

Table 1. Common challenges practitioners face when developing AMSCs in youth populations and suggested solutions

Common Challenges	Theoretical Solutions	Practical Examples
Limited time to work with the youth individuals during sessions	View the warm-up as an extension of the main session, where AMSCs can be developed ^{21, 42}	Body Management Exercises: • Include exercises which involve individuals getting into key foundation shapes and positions during the warm-up.⁵⁵ Sports Acrobatics: • Working in partners, individuals complete different balances and exercises, such as: – Wheelbarrow – Partner squats – Partner boxes Animal Shapes: • Impersonate movements of familiar animals • Encourage the group to come up with their own animals, allowing them to use their imagination¹ • Bear crawl, inch worm, duck walk. Obstacle Course: • Create an obstacle course consisting of a variety of different obstacles which allows a range of AMSCs to be completed. Circuit Training: • Circuit consists of multiple different stations spread across the gym • At each different station participants complete a different exercise, allowing a range of AMSCs to be trained throughout the circuit • Participants start on different stations and move around the circuit in a cyclic manner • Participants recover as they move between stations.
Ensuring individuals are “switched on” and ready to engage in the session from the beginning	Begin the warm-up with an engagement task which can engage, enthuse and empower individuals at the start of the session. ⁴⁰ Such tasks also promote social interactions, ensuring participants are socialised into the session and can satisfy their need for relatedness ^{13,32}	Obstacle Course: • Do not provide explicit instructions on how to complete the course, allowing individuals to use their imagination and problem solve how they are going to navigate the course.⁵⁵ Partner Challenges: • Individuals work in partners to complete different challenges, such as single leg throwing and catching • Aids the development of social skills and can increase enjoyment.²³ Heads or Tails:⁴⁰ • Two teams (heads vs tails) • Aim is to flip cones the right way up (heads) or upside down (tails) within a designated area • At the end of a given time, the team with the greatest number of cones positioned their way up wins.
Lack of time and resources to complete process-orientated assessments of motor competency, which provides a barrier when attempting to individualise programmes	Use of coaching eye to identify limitations or movement deficiencies when observing an individual completing a movement or skill during a training session ³¹	Reference Observation Technique: • Whilst individuals are completing exercises stand around the perimeter of the gym • Watch an individual complete several repetitions of an exercise and watch a different area of their body during each repetition to assess if there is a limitation.³¹ Individualising Programmes: • If a movement deficiency is detected approach the player and provide solutions to correct the deficiency • Alternatively, if an individual is highly competent at the skill, then the skill can be progressed to make it more challenging.
Being able to provide effective feedback when correcting technique deficiencies	Feedback needs to be communicated in a concise manner, avoiding explicit instructions ³¹	External Cues: • Direct an individual’s attention towards external outcomes rather than their body movements^{66, 68} • “Push the floor away with your feet”. Metaphors and Analogies: • Make the feedback relatable • “Sit back and down like you’re sitting on the sofa”. Divergent Questioning: • Give the individual an opportunity to find an error themselves which can increase feelings of autonomy • “How do you think you can improve your technique?” Peer Coaching: • Working in pairs, one participant completes an exercise, whilst the other observes • The observing individual acts as a coach by providing feedback on their partner’s technique • Partners then swap roles.
Loss of concentration and engagement at the end of sessions	Finish sessions with a game-based activity to increase effort and enjoyment. ^{5, 9} Task constraints can be added to games to ensure specific AMSCs are developed. ⁵⁵ Ensure competition is not overused as this can promote social comparisons reducing perceived competence effort, and participation ^{34, 57, 59}	Noughts and Crosses: • Two teams with four cones lined up 15 yards from grid • On start whistle one team member carries a cone to the grid and places it in desired section before returning and tagging their teammate • Continue until three-same-coloured cones are in a row • Task constraints can be added to develop specific AMSCs, such as travelling to the grid in an animal shape. Simon Says: • Individuals perform different AMSCs on command of “Simon says...” Balloon Tennis: • A 1v1 game which involves players holding different ends of a plastic bar in one hand • Players then use their free hand to hit a balloon over the bar to their partner who then hits the balloon back • After practise, a tennis-like game can be played with a point being awarded when the balloon hits the ground or does not pass over the bar.