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Exploring decision-making practices during coaching sessions in grassroots youth soccer: a mixed-methods study

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ABSTRACT

Decision-making ability in players during match-play is mostly acquired through practice activities with the same underlying structure as competition. However, researchers have not fully investigated how coaches design practice sessions at the participation level of the sport (i.e. 'grassroots'), or why they use a particular activity at a specific time point. This study explores the practice activities employed by youth soccer coaches at the participation level in England and aims to understand their underlying intentions. Twelve male coaches working with players aged 9–11 years across ten clubs in the London region participated. Thirty-five practice sessions were filmed and analysed to assess the proportion of time spent in activities involving 'non-active decision-making' (e.g., technical practices, fitness training) versus 'active decision-making' (e.g., small-sided and conditioned games, skills practice with realistic opposition). A brief on-field interview with the coaches about the session purpose took place immediately after each systematic observation. Coaches allocated similar amounts of time to activities with active ($M = 41\%$) and non-active ($M = 42\%$) decision making, with the remaining 17% being transitions. There was a common progression from non-active decision-making activities early in the session towards increased active decision-making later in the session. Interviews with coaches revealed a belief in the necessity of frequent non-active decision-making practices for technique development, despite potential disparities with improving match performance. Findings highlight a potential gap between scientific understanding and coaching practices for young soccer players at the participation level, suggesting implications for coach education programmes and the optimisation of player development strategies.

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Introduction

A fundamental question that has engaged the attention of researchers and practitioners focuses on the optimisation of practice activities and environments to foster the ability of young players to anticipate and make effective decisions (Williams and Jackson 2019). This ability to successfully select and execute fast decisions in the game is a distinguishing feature that consistently sets highly skilled soccer players apart from their less-skilled peers, as substantiated in both lab-based studies containing representative tasks (e.g., Ward and Williams 2003; Roca et al. 2011, 2013) and match analysis studies (e.g., Serrano et al. 2017; McGuckian et al. 2018; Redwood-Brown et al. 2019). Researchers have conducted studies (e.g., Roca et al. 2012; Miller et al. 2017; Roberts et al. 2020; Coutinho et al. 2023) that suggest the development of these 'game intelligence' skills depends, largely in part, on players engaging in activities where the underlying structure of the activity is similar to or the same as match-play. Several theoretical and research-derived suggestions have been made on how to optimise practice activities that align with this research (for example reviews, see Pinder et al. 2011; Hodges and Lohse 2022). As part of that process, researchers have sought to understand the practice structures and coaching pedagogies

employed in coaching sessions (e.g., Ford et al. 2010; Partington and Cushion 2013; Ford and Whelan 2016; O'Connor et al. 2018; Roca and Ford 2020).

The approach used to investigate the microstructure of coaching sessions is *systematic observation* in which researchers analyse and categorise the time players spend in different types of activities and the coaches' behaviours (e.g., Ford et al. 2010; Partington and Cushion 2013). The activities are usually split into two categories. In general, the first category is *games activities* where players interact with opposition and teammates in a similar manner to match-play. This includes small-sided games and phases of play, among others. The second category is *drill activities* where motor skills with the ball are practised without the presence of opposition players and sometimes teammates. The precise definitions of these categories vary across studies, with some researchers distinguishing between games and drills, often referred to as 'playing- vs. training-form' activities (Ford et al. 2010), whereas others make finer distinctions based on the presence or absence of active decision-making, also known as 'active vs. non-active decision-making' activities (e.g., Roca and Ford 2020).

In earlier studies in soccer (Ford et al. 2010; Partington and Cushion 2013), it was observed that young participants in

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coaching sessions spent a significant portion of their time in drill activities, as opposed to games-based activities. For example, Ford et al. (2010) assessed the practice activities employed by 25 soccer coaches working with under-9, under-13 and under-16 age groups at elite, sub-elite, and non-elite levels. Coaches working with younger age groups had their players engage in drill-based activities for 62% of the session time, with the remaining time spent on games-based activities. Concerns were raised by Ford et al. about the high amount of session time players were spending in drill activities. Specifically, when compared to match-play performance, drills were hypothesised to involve less or different decision-making processes because of the absence of opponents and/or teammates, which it was added might negatively affect skill acquisition and transfer to match-play. A simple suggestion made by Ford et al. was for coaches to increase the amount of time players spend in games activities. The idea was that decision making in games is more like it is in match-play when compared to drills due to the presence of opponents and teammates, which might aid skill acquisition and transfer (e.g., Miller et al. 2017; Roberts et al. 2020).

In more recent studies (Ford and Whelan 2016; O'Connor et al. 2018; Roca and Ford 2020), there has been a shift with coaches of skilled child players using games-based practice activities more so than drill-based ones. For instance, Ford and Whelan (2016) examined the practice structure in 16 coaching sessions for under 9–11 elite youth academy players in England. In these sessions they found that players engaged in games-based activity for 63% of the time, 20% in drill-based activity and 17% in transition between activities. O'Connor et al. (2018) found that in 40 coaching sessions led by 19 soccer coaches working with advanced child players (U11-U13) in Australia, participants were engaged in games-based activities for 45% of the time, while drill-based activities comprised only 20% of the session duration. However, it may be that skilled youth players are better able to engage in games activities compared to novice or grassroots players. In grassroots youth soccer, where many children first engage with the sport, coaches may find that game practice activities are too challenging for them, but it remains unclear whether these findings extend to this population (Larkin et al. 2022).

Although research into the microstructure of practice activities has provided some understanding of the specific practice structures that coaches employ in various contexts, it is essential to gain insight into the coaches' intentions behind their choice of a particular practice (Roca and Ford 2020; Williams and Hodges 2023). To this end, researchers need to investigate not only practice structures but also explore the underlying factors that coaches believe explain their decisions (e.g., Partington and Cushion 2013; Ford and Whelan 2016). Our study aimed to address this issue by combining post-session interviews with systematic observation to examine 'how' and 'why' coaches in grassroots youth soccer structure their practice. One of the few studies that have attempted to understand the coaches' reasons for using a particular activity was Ford and Whelan (2016) with coaches working in youth elite academies. Unlike our study, which conducts on-field interviews immediately after practice sessions, this study interviewed coaches after a block of sessions, focusing only on selected activities chosen by the researchers.

Coaches cited their primary reasons for using games-based activities as the development of tactical knowledge and decision-making skills, and a focus on game realism. In contrast, the primary reasons for employing drill-based activities were session preparation and the development of 'technique'.

In terms of the sequential organisation of practice sessions, traditionally, soccer coaches begin with drill activities at the outset and throughout the main portion of the session, culminating in possession and/or small-sided games later on (Williams and Hodges 2005; Ford et al. 2010; Partington and Cushion 2013; O'Connor et al. 2018). The typical hypothesised rationale for this session design is that in order to acquire skills the difficulty of the game must first be reduced for players by removing opponents and/or teammates so as to practice key motor skills with the ball, such as passing, dribbling, and turning, in drill activities. Further, this hypothesised rationale holds that once the motor skill has been 'mastered' then players can 'apply them' in a game/s activity/ies against opponents (Ford et al. 2010). However, researchers have not previously assessed the intentions of coaches who use this sequential organisation of practice sessions to confirm or refute these hypothesised rationales.

In this study, we used a mixed-methods approach, combining systematic observations and on-field post-session reflective interviews, to investigate the practice activities and their sequencing over a session as utilised by youth soccer coaches at the participation level. The goal was to gain insight into their intentions, making this the first study of its kind to identify 'how' and 'why' coaches operating at the foundational level of soccer, where many young children have their initial exposure to the sport, structure their practice.

Methods

Participants

A total of 12 male soccer coaches working with under-9 to under-11 age groups within 10 clubs at the grassroots level in the London area took part. The inclusion criteria for observation and interview were to be currently coaching at grassroots level; currently coaching foundation age players (under 11 years old); suitable prior experience of coaching youth football; and hold at least an FA Level 1 coaching qualification. The coaches were aged 31 ± 8 years (mean \pm SD), had 7 ± 5 years coaching experience and held a range of coaching qualifications from FA Level 1 to Union of European Football Associations (UEFA) B Coaching Licence. A summary of participants' individual characteristics is displayed in Table 1. To maintain the anonymity of the participants, the specific club they worked for is not outlined and pseudonyms (e.g., Coach 1, Coach 2 etc.) were provided. Ethical approval was obtained from the lead University ethics committee and all the clubs and coaches gave written informed consent.

Procedure

The procedure for each session consisted of systematic observation of activities and follow-up brief on-field interview with each coach.

Table 1. Participant characteristics for the twelve coaches.

Coach	Age	Coaching age group	Coaching experience (years)	Highest coaching qualification
1	33	Under 11	10	FA Level 1
2	39	Under 10	5	FA Level 2
3	23	Under 10	5	FA Level 1
4	27	Under 9	3	FA Level 1
5	21	Under 9	1	FA Level 1
6	33	Under 11	10	UEFA B
7	34	Under 10	12	UEFA B
8	19	Under 11	1	FA Level 1
9	35	Under 9	3	FA Level 1
10	30	Under 11	16	FA Level 2
11	48	Under 10	1	FA Level 1
12	29	Under 9	8	UEFA B

Systematic observation

The coaching sessions were conducted at the training grounds of each respective club. A total of 35 training sessions were video recorded, encompassing the under-9 ($n = 12$), under-10 ($n = 12$), and under-11 ($n = 11$) age groups. These sessions were captured using a digital video camera (Panasonic HC-V720, Japan) positioned off the pitch to accurately capture the practice setups. Data collection occurred over a 3-month period at the commencement of the season and included only midweek training sessions (teams observed trained between 2 to 3 times per week with an additional match fixture per week). This approach ensured that none of the sessions recorded were preceded or followed by a competitive match, avoiding any match-preparation or reflection sessions (see Roca and Ford 2020). On average, coaches were recorded on three separate occasions (2.9 ± 0.7 times; 7 coaches recorded 3 times, 2 coaches 4 times, and 3 coaches 2 times), providing a more precise representation of their coaching practices (Brewer and Jones 2002).

The categorisation system developed by Roca and Ford (2020) was refined and applied to classify the various practice activities within each session (see Table 2). This categorisation system comprises two main soccer categories called *active decision making* and *non-active decision making*. Active decision making is described as activities taken in small groups or teams that encompass active decision making for the players that is identical or similar to the full version of a soccer match, being based on the movements of teammates and opponents. The active decision-making category comprised five sub-activities:

a) skills practice (active with at least some realistic opposition involved), b) uni-directional games, c) small-sided games and conditioned games, d) possession games, and e) phase of play. Active decision-making activities differ to games activities because the former includes skills practices, whereas all other categories are the same. Non-active decision-making activity is described as activities that do not involve the decision making found in a soccer match (e.g., motor skills with the ball, unopposed). The non-active decision-making category contained three sub-activities: a) fitness, b) technical, and c) skills (non-active with no or non-realistic opposition). A third category called transition was also included that consisted of any time players were moving between activities, having drink breaks, or listening to coach's instructions prior to activity physically starting or after it ends.

Interviews

In addition to observing their practice sessions, each coach took part in a brief post-session interview immediately after each systematic observation. During these interviews, coaches provided brief reflections on their on-field practice sessions. Participants were questioned about the purpose of their practice sessions, as the authors took a pragmatic approach to address the research question, which was to understand the coaches' intentions behind each practice session. To garner immediate on-field reflections, coaches were all asked the same open-ended question at the end of the practice session: 'what was the purpose of your session practice today?' If the coach did not clearly provide the purpose of the session in this

Table 2. Categories and definitions of soccer-practice activities used in the analysis, refined from Roca and Ford (2020).

Activity	Definition
Active decision making	
Skills (active)	Isolated technical and tactical skills from game situations practised repeatedly in a small group with realistic opposition, where the players are active decision makers
Uni-directional games	Uni-directional in a small group towards one line (e.g., 2 vs. 1)
Small-sided and conditioned games	Bi-directional with a team vs. team but with variations to player numbers, rules, goals, or areas of play (e.g., teams scoring by dribbling across end-line)
Possession games	Games with no goals in which the main intention is for one team to maintain possession of the ball from another
Phase of play	Uni-directional match play in a larger group towards one goal
Non-active decision making	
Fitness	Improving fitness aspects of the game with no focus on soccer skills (e.g., warm-up, cool down, conditioning)
Technical	Technical skills practised repeatedly unopposed either alone or in a group
Skills (non-active)	Isolated technical and tactical skills from game situations practised repeatedly in a small group with no or non-realistic opposition, where the players are not active decision makers
Other	
Transition	Movement from the end of one activity to the start of another activity. It is activity that is not football-related (e.g., drink breaks). This includes the coach's explanation of the forthcoming activity and debrief of preceding activity.

initial question, follow up probes such as ‘can you explain why this specific exercise was a focal point for today’s practice?’ were used (Robinson 2023). The systematic observation process generated comprehensive quantitative data descriptions, while the brief on-field interviews provided a more introspective analysis and comprehension of the reasoning behind coaches’ actions (e.g., Ford et al. 2010; Partington and Cushion 2013). The average interview duration was 5 ± 2 min for the 35 interviews. All interviews were recorded using an MP3 storage device and transcribed verbatim for subsequent data analysis.

Methodological rigour

The lead observer and an independently trained observer, both of whom were qualified UEFA Advanced soccer coaches, conducted inter- and intra-observer reliability assessments of time analysis for four practice sessions (11.4% of the total observed sessions). The inter-observer agreement for the time analysis of practice activities was 91.7%, while the intra-observer agreement was 94.5%. These percentages were above the critical threshold of 85% recommended by van der Mars (1989). Percent agreement was preferred over Cohen’s Kappa statistic based on McHugh (2012), who asserts that well-trained raters familiar with the data sets, as in this study, and not ‘guessing’ scores, can safely rely on it.

To enhance methodological rigour in the collection of interview data, purposive sampling of participants was used (Sparkes and Smith 2013). Specific criteria (e.g., currently coaching at grassroots level; working with under-9 to under-11 foundation phase level age groups) were used to ensure participants were appropriate to observe and interview for the study. To address the aim of the present study, which is to investigate the practice activities utilised by youth soccer coaches at the participation level, participants who were currently coaching in these age groups were deemed most appropriate to observe and interview during the study.

Data analyses

Systematic observation data

Due to variations in the total duration of coaching sessions, the subsequent data were normalised by computing the percentage of session duration during which players engaged in two categories: active decision making and non-active decision making, as well as their respective sub-categories. The calculation involved dividing the duration of each activity by the total coaching session duration and then multiplying the result by 100. To assess the sequential organisation of the activities in the sessions, practice sessions were divided into two equal time blocks to create two halves of the session (first half block of time, second half block of time).

The data related to the two primary activities and transitions violated the statistical assumption of independence, which asserts that one data point should not exert influence over another (Field 2018 cf.; Ford et al. 2010) because time in one activity prevents time in another. Therefore, to address this issue, after initially examining the group mean values for each of the two main activities, we conducted a paired sample *t*-test on the data regarding the percentage of session duration spent

on active decision-making activities between the first and second halves of the session. Descriptive statistics (mean \pm standard deviation) were calculated for the percentage of time spent in each of the five sub-activities during active decision-making, as well as for each of the two sub-activities during non-active decision-making, both for the full session and across its two halves. Cohen’s *d* effect size measure was calculated as appropriate. The alpha level for significance was set at $p < 0.05$.

Interview data

Interview data was analysed using both inductive and deductive methods of thematic analysis (Braun and Clarke 2021). Two-stage reflexive thematic analysis was employed (Braun and Clarke 2019). First, interview transcripts were read by all authors several times for familiarisation. The first coding stage was a deductive approach to organise the interview data into two higher order themes, which were active decision-making activities and non-active decision-making activities (see Table 2). Lower order themes, which were developed through inductive thematic analysis to identify the purposes behind practice sessions, were then categorised into either active decision making or non-active decision making. Co-authors acted as critical friends to the lead author, to provide a ‘sounding board’ which helped to check and refine themes throughout the process of data analysis (Smith and McGannon 2018).

Results

Systematic observation

The 35 soccer practice sessions were an average duration of 86 ± 21 min. In total, active decision-making activities accounted for $41 \pm 19\%$ of the session, whereas non-active decision-making activities comprised $42 \pm 19\%$, with the remaining $17 \pm 7\%$ of the time devoted to transition activities.

A significant difference in the percentage of session time dedicated to active decision-making activities was observed between the first and second halves of the session, $t(34) = -9.86$, $p < .001$, $d = 2.08$. The second half of the practice session ($66 \pm 26\%$) exhibited greater active decision-making activity compared to the first half ($16 \pm 22\%$). Conversely, the first half ($64 \pm 24\%$) showed higher non-active decision-making activity than the second half ($19 \pm 26\%$). Figure 1 illustrates the distribution of time spent in active and non-active decision-making activities during the initial and latter portions of the practice session.

When comparing participants, it was observed that two coaches stood out as outliers: one exhibited a high percentage of active decision-making activities ($M = 77\%$), whereas another demonstrated a notably low percentage ($M = 11\%$) across all their sessions. All other coaches, however, fell within the average range of 30% to 50% for active decision-making activities.

Active decision-making activity

Table 3 displays the percentages of active decision-making activity time spent in each of its five sub-activities across both halves of the session and the entire session duration. The percentage of session time devoted to small-sided and

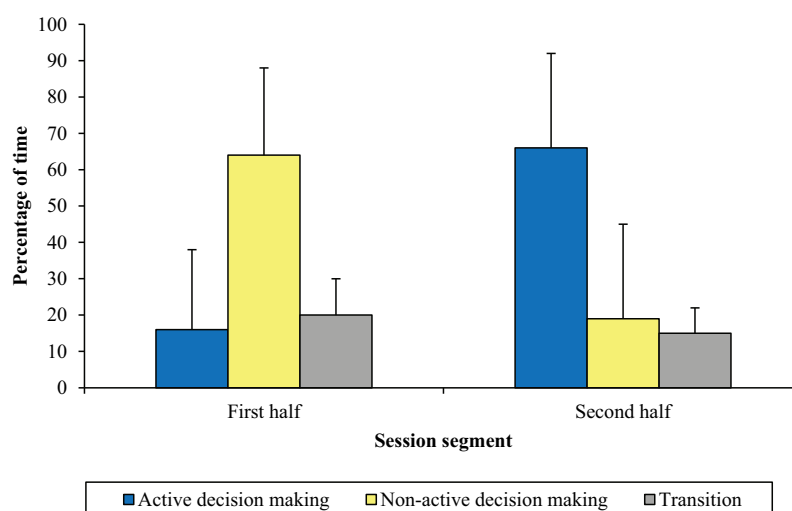


Figure 1. Mean (SD) percentage of time spent in active decision-making and non-active decision-making activities during the first and second halves of the practice session.

Table 3. Mean \pm SD percentage of time spent in sub-activities for active and non-active decision-making across each half of the session and the full session duration.

Activity	% Practice session		
	First half	Second half	Full session
Active decision making			
Skills (active)	4 \pm 9	6 \pm 16	5 \pm 10
Uni-directional games	1 \pm 4	5 \pm 13	3 \pm 7
Small-sided and conditioned games	6 \pm 16	43 \pm 31	25 \pm 20
Possession games	3 \pm 10	6 \pm 18	5 \pm 10
Phase of play	1 \pm 6	5 \pm 19	3 \pm 12
Non-active decision making			
Fitness	20 \pm 24	2 \pm 6	11 \pm 13
Technical	26 \pm 25	6 \pm 13	16 \pm 13
Skills (non-active)	18 \pm 18	12 \pm 23	15 \pm 15
Other			
Transition	20 \pm 10	15 \pm 7	17 \pm 7

conditioned games (25 \pm 20%) significantly exceeded time spent on any other active decision-making sub-activity (range = 3 to 5%) (refer to Table 3). Notably, the majority of time allocated to small-sided and conditioned games occurred during the second half of the session (43 \pm 31%).

Non-active decision-making activity

Table 3 presents the percentages of non-active decision-making activity time spent in each of its three sub-activities throughout both session halves and the entire session duration. The percentage of session time dedicated to the three non-active decision-making activities, including fitness, isolated technical, and skills-based drills, ranged from 11% to 16% each (see Table 3). The percentage of session time dedicated to these non-active decision-making activities occurred primarily in the first half of the practice session, totalling 64% of the whole time spent in the first half block of the session.

Interviews

Figure 2 shows the thematic map of the grassroots coaches' purposes for practice sessions. Purposes of coaches were coded

into two higher order themes: active decision making and non-active decision making.

Active decision-making activity

Active decision making was defined as coaches explaining purposes of activities practised in small groups or teams, such as small-sided and conditioned games. Coaches identified examples of using active decision-making activities to improve 1 v 1 play:

The next station was 1 v 1 and 2 v 2 to see if players can be faster on the ball beating the players 1 v 1 or be forced to decide to either go alone or combined with a teammate. (Coach 6)

I wanted to do 2 v 2 and 1 v 1, obviously they get in those positions and those situations on the field. You know, just to try make them understand what they need to think about when they're defending in 1 v 1 situations. (Coach 1)

Coaches aimed to use conditioned games to develop possession play within sessions, as Coach 3 explains:

The second activity was a conditioned game where I included some limitations to encourage players to act in a certain way. I wanted them to play from the back and try to pass the ball forward to try to create goal scoring opportunities. (Coach 3)

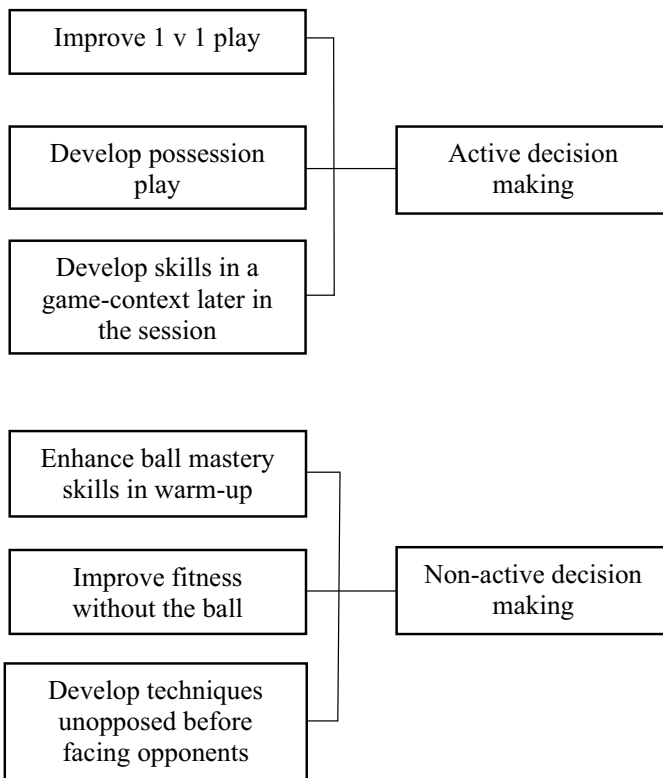


Figure 2. Thematic map of grassroots coaches' purposes for practice sessions.

In line with the systematic observations, coaches would typically end sessions with small-sided games to develop skills in a game-context, as Coach 9 states: 'After we moved on to a small-sided game to incorporate all the skills learnt into the game'. Coach 8 reflected on their intentions for using a small-sided game at the end of the practice session: 'I ended the session with a small-sided game with no rules, for them to enjoy the game and be free and creative on the pitch'. The use of active decision-making activities was seen to replicate match scenarios, whilst developing skills that were learnt in the early parts of the practice session.

Non-active decision-making activity

Non-active decision-making was defined as coach activities that do not contain the active decision-making found in the match-play and games, such as practising motor skills with the ball and fitness activities. These activities typically took place in the first half of the practice session, including the warm-up. Coach 3 explains: 'The first part of the session is ball mastery. I just use this approach for players to feel comfortable with the ball and practice their creativity within an unopposed environment'. This could also include fitness activities without the ball, such as 'fitness runs based on pitch structure so box to box, halfway lines, and figure of eight running across the pitch' (Coach 7). The non-active decision-making activities were typically used with the intention to develop motor skills with the ball before facing opponents, as Coach 12 explains: 'Today the focus was on trying to work and improve the passing and shooting ... technical skills first without opposition and then start with introducing some opposition'. The use of unopposed practice tasks in the early parts of the session was also

explained by Coach 11: 'The first part of the session was designed to encourage the players to shoot. It was practising their control and shooting fast without defenders and pressure'. As shown in the systematic observations, non-active decision-making activities would typically take place in the first half of a practice session, before progressing to more match-like activities in the second half.

Discussion

We investigated the microstructure of coach-led practice activities during 35 training sessions with youth soccer coaches working with players aged 9–11 at the participation level of the sport. Through this study, we gained insight into the intentions behind these coaching sessions. This marks the first attempt in the literature to explore 'how' and 'why' coaches, operating at the recreational level of soccer, structure their practice.

Coaches had players spend similar amounts of time in activities involving active decision making ($M = 41\%$) and non-active decision making ($M = 42\%$) with the remainder spent transitioning between activities ($M = 17\%$). This distribution contrasts with earlier studies (Ford et al. 2010; Partington and Cushion 2013), where non-active decision-making activities were significantly greater than active. Additionally, our findings differ from more recent research (Ford and Whelan 2016; O'Connor et al. 2018; Roca and Ford 2020) conducted with young players in more advanced settings, such as professional soccer academies. In those studies, young players engaged in significantly higher amounts of active decision-making activities, perhaps because they were more skilled than our sample and there was less need for coaches to reduce task difficulty by removing opponents in drill activities. While there seems to be a shift in how children at the recreational level of soccer spend their time during coaching sessions compared to a decade or so ago (e.g., Ford et al. 2010; Partington and Cushion 2013), with coaches dedicating more time to active decision-making activities, this change appears relatively modest, albeit potentially beneficial for skill acquisition and transfer to match-play (e.g., Miller et al. 2017; Roberts et al. 2020). This modest change is especially evident when compared to shifts observed over the last decade in the youth academy level of the game (e.g., Ford et al. 2010; Partington and Cushion 2013; Ford and Whelan 2016; Roca and Ford 2020) where players are more skilled and, therefore, probably better able to successfully engage in games activities.

In terms of activity sequencing within a session, coaches mainly used non-active decision-making activities during the first half of the session, whereas in the second half there was a noticeable shift towards using active decision-making activities, such as small-sided games. The coaches involved in this study provided valuable insights in their post-session interviews into their use of non-active decision-making activities in the first half of their sessions. Confirming our hypotheses, they stated that these practices are essential for the initial acquisition of 'technique' during training sessions and throughout the season. They said that activities involving active decision making have the potential to overwhelm young players', potentially resulting in subpar performance (Ford and O'Connor 2019). These findings are in part consistent with those of Ford and

Whelan (2016), whose study on coaches in youth elite academies revealed that one of the primary motivations for employing drill-based activities was the development of 'technique'. Therefore, coaches in this study utilise non-active decision-making activities in the first half of the session to reduce task difficulty for their learners, aiming for enhanced motor skill performance outcomes with the ball.

Coaches further explained that players must develop confidence and feel at ease with the ball in non-oppositional situations before transitioning to more pressurised game-based activities, again supporting our hypotheses. This suggests that the coaching approach and underlying rationales observed among grassroots coaches in this study remains reliant on traditions within the game and perhaps intuition (Williams and Hodges 2005; Williams et al. 2018). There was a noticeable inclination towards a linear process-product approach to learning, prioritising motor skill mastery with the ball as the cornerstone for later game-play (Partington and Cushion 2013; O'Connor et al. 2018). As mentioned earlier, this inclination is also associated with the coaches' perception that active decision-making activities, especially games activities, are often too demanding for their young players.

The practice design knowledge and intentions of coaches gained from the traditions of the game may be difficult to change. On the one hand, there are several theoretical and research-derived approaches detailing how practice activities can be set at suitable difficulty levels for the ability of the young players engaging in it, whilst maintaining the type of active decision-making processes that has been outlined in this paper. According to these approaches, this type of activity might aid skill acquisition and transfer to match-play. These approaches and literature bases include, among others, the challenge-based framework (for a detailed explanation, see Hodges and Lohse 2022), the constraints-led approach (for a detailed explanation, see Renshaw et al. 2010), and those specifically aimed at soccer practice with youth players (for a detailed explanation, see Ford and Williams 2023). On the other hand, most grassroots coaches cannot and do not access academic literature of this type, let alone transfer their contents into their coaching process, with their coach education usually provided by the national governing body through short courses. Perhaps skill acquisition specialists need to work with coach educators to ensure lay versions and exemplar activities from these and other approaches are included on these short courses.

Coaching is specific to the context in which it occurs, so our study is limited because we have assessed a single context of coaches of recreational child players in England. Further research is warranted with young players across various stages of development and coaching contexts, employing a combination of systematic observation of practice activities and qualitative interviews to assess the 'how' and 'why' behind coaches' practice structuring. This deeper understanding will enable research to inform coach education programmes and national guidelines more effectively (Ford and O'Connor 2019; Jewell et al. 2022).

In summary, we investigated the practice activities employed by youth soccer coaches operating at the participation level in England and shed light on their intentions. We found that coaches allocated similar amounts of time to activities involving

active and non-active decision making, with the remainder spent transitioning between activities. There was a distinct pattern of activity sequencing observed within a session, transitioning from non-active decision making in the first half of the session, to a later focus in the second half on active decision-making activities, reflecting a traditional coaching approach with young athletes. Coaches emphasised that non-active decision-making practices are necessary for developing 'technique' that can later be applied into the game, despite the potential mismatch between this knowledge and scientific understanding.

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Data availability statement

The data that support the findings of this study are available from the corresponding author, [AR], upon reasonable request.

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