility

Initially conceived in 1978 and progressively refined over the next 5 years [69], the Gradual Release of Responsibility (GRR) model has become one of the most commonly used frameworks for explaining how classroom instruction can move from teacher-led, whole-group delivery to student-centred collaboration and independent practice [70]. It is sometimes referred to as the “I do, we do, you do” model. The Figure below demonstrates how CDs could foster collaboration and create active learning environments through the use of demonstrations, prompts and practice.



An example of how the GRR model could be used in a coaching context

The Table below further outlines how the GRR model could be implemented within a coach development context and is based on the premise that the key to improved coaching is continuous job-embedded learning. For example, while the optimum mix for coach learning is still unknown [34], it has been reported that the vast majority of coaches have learnt their craft through more social and collaborative approaches that are both observational in nature and situation-based [71,72].

Stage	CDs responsibilities	Coaches' responsibilities
<p>I do Direct Instruction</p>	<p>Provides direct instruction. Establishes goals and outcomes. Provides purpose and rationale. Models behaviour and skill.</p>	<p>Actively listens. Participates in activities. Takes notes. Seeks clarification.</p>
<p>We do it together Guided Instruction</p>	<p>Provides interactive instruction. Uses prompts and cues to guide and enhance learning. Provides additional modelling. Identifies individual needs.</p>	<p>Asks and responds to questions. Works with coach developer and peers. Completes tasks with others. Seeks clarification.</p>
<p>Coaches do it together Collaborative learning</p>	<p>Moves among participants. Reinforces key points. Provides additional support and encouragement. Clarifies any confusion.</p>	<p>Works directly with peers. Completes tasks in small group. Seeks clarification. Shares outcome. Utilises peers for clarification. Consolidates learning.</p>
<p>Coaches do it alone Independent practice</p>	<p>Evaluates current levels of knowledge. Determines level of understanding. Attempts to keep group together to enhance development. Provides ongoing support and encouragement.</p>	<p>Works alone. Implements what has been learnt. Takes full responsibility for outcomes. Engages in critical self-reflection. Seeks regular support from peers and coach developer.</p>

“A teacher is someone who makes themselves progressively unnecessary”

- Thomas Carruthers.

“In learning you will teach, and in teaching you will learn”

- Phil Collins.



Communities of practice

While there is continuing debate as to how Communities of Practice (CoPs) should be defined [73], most experts agree that they consist of people who share a common concern or have an interest in a particular topic and come together regularly to advance their practice by fulfilling both individual and group goals. Importantly, there is widespread agreement that they can be powerful vehicles for accomplishing learning [73-78], and that the development of dynamic CoPs could be well worth pursuing in a coach development context [36].

Critical elements

Li et al. [78] have noted that the original notion of CoPs was closely aligned to apprenticeship models of learning, but that the concept has subsequently evolved without achieving absolute clarity. For instance, in the late 1990s Wenger [74] (now known as Wenger-Trayner) believed CoPs could be characterised by the following three critical dimensions: **mutual engagement**, **joint enterprise** and **shared repertoire**, with the last of these entailing the use of common resources and jargon. However, in 2002, Wenger-Trayner and colleagues [77] renamed these elements as **domain**, **community** and **practice** after noting the importance of connectivity, membership, learning projects, artifacts, and leadership to the successful operation of learning communities. In this new definition, **domain** relates to the area of focus of the community and the competencies required to differentiate members from non-members. **Community** is seen as the social structure enabling interaction between members, and **practice** incorporates the shared repertoire. In addition, Wenger et al. [77] de-emphasised earlier notions concerning the spontaneous emergence of CoPs by suggesting that they could be deliberately established or fostered by organisations as a way of building staff knowledge and capabilities.



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Cultivating a coach-specific CoP

The information below is based on the author's personal experience and provides a list of practical suggestions to guide and support the creation of coach-specific CoPs in a timely and logical way.

Step 1. Define purpose and objectives: Having a clear purpose for a project and clearly stated objectives not only provides a suitable framework to help guide the work but helps justify the actions and adds a layer of accountability for host organisations.

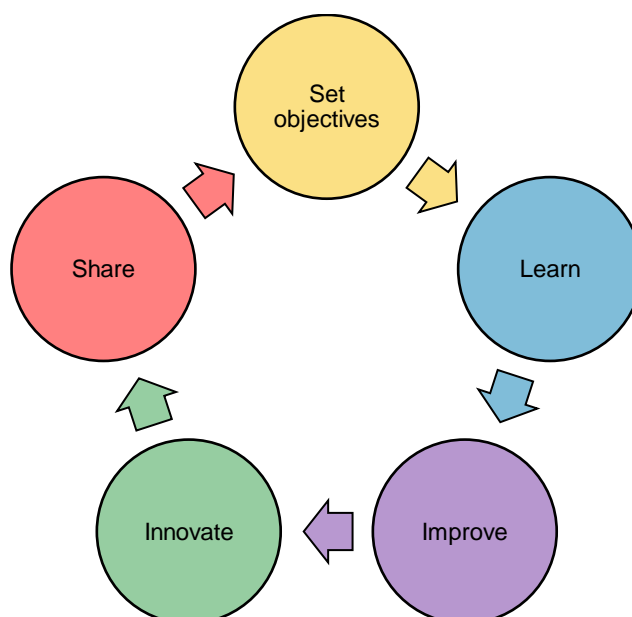
Step 2. Develop project plan: A detailed project plan is essential for the achievement of outcomes and should outline the aims and rationale of a project so that questions like the following can be answered. What needs to be done? When and where will the work take place? Who is going to do the work? How much will it cost?

Step 3. Recruit coaches: Once the above tasks have been completed, attention needs to be given to the recruitment of community members. This might, for example, involve selecting coaches through a formal application process that promotes inclusivity, or it could be done in more organic ways (e.g., word-of-mouth). Regardless, potential participants will need to have an incentive to participate in the initiative and should be able to see that an investment of their time will result in short and long-term benefits.

Step 5. Implement engagement strategies: It is during this stage that the coaches and community leader start to interact with each other, and responsibilities, expected behaviours and social norms are created.

Step 6. Create highly positive and supportive learning environments: The aim here is to develop a proactive learning community where members believe that their contributions matter and feel a sense of connection with each another.

Step 7. Promote a culture of continuous improvement: The Figure below demonstrates how repeated cycles of setting objectives, learning, improving, innovating, and sharing could form the basis of a highly effective and efficient coach-specific CoP operational model.



The role of a coach developer in a coach-specific CoP

It should be noted that not all participants within a CoP will want to make the same level of contribution, and that interactions need to be seen as having benefit for the learning partnerships to remain healthy and productive [76-79]. This concern has highlighted the need for learning specialists (e.g., social learning leaders), who play an active role in the development process by providing critical guidance and support during sensitive periods of learning and increasing the likelihood that interactions will remain beneficial and productive [73]. In the present context, such a role would differ significantly from that of a traditional sport course instructor since it would be primarily focused on supporting the growth and development of coaches by encouraging and challenging them to solve problems with critical thinking, helping with the interpretation of experiences and assisting with the translation of contemporary research into routine practice.

Coach-Specific CoP		
Critical Dimensions		
Domain	Community	Practice
<p>The area of focus of the community</p> <p>Exploring “real-world” problems and current practices.</p> <p>Discovering ways to become effective leaders and skilful custodians.</p>	<p>The social structure enabling interaction between members</p> <p>Community expectations.</p> <p>Social norms.</p> <p>Group behaviour.</p>	<p>Shared repertoire</p> <p>Creating content-specific resources.</p> <p>Developing membership guidelines.</p> <p>Sharing cognitive and physical artifacts.</p>
Essential Elements		
<p>Learning projects and events.</p> <p>Situational-based learning.</p>	<p>Shared leadership.</p> <p>A sense of connection.</p>	<p>Common interest in topics.</p> <p>A willingness to contribute to group outcomes.</p>
Examples		
<p>Coaches listening to each other and considering alternative points of view with specific outcomes in mind.</p>	<p>Coaches feeling safe to express their ideas openly and freely.</p>	<p>Coaches investigating topics together through meaningful discussions and using conversations to progressively establish common understandings.</p>
Underpinning Support		
Coach developer (social learning leader)		
<p>Coordinating activities.</p> <p>Managing group dynamics.</p> <p>Helping coaches understand and apply new concepts.</p>	<p>Thought leadership.</p> <p>Encouraging continual learning.</p> <p>Openly sharing relevant knowledge with community members.</p>	<p>Accurately documenting the experience.</p> <p>Identifying factors that support or hinder the learning process.</p>



Some things to consider

While potential exists for building communities of practice as a means to advance the learning, development and professional status of sports coaches [36], several scholars have pointed out that this is not a simple matter and attention should be given to the reported experiences outlined below before attempting to design and cultivate a coach-specific CoP.

- A coach learning community ceased to operate when a researcher who was also the facilitator of the group withdrew from the facilitating role [80].
- A well-established hierarchy within a coaching group inhibited interactions with other lower-level coaches, meaning that the latter were afforded almost no opportunity for meaningful participation in discussions [80].
- The mindset of some coaches wasn't conducive to the collaborative spirit typically regarded as requisite to a community of practice [81].
- CoPs can sometimes become exclusive, insular, and resistant to positive change and therefore need to be carefully managed [81].
- Some information only reinforced existing values, behaviour and beliefs [82].
- Implementing new ideas simply because it sounded or looked better has had negative ramifications for some coaches [82].
- Lack of ability to critically reflect on the nature of their epistemological beliefs and current practices limited development opportunities for some coaches [82].
- Pre-existing beliefs, attitudes and dispositions resulted in acceptance of certain types of knowledge and behaviour over others [34].

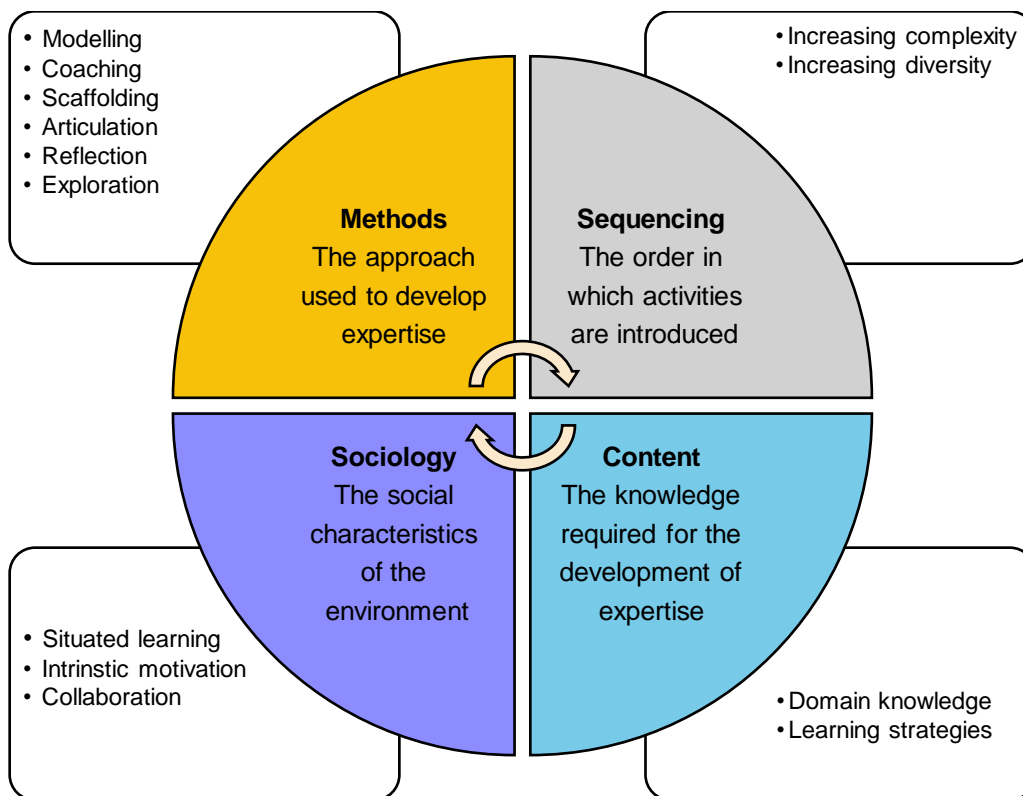


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Cognitive apprenticeships

The pedagogical foundations underpinning CoPs are also embodied in the Cognitive Apprenticeship Model [83], in that the latter approach to learning is also a social and collaborative process whereby knowledge is acquired and contextually tied to the settings and situations in which it is learnt. Similar to a CoP, learning in this context is guided by the expertise of a more knowledgeable and/or respected other who encourages and challenges learners to solve problems with critical thinking and kinaesthetic ability - in the same way an apprentice learns a trade under the supervision of a master tradesperson [83-85].



Teaching Methods

The teaching methods summarised below are an integral to the cognitive apprenticeship model and are used to develop the skills and traits required for the successful completion of domain-specific complex tasks [83,84].

Modelling

Modelling is the process whereby learners build a conceptual model of the task after observing an expert demonstration [83,84]. For example, a coach developer using explicit instructions while demonstrating how to implement a specific training drill would be providing a model to a developing coach.



Coaching

Coaching refers to the provision of instructions, suggestions, cues, and prompts that a coach developer would provide to a developing coach to ensure tasks were correctly completed [83-85].

Scaffolding

Under the cognitive apprenticeship model, scaffolding is the level of support offered to learners when they are developing their skills [86]. For example, a coach developer may need to provide additional assistance to a developing coach regarding a particular aspect of their role and gradually reduce the support as the coach progresses.

Articulation

Articulation is the process of having learners verbalise their knowledge, reasoning, or problem-solving skills [83-85]. In the coaching context, this process would include a coach developer asking questions, which would enable the developing coaches to crystallise their thinking while facilitating opportunities for collaborative learning.

Reflection

Reflection is an integral part of the learning process [63-67] and would provide an opportunity for the developing coaches to analyse their own performance and identify areas of improvement that models the behaviour of the coach developer.

Exploration

Exploration is an advanced stage of the learning process and occurs when learners can correctly identify problems and devise solutions themselves [83-85]. To enable developing coaches to reach this stage, a coach developer would need to withdraw their support gradually while still assisting where required.

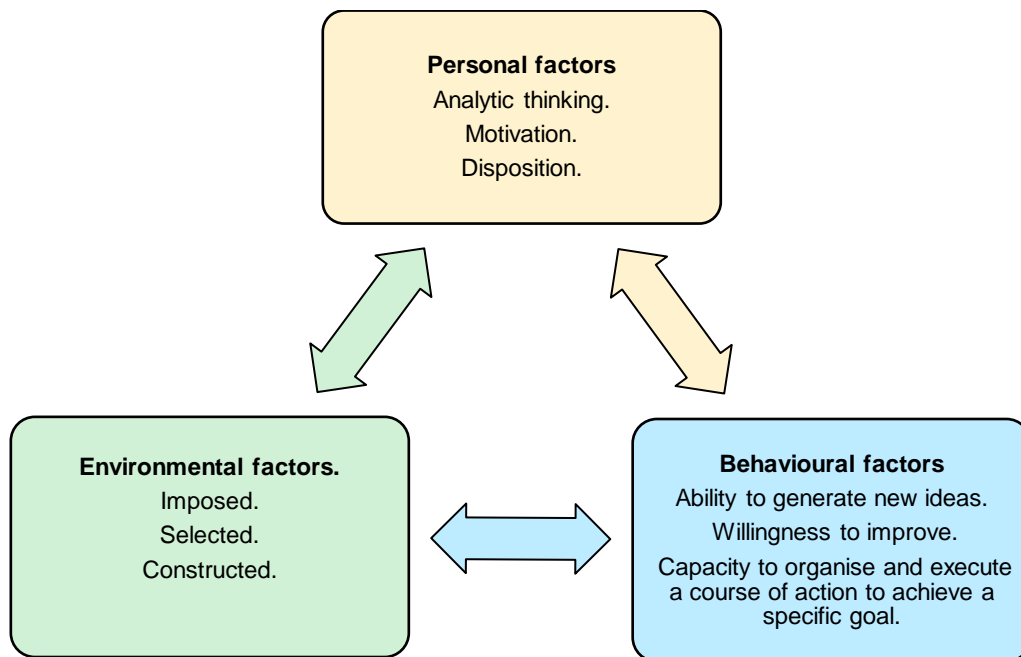


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Triadic Reciprocal Determinism

Triadic reciprocal determinism (also known as triadic reciprocal causation) is a key concept of Albert Bandura's Social Cognitive Theory [31] and is important in the present context because it explains how existing individual characteristics influence and are influenced by the behaviour of others and the social worlds coaches inhabit. As can be seen in the Figure below, personal factors refer to the cognitive make-up of an individual and includes such important attributes as analytic thinking, motivation, and disposition. Behavioural factors refer to and deal with knowledge production and transfer (i.e., a person's ability to generate new ideas, their willingness to improve, and their capacity to organise and execute a course of action to achieve a specific goal). Lastly, environmental factors (defined as imposed, selected, or constructed) refer to the different situations and settings people inhabit when acquiring new information and/or developing their skills. Perhaps of most significance is that interesting and/or admired models are more likely to attract the attention of prospective learners thus setting the learning process in motion [31].



"People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided" - Albert Bandura.

"You should never try to be better than someone else, you should always be learning from others. But you should never cease trying to be the best you could be because that's under your control and the other isn't" – Coach John Wooden.



Self-efficacy: A key concept for professional and personal development

In addition to being a key component of Bandura's Social Cognitive Theory, triadic reciprocal determinism underpins another very important Bandura concept - self-efficacy. This construct deals with personal beliefs and perceived ability [87,88] and is used in research to understand the degree to which people believe they can achieve a specific goal or succeed in a particular situation [88,89]. For example, a coach with high self-efficacy would be confident and enthusiastic about learning and excited by the idea of working with a coach developer and/or participating in a learning event. On the other hand, a coach with low self-efficacy may be less willing to participate in a program because of their negative view of learning (e.g., it's something I'm not very good at). Nevertheless, it should be remembered that while a coach developer may not have much control over a coach's personal factors (e.g., analytic thinking, motivation, and disposition), they can satisfy the environmental factors of Bandura's triadic model by ensuring coaches are provided with settings that are friendly, welcoming and offer high levels of psychological safety. This in turn, could increase the likelihood of coaches staying involved with a program and/or relationship long enough to modify their negative thoughts and behaviour through engagement with more knowledgeable others and exposure to different thinking in personally selected or constructed environments, rather than imposed ones.

Pedagogical strategies aimed at improving self-efficacy

Below is a list of suggestions aimed at assisting and improving the self-efficacy of coaches and fostering their development.

- Establish specific, short-term goals that will challenge coaches and advance their learning, yet are still considered as doable and attainable [88-91].
- Help coaches develop specific learning plans and, as they proceed, ask them to verbalise the next steps and monitor their progress in reflective journals [88-91].
- Use learning activities that are slightly above the coaches' current ability level [88-91]. This will help to ensure tasks are not seen as boring and help reduce any perception that the coach developer doubts the abilities of the coaches.
- Capitalise on coaches' interests and motivation by connecting key concepts to real world practices and situations [88-91].

Practices and strategies to avoid

Pedagogical approaches that may have unintended consequences and diminish the self-efficacy of coaches include:

- Teaching practices that compare coaches' performances against one another. This approach has been shown to lower the self-efficacy of learners within group settings [87-89].
- Generalised instructional methods that are inflexible and do not allow for the input of learners [87-89]. This makes it harder for coaches to ask questions and become involved in the learning process.



Zones of proximal development

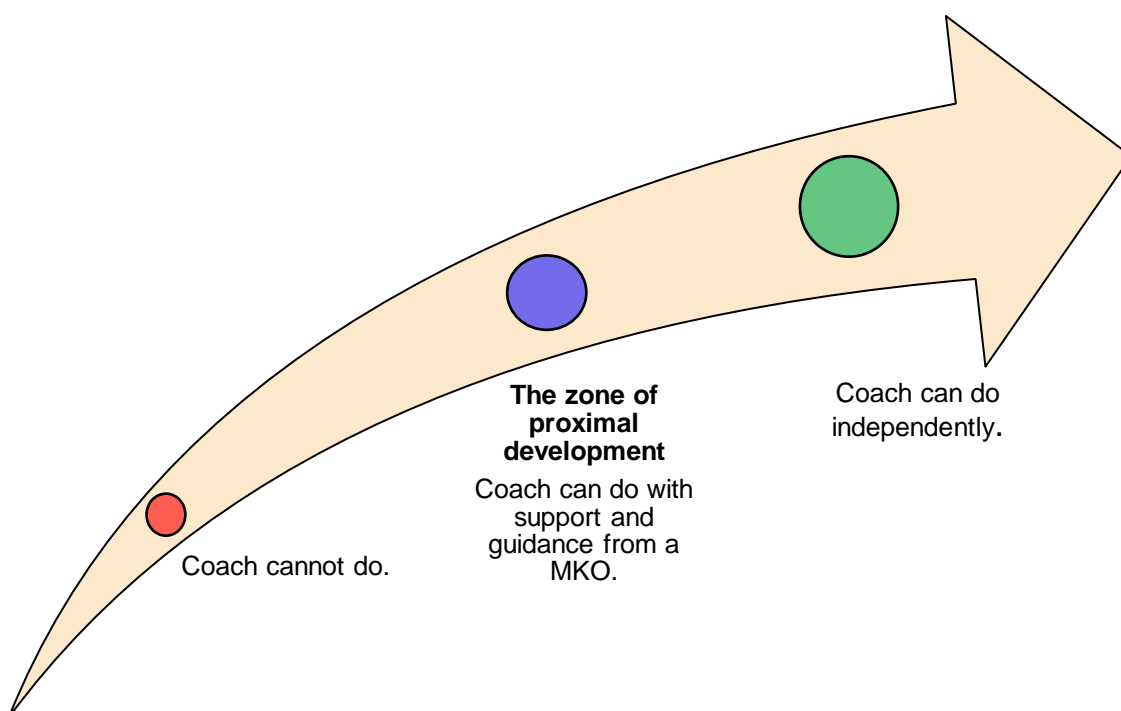
The concept of Zones of Proximal Development (ZPD) was developed by Soviet psychologist, Lev Vygotsky during the late 1920s and progressively refined until his untimely death in 1934 [92]. According to Vygotsky, new knowledge is generated in a ZPD when a more knowledgeable other (anyone who has a better understanding or a higher ability level than the learner) provides the appropriate assistance required to complete a task [5,93].

A brief overview

Learning from a Vygotskian perspective occurs by keeping learners in their own unique ZPD as often as possible by giving them interesting and culturally meaningful problem-solving tasks that are unable to complete alone but can accomplish with the support of a more competent peer or teacher [12,92]. Similar to the gradual release of responsibility model, the idea is that after jointly completing an activity, a learner is then more likely to be able to complete the same task without assistance the next time it is attempted. It is through this process that the learner's ZPD for that particular task shrinks and new levels of competency are displayed [92,93]. Thus the focus of teaching within this context is on tasks inside the ZPD that go slightly beyond the learner's current competencies and builds upon existing abilities thereby ensuring that the gap between what can be done individually and what can only be accomplished with assistance is diminished [12,92,93].

Zones of proximal coach development

Although used mostly to explain social cognitive development in educational settings, Vygotsky's learning model also could be applied to the present work as it helps to demonstrate how coaches can become highly competent and effective practitioners when provided with the appropriate levels of support.



Examples

Below, are several examples showing how ZPD can and are used in coach development situations and demonstrate how coaches move from an inability to perform a particular task to being able to do it independently.

- A developing coach is able to draft a session plan when working with a more competent coach, but struggles to complete the task alone. By asking questions, the developing coach begins to develop new strategies and eventually performs the task by him/herself.
- A coach understands certain elements of a topic that is being discussed in a coach-specific CoP but struggles when attempting to learn more about the subject outside of the discussions. The community convenor helps the coach to approach the learning (e.g., reading web-based information about the topic) in a way that enables the material to be digested more effectively and eventually allows the coach to engage in critical self-reflection and self-assessment when reading by him/herself.
- A coach is struggling to deliver information to athletes during periods of competition (i.e., providing feedback and/or using a feedforward approach to achieve a performance goal). A more knowledgeable person helps the coach to do this more effectively by modelling the behaviour and then releasing full responsibility to the coach once competency is achieved.
- An aspiring coach is able to help deliver highly effective training sessions when working with other coaches, but struggles when coaching a session by him/herself. Through the support of a mentor, the coach quickly develops the skills required to independently design and deliver effective and efficient practices.
- A developing coach struggles to demonstrate a technical skill when working alone but is able to do so when supported by a more experienced coach. Through a collaborative approach, the developing coach acquires the skills by listening, observing and learning from the more experienced coach who guides that person to full independence and displays of new competencies.

Key points and reflections

The following is based on the work of Wass & Golding [94] and is aimed at helping CDs to improve ZPD delivery in coach-specific learning situations.

- Are you currently creating respectful, democratic and autonomous supportive learning environments that enable the development of diverse talents?
- Do you identify existing beliefs and establish current levels of competencies when working with coaches?
- Do you encourage peer interactions and use the collective wisdom of group members to develop new knowledge and know-how?
- What could you do to create more conducive learning environments?



Final thoughts

Summary

This resource contains a lot of information intended to assist with the achievement of long-term context-specific outcomes by:

- Highlighting the importance of highly personalised and self-directed learning journeys.
- Providing an overview of five basic theories of learning and demonstrating how each of these concepts could be successfully adapted and applied to coach development situations.
- Covering such important topics as the factors that can affect the learning process and the various ways in which the process can be pursued.
- Highlighting that multiple strategies and approaches are required for effective professional development to take place.
- Demonstrating how regular engagement in reflective practice activities can greatly assist the knowledge production process and enable new ideas to be transformed into practical solutions.
- Discussing the different situations in which learning occurs and highlighting its complex and serendipitous nature.
- Highlighting how experiential learning can play an important role in the development of coaches.
- Emphasising the importance of research and demonstrating how making sense of previous experiences is a key factor for the professional and personal growth of coaches.
- Outlining how the use of different models can promote effective learning experiences and support the development of domain-specific knowledge.
- Highlighting the important roles that cognitive empathy, cognitive structures, cognitive conservatism, cognitive dissonance and cognitive housecleaning play in the learning process.

“If a person will spend one hour a day on the same subject for five years, that person will be an expert on that subject”

- Earl Nightingale.



Concluding comments

Learning is a complex process that occurs through interactions of an individual with his/her environment. It is predominantly and perhaps even exclusively a social process. The development of theories and models to explain it provides a basis for emergence of ideas as to how it might be optimised. The various theories and models are not mutually exclusive, and indeed there is considerable overlap between them. They may be used collectively to understand and predict the outcomes of particular learning situations, while examining those situations purely through the lens of any single one of them may be limiting.

Coaches exposed to ostensibly in the same environment can have very different learning outcomes, because the learning is influenced by their pre-existing experiences, attitudes, beliefs, and motivations. Essentially, a learner does not just passively receive information but dynamically evaluates and interprets it in a manner influenced by the learner's individual characteristics. Understanding and taking account of these characteristics is therefore crucial to the design of effective learning experiences.

Learning is not confined to contrived times and physical spaces but continues throughout life. It is most pronounced when readiness to learn is high. The timing of high readiness differs greatly between individuals. Consequently, provision should be made for individualising the timing of special learning opportunities.

CDs should note that acquisition of new knowledge by coaches does not automatically lead to changes in their practice. Translation of knowledge into practice is influenced by a range of factors including the nature of the practice environment, the attitudes of significant others in that environment, entrenched protocols existing with a sport program and/or club, and the perception of the coach concerning risks associated with implementing change. For this reason, coaches may need to be closely supported and encouraged in the translation process. CDs can play an important role in allowing this to happen, provided that they are sufficiently aware of the operational circumstances of the coaches. The formation of close and trusting relationships between CDs and coaches is therefore essential to achievement of maximum impact.

“The real value of setting and achieving goals lies not in the rewards you receive; but in the person you become, as a result of reaching your goals” - Robin Sharma.

“Every accomplishment started as a dream and as a vision, which were propelled by strong ambition” - Remez Sasson.



References

1. Knowles, M. S., Holton, E. F., & Swanson, R. A. (2011). *The adult learner: The definitive classic in adult education and human resource development* (7th ed.). Elsevier, Butterworth-Heinemann.
2. Cunia, E. (2005). Behavioural learning theory. *Principles of Instruction and Learning: A Web Quest*.
3. Clark, R. C., & Mayer, R. E. (2016). *E-learning and the science of instruction* (R. C. Clark & R. E. Mayer, Eds.; 4th ed.). John Wiley & Sons.
4. Rogoff, B. (1998). Cognition as a collaborative process. In W. Damon (Ed.), *Handbook of child psychology: Vol. 2. Cognition, perception, and language*. John Wiley & Sons Inc.
5. Vygotsky, L. S. (1986). *Thought and language*. A. Kozulin (Ed.), Cambridge, Massachusetts: The MIT Press.
6. Piaget, J. (1964). Cognitive Development in Children: Development and Learning. *Journal of Research in Science Teaching*, 2, 176-186.
7. Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge, UK: Cambridge University Press.
8. Moll, L. C. (1990). *Vygotsky and Education: Instructional Implications and Applications of Sociocultural Psychology*. New York: Cambridge University Press.
9. Kolodner, J. (2006). A note from the editor. *Journal of the Learning Sciences*, 15, 1-2.
10. Jarvis, P. (2004). *Adult Education and Lifelong Learning: Theory and Practice* (3rd ed., p. 373). London, UK: Routledge Falmer.
11. Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). *Learning in Adulthood: A Comprehensive Guide*. San Francisco, CA: Jossey-Bass.
12. Tudge, J. R. H., & Winterhoff, P. A. (1993). Vygotsky, Piaget, and Bandura: Perspectives on the Relations between the Social World and Cognitive Development. *Human Development*, 36, 61-81.
13. Wenger, E., Trayner, B., & de Laat, M. (2011). *Promoting and Assessing Value Creation in Communities and Networks: A Conceptual Framework*. Rapport 18, Ruud de Moor Centrum, Open University of the Netherlands.
14. Moon, J. (1999). *Reflection in Learning and Professional Practice*, Kogan Page, London.
15. Skinner, B. F. (1950). Are theories of learning necessary? *Psychological review*, 57(4), 193.
16. Dunn, L. (2002). *Theories of learning*. Learning and Teaching Briefing Papers Series, Oxford Centre for Staff and Learning Development, Oxford Brookes University.
17. Snowman, J. (1997). Educational Psychology: What Do We Teach, What Should We Teach?. *Educational Psychology Review* 9, 151–170.
18. Schweiso, J. J. (1989). Behavioural Approaches in Education: Explanations in Terms of Science and in Terms of Personal Justification. *Educational Psychology*, 15(2), 115-127.
19. Bush, G. (2006). Learning about learning: from theories to trends. *Teacher Librarian*, 34(2), 14- 19.
20. Skinner, B. F. (1954). The science of learning and the art of teaching. *Harvard Educational Review*, 24(2), 86-97.



21. Minnesota State University Academic Technology Services. (2019). Learning Theories: Cognitivism.
22. Atkinson, R. C., & Shiffrin, R. M. (1968). Human memory: A proposed system and its control processes. *Psychology of Learning and Motivation*, 2, 89-195.
23. Craik, F. I., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of verbal learning and verbal behaviour*, 11(6), 671-684.
24. Greve, A., van Rossum, M. C., & Donaldson, D. I. (2007). Investigating the functional interaction between semantic and episodic memory: convergent behavioural and electrophysiological evidence for the role of familiarity. *NeuroImage*, 34(2), 801–814.
25. Appleton, J. V., & King, L. (2002). Journeying from the philosophical contemplation of constructivism to the methodological pragmatics of health services research. *Journal of advanced nursing*, 40(6), 641–648.
26. Hutchinson, J. R., & Huberman, M. (1994). Knowledge Dissemination and Use in Science and Mathematics Education: A Literature Review. *Journal of Science Education and Technology*, 3(1), 27–47.
27. von Glasersfeld, E. (1995). A Constructivist Approach to Teaching. In L. P. Steffe, & J. Gale (Eds.), *Constructivism in Education* (pp. 3-15). Hillsdale: Erlbaum.
28. Steffe, L. P., & Gale, J. (1995). *Constructivism in Education* Hillsdale, NJ: Lawrence Erlbaum.
29. Rynne, S., & Mallett, C. (2014). Coaches' Learning and Sustainability in High Performance Sport. *Reflective Practice*, 15, 12-26.
30. Nash, C., & Collins, D. (2006). Tacit Knowledge in Expert Coaching: Science or Art? *Quest*, 58, 465-477.
31. Bandura, A. (1977). *Social Learning Theory*, Englewood Cliffs, NJ: Prentice- Hall.
32. Kolb, A., & Kolb, D. (2009). The learning way: Meta-cognitive aspects of experiential learning. *Simulation Gaming*, 40(3), 297-327.
33. Kolb, D. (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
34. Cushion, C., Nelson, L., Armour, K., Lyle, J., Jones, R., Sandford, R., & O'Callaghan, C. (2010). *Coach Learning and Development: A Review of Literature*. Leeds: Sports Coach UK.
35. Nash, C., MacPherson, A. C., & Collins, D. (2022). Reflections on Reflection: Clarifying and Promoting Use in Experienced Coaches. *Frontiers in Psychology*, 13:867720.
36. Perkins, P., & Hahn, A. (2020). Considerations and Suggestions for Design of a Learning and Development Program for Sport Coaches. *Open Journal of Social Sciences*, 8, 457-509.
37. Jarvis, P. (2006). *Towards a Comprehensive Theory of Learning*, Routledge, London.
38. Spiro, R. J., Feltovich, P. J., Jacobson, M. J., & Coulson, R. L. (1991). Cognitive flexibility, constructivism, and hypertext: Random access instruction for advanced knowledge acquisition in ill-structured domains. *Educational Technology*, 31(5), 24-33.
39. Ertmer, P. A., & Newby, T. J. (2013). Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design perspective. *Performance Improvement Quarterly*, 26(2), 43-71.
40. Blondy, L. C. (2007). Evaluation and Application of Andragogical Assumptions to the Adult Online Learning Environment. *Journal of Interactive Online Learning*, 6, 116-130.



41. Valentine, T., & Darkenwald, G. G. (1990). Deterrents to Participation in Adult Education: Profiles of Potential Learners. *Adult Education Quarterly*, 41, 29-42.
42. Mulligan, G. (2005). "Reasons for adults' participation in work-related courses. Washington: National Center for Education Statistics.
43. Vargas-Tonsing, T. M. (2007). Coaches' Preferences for Continuing Coaching Education. *International Journal of Sports Science and Coaching*, 2, 25-35.
44. Sports Coach UK (2004). *Sports Coaching in the UK: Final Report*.
45. Lyle, J., & Cushion, C. (2017). *Sports Coaching Concepts: A Framework for Coaching Practice*. 2nd Edition. London: Routledge.
46. Mallett, C. J., Trudel, P., Lyle, J., & Rynne, S. B. (2009). Formal vs. Informal Coach Education. *International Journal of Sports Science & Coaching*, 4, 325-364.
47. Nelson, L. J., Cushion, C. J., & Potrac, P. (2006). Formal, Nonformal and Informal Coach Learning: A Holistic Conceptualisation. *International Journal of Sports Science & Coaching*, 1(3), 247–259.
48. Maclean, J., & Lorimer, R. (2016). Are Coach Education Programmes the Most Effective Method for Coach Development? *International Journal of Sports Science & Coaching*, 10, 72-90.
49. LaBella, T. J. (1982). Formal, Non-Formal and Informal Education: A Holistic Perspective on Lifelong Learning. *International Review of Education*, 28, 159-175.
50. Conlon, T. (2003). A Review of Informal Learning Literature, Theory and Implications for Practice in Developing Global Professional Competence. *Journal of European Industrial Training*, 28, 283-295.
51. Australian Bureau of Statistics. (2007). *Adult learning in Australia, 2006–07*.
52. Wanless, S. B. (2016). The Role of Psychological Safety in Human Development. *Research in Human Development*, 13, 6-14.
53. Merritt, E. G., Wanless, S. B., Rimm-Kaufman, S. E., Cameron, C. & Peugh, J. L. (2012). The Contribution of Teachers' Emotional Support to Children's Social Behaviors and Self-Regulatory Skills in First Grade. *School Psychology Review*, 41, 141-159.
54. Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey *American Psychologist*. 57, 705-717.
55. Tetlock, P. (2002). *Expert political judgement: how good is it? How can we know?* New Jersey, Princeton University Press.
56. Zhu, J., Wang, X. Q., He, X., Hu, Y. Y., Li, F., Liu, M. F., & Ye, B. (2019). Affective and Cognitive Empathy in Pre-teachers With Strong or Weak Professional Identity: An ERP Study. *Frontiers in Human Neuroscience* 13:175.
57. Hussain, A., Trudel, P., Patrick, T., & Rossi, A. (2012). Reflections on a novel coach education program: A narrative analysis. *International Journal of Sports Science and Coaching*, 7(2), pp. 227-240.
58. Werthner, P., & Trudel, P. (2006). A New Theoretical Perspective for Understanding How Coaches Learn to Coach. *The sport Psychologist*. 20, 198-212.
59. Klein, K. H., Wieder, S., & Greenspan, S. I. (1987). A theoretical overview and empirical study of mediated learning experience: Prediction of preschool performance from mother-infant interaction patterns. *Infant Mental Health Journal*,8(2),10-129.
60. Gilbert, W., Côté, J., & Mallett, C. (2006). Developmental Paths and Activities of Successful Sport Coaches. *International Journal of Sports Science & Coaching*, 1(1), 69–76.



61. Reeves, T. C. (2006). How do you know they are learning?: The importance of alignment in higher education. *International Journal of Learning Technology*, 2(4), 302–304.
62. Moon, J. (2001). Reflection in higher education learning. [PDP Working Paper 4]. York: Higher Education Academy, LTSN Generic Centre.
63. Moon, J. A. (2004). *A handbook of reflective and experiential learning: Theory and practice*. London: Routledge Falmer.
64. Knowles, Z., Tyler, G., Gilbourne, D., & Eubank, M. (2006). Reflecting on reflection: exploring the practice of sports coaching graduates. *Reflective Practice*, 7(2), 163-179.
65. Dahlberg, K., Drew, N., & Nystrom, M. (2002). *Reflective lifeworld research*. Lund, Sweden: Studentlitteratur.
66. Schön, D. (1983). *The Reflective Practitioner: How Professionals Think in Action*. London: Temple Smith.
67. Gibbs, G. (1988). *Learning by Doing: A Guide to Teaching and Learning Methods*. Further Education Unit. Oxford: Oxford Polytechnic.
68. Rolfe, G., Freshwater, D., & Jasper, M. (2001). *Critical reflection for nursing and the helping professional: a user's guide*. London: Palgrave Macmillian.
69. Pearson, D. P., & Gallagher, M. C. (1983). The instruction of reading comprehension. *Contemporary Educational Psychology*, 8(3), 317-344.
70. Fisher, D., & Frey, N. (2013). *Better Learning Through Structured Teaching: A framework for the Gradual Release of Responsibility (2nd edition)* Alexandria, Va.
71. Mallett, C. (2007). Modelling the complexity of the coaching process: a commentary, *International Journal of Sports Science and Coaching*, 2(4), 419-421.
72. Lynch, M. & Mallett, C. (2006). Becoming a Successful High Performance Track and Field Coach, *Modern Athlete and Coach*, 44(2), 15-20.
73. Wenger-Trayner, E., & Beverly Wenger-Trayner, B. (2020). *Learning to make a difference: Value creation in social learning spaces*. Cambridge University Press.
74. Wenger, E. (1998). *Communities of Practice and Social Learning Systems: The Career of a Concept*.
75. Allee, V. (2000). Knowledge Networks and Communities of Practice. *OD Practitioner, Journal of the Organization Development Network*, 32, 1-15.
76. Corso, M., Giacobbe, A., & Martini, A. (2009). Designing and Managing Business Communities of Practice. *Journal of Knowledge Management*, 13, 73-89.
77. Wenger, E., McDermott, R. A., & Snyder, W. (2002). *Cultivating Communities of Practice: A Guide to Managing Knowledge*. Boston MA: Harvard Business School Press.
78. Li, L. C., Grimshaw, J. M., Nielsen, C., Judd, M., Coyte, P. C., & Graham, I. D. (2009). Evolution of Wenger's Concept of Community of Practice. *Implementation Science*, 4, Article No. 11.
79. Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge, UK: Cambridge University Press.
80. Culver, D., & Trudel, P. (2008). Clarifying the Concept of Communities of Practice in Sport. *International Journal of Sports Science & Coaching*, 3, 1-10.
81. Rynne, S. (2008). Clarifying the Concept of Communities of Practice in Sport: A Commentary. *International Journal of Sports Science and Coaching*, 3, 11-27.



82. Stoszowski, J., & Collins, D. (2014). Communities of Practice, Social Learning and Networks: Exploiting the Social Side of Coach Development. *Sport, Education and Society*, 19, 773-788.
83. Collins, A., Brown, J. S., & Newman, S. E. (1989). Cognitive Apprenticeship: Teaching the Craft of Reading, Writing, and Mathematics. In L. B. Resnick (Ed.), *Knowing, Learning, and Instruction: Essays in Honor of Robert Glaser*. Hillsdale, NJ: Lawrence Erlbaum Associates.
84. Brown, J. S., Collins, A., & Duguid, P. (1989). Situated Cognition and the Culture of Learning. *Educational Researcher*, 18, 32-41.
85. Spector, J. M. (2015). *Foundations of Educational Technology: Integrative Approaches and Interdisciplinary Perspectives*. New York: Routledge.
86. Enkenberg, J. (2001). Instructional Design and Emerging Teaching Models in Higher Education. *Computer Human Behaviour*, 17, 495-506.
87. Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.
88. Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychology*, 28, 117-148.
89. Doménech-Betoret, F., Abellán-Roselló, L., & Gómez-Artiga, A. (2017) Self-Efficacy, Satisfaction, and Academic Achievement: The Mediator Role of Students' Expectancy-Value Beliefs. *Frontiers Psychology*. 8:1193.
90. Schunk, D. H., & Pajares, F. (2002). The Development of Academic Self-Efficacy. In A. Wigfield, & J. S. Eccles (Eds.), *Development of Achievement Motivation* (pp. 15-31). San Diego, CA: Academic Press.
91. Margolis, P. & McCabe, H. (2006). Improving Self-Efficacy and Motivation: What to Do, What to Say. *Intervention in School and Clinic*, 41, No. 4, 218-227.
92. Roosevelt, F. D. (2008). "Zone of Proximal Development." *Encyclopedia of Educational Psychology* sage publication.
93. Vygotsky, L. S. (1978). *Mind in Society: Development of Higher Psychological Processes* (M. Cole, V. Jolm-Steiner, S. Scribner, & E. Souberman, Eds.). Harvard University Press.
94. Wass, R., & Golding, C. (2014). Sharpening a tool for teaching: the zone of proximal development. *Teaching in Higher Education*, 19, 671 - 684.



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