Shaping player experience: Understanding the impact of team sport coaching pedagogy and practices

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Shaping player experience: Understanding the impact of team sport coaching pedagogy and practices

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Student Declaration

Type of Award: Doctor of Elite Performance (Sport)

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I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor of Elite Performance (Sport) is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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List of Abbreviations

Abbreviation	Definition
GBA	Games-based approach
GAA	Gaelic Athletic Association
NGB	National governing body
CLA	Constraint led approach
NLP	Non-linear pedagogy
PC	Parent coach
TDC	Talent development coach
NGBS	National governing body staff
RTA	Reflexive thematic analysis
SSG	Small-sided games
CLT	Cognitive load theory
PJDM	Professional judgment and decision making
GPS	Global positioning system
UEFA	Union of European Football Associations

Glossary

Term	Definition
Learning theory	A general, conceptual explanation for how people acquire knowledge
Model of learning	A specific representation of the learning process
Pedagogical or coaching approach	The methods and strategies used by coaches to facilitate learning
Game form activity	Phases of play or small-sided/conditioned games
Training form activity	Physical training or technique/skills practices
Isolated practice	Isolating a skill and practicing in a 'drill' format where players progress from basic to complex motor skill patterns
Game based approach (GBA)	A pedagogical approach which places game form activity at the centre of activity design. The aim being contextualised learning supported by a range of pedagogical features.
Small sided game (SSG)	An approach to activity design which emphasises the manipulation of parameters such as pitch dimensions and number of players.
Gaelic games	A set of games indigenous to Ireland which include male games of hurling and football and female variations of camogie and ladies football. The games also incorporate the smaller sports of handball and rounders.
GAA	Gaelic Athletic Association, the governing body of hurling (male), football (male), handball and rounders in Ireland.

List of Publications

Chapter 4:

Moran, D., Taylor, J., & MacNamara, Á. (2024). Understanding the pedagogic underpinning and knowledge sources of game form coaching in high level team sport coaches. *Sports Coaching Review*, *0*(0), 1–32. https://doi.org/10.1080/21640629.2024.2335450

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a) Lead on study design, data collection and data analysis

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Chapter 3:

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Abstract

Thesis title: Shaping player experience: Understanding the impact of team sport coaching pedagogy and practices

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Recognised as a complex pedagogical process, sport coaching as an applied domain has continued to receive significant research attention based on the impact that team sport coaches can have on player development. The aim of this thesis was to explore the role of a range of coaching practices and strategies including pedagogy, intentions for impact, fidelity of practice and streaming on player experience in team sport. Chapter 3 investigated games-based approaches in Gaelic games contexts and their impact on player development and coaching attitudes. One of the key findings of this study revealed a lack of coherence in the understanding of the approach. Given this lack of understanding an investigation into the use of game form activities was deemed to be necessary. Thus, Chapter 4 explored how coaches use game form practices and the sources of their pedagogy. The findings suggest that coaches utilise a range of approaches, in and very pragmatic manner and often lacking coherence from a theoretical stance. Furthermore, their coaching was very individualised and highly contextual and could be understood through the lens of intentions for impact. Thus, Chapter 5 built upon these findings with an investigation into how these coaches formed their intentions for impact. These intentions could be viewed through the lens of fidelity of practice, a desire for realistic practices which replicate the game. Interestingly, this cohort were overwhelmingly focused on physiological fidelity. Chapter 6 was an exploration into the participant experience of youth Gaelic games. The findings of this broad study suggest increased seriousness seemed to meet some participant needs, but there is an apparent need for better support for coaches to manage the complexity they face in their practice. Following this series of snapshots of select coaching domains, the final two studies were focused on tools which coaches can use to better inform practice. Following the investigation into youth Gaelic games, Chapter 7 investigated one such tool which can offer support to coaches in the form streaming, or ability grouping. While participants viewed streaming in a favourable light, reflections also highlighted a perception that the implementation of streaming was hindered by a series of challenges deemed to accelerate the different rates of development and thus impact playing experience. Lastly, Chapter 8 proposed a model of fidelity of practice for team sport coaches in the form of affective, physiological, action and conceptual fidelity, the manipulation of these forms allowing the coach to shape the player experience. The overarching finding of this thesis suggests that coaches need support to deliver an appropriate enacted curriculum through different pedagogical interventions to facilitate a more equitable player experience with chapter-specific findings discussed throughout the thesis.

Chapter 1: Introduction

1.1. Establishing context

Team sport coaching has long been suggested as being a complex endeavour (Dempsey et al., 2020). This complexity has prompted significant scholarly interest across a range of contexts (Donoso-Morales et al., 2017; Greif, 2007; Jones & Corsby, 2015; Lefebvre et al., 2022). Against the broad scope of the field, this thesis is primarily focused on coaches' activity design and the resulting player experience. Of course, these concepts do not exist in isolation; rather activity design is underpinned by a range of factors such as the creation of learning outcomes related to tactics or strategy (Mitchell et al., 2020). Similarly, player experience is shaped by a variety of factors, some of which relate to coach-player interactions (Wekesser et al., 2021) while others are beyond the coach's direct control or influence, such as parental influence on youth players (Elliott & Drummond, 2017). The very nature of team sport coaching involves a multitude of coach-player interactions requiring coaches to carefully balance and prioritise participant needs and motivations. Coaches can have a significant impact on the players' experience (McGee & DeFreese, 2019). However, despite the impact of coaching on playing experience, much of the existing literature has focused on what the coach does in terms of activity design, with less attention paid to how players actually experience that activity design.

Importantly, the aforementioned complexity has been increasingly recognised by national governing bodies (NGB) who continue to develop coach learning and development infrastructures with the aim of raising standards across coaching (Walker et al., 2018). In some contexts, specific certifications are requisites for particular coaching roles; for example, in soccer, where anyone wishing to manage in the top tier of any European league system must possess a UEFA pro license (UEFA, 2021). In other contexts, entry-level coach education is mandatory for anyone intending to coach (Wright et al., 2007); within Gaelic games (see

glossary), all coaches regardless of the level at which they operate, must have completed an entry-level formal coach education programme (GAA, 2024). In addition to sport specific, mediated coach education programmes, many coaches can now avail of higher education courses in a variety of subject areas relevant to coaching. Informal learning opportunities have also expanded with many coaches turning to social media, podcasts, and online forums for coaching ideas and support (Stoszkowski et al., 2020). Despite this breadth of available resources, a growing concern within the field, especially for those interested in moving this applied field forward, is the apparent desire and tendency to downplay the role of the coach and to underestimate the inherent complexity of coaching practice (Nash et al., 2023). Pervasive slogans such as "let the game be the teacher" or "set it up and stand back", while often well intentioned, contribute to a discourse that risks devaluing of the role of the coach . The widespread dissemination of these memes and attitudes, promoted through social media accounts, podcasts, blogs and even in some mediated coach learning programmes, has left sport coaching with an issue to face - the oversimplification of what is increasingly recognised as a complex endeavour.

Sport is the leisure activity most commonly assumed to foster positive youth development (Fraser-Thomas & Côté, 2009). Here, positive youth development refers to the optimal development of individuals in ways which leads to a healthy, satisfying and productive life, where the individual use their strengths to fulfil pursuits and contribute to society (Fraser-Thomas et al., 2005). Sport also being associated with a plethora of health, social, and psychological benefits (Eime et al., 2013). Participation typically peaks through childhood and into adolescence (McKay et al., 2019) before a well-documented drop-off in participation rates during the teenage years (Back et al., 2022). Children's sport being defined as formal sport programmes for those aged 5-11 while youth sport is defined as formal programmes for those aged between 12-18. Prior to the transition to youth sport, children's sport typically consisting

of a modified sports programme, the aim of which is to create developmentally appropriate sporting experiences through the fostering of enjoyment, social interaction, competence, and basic skill acquisition (Gavin et al., 2023). This modified programme usually consists of scaled equipment, reduced pitch or court sizes and rules aimed at ensuring inclusivity such as mixed ability teams and often precedes competitive youth sport structures featuring the introduction of formal competition structures such as leagues, cups and knock-out tournaments. Although the competition structure in youth sports is often akin to adult formats, it is delivered in parallel to the importance of promoting developmentally appropriate experiences within this competition sport structure (Fraser-Thomas et al., 2005; McCarthy et al., 2008). Unfortunately, concerns have arisen that youth sport has tended towards a focus on winning at the expense of participation and inclusion (Meân & Vynalek, 2024; Torres & Hager, 2007) due to an increased emphasis on performance and competition when formal competition structures are introduced (Jørgensen, 2024). From a coaching perspective, meeting this developmental opportunity offered by youth sport is a highly complex endeavour involving the facilitation of multiple, often competing, sources of individual motivation and enjoyment (Gavin et al., 2023), with at least some evidence suggesting that by behaving in a certain manner, coaches have the ability to adaptively impact youth development (Cope et al., 2017). This shift in the structure and emphasis of sport, is compounded by biopsychosocial changes during the transition into youth sport (Santos et al., 2018), a period that includes adolescence, and motivational changes (Vella et al., 2011).

Gaelic games are a set of sports indigenous to Ireland that have existed in various forms for hundreds of years (Orejan, 2006), the most popular being Gaelic football, ladies Gaelic football, hurling and camogie. The other Gaelic sports, handball and rounders, while not as broadly popular nationally are still played in large numbers in specific locations. Founded in November 1884, the Gaelic Athletic Association (GAA) governs the codes of hurling and

football while their equivalent female codes of camogie and ladies football are governed by the Camogie Association and Ladies Gaelic Football Association respectively. To truly comprehend the significance of the Gaelic games today, one must consider the socio-political and socio-cultural beginnings of the organisation. Founded out of national pride in the late 19th century, a time of political turbulence and national unrest as the nation sought to gain independence from British rule, the GAA quickly became a symbol of Irish identity. Gaelic games became a vehicle for the promotion of Irish culture and the reclamation of a suppressed heritage (Orejan, 2006). While the GAA was not an active revolutionary body, it did promote an outwardly nationalistic stance while also offering a useful platform for revolutionaries to organise (Hassan & McGuire, 2016). Notably, despite a time of prolonged and divisive conflict in Ireland, featuring a rebellion, a civil war and the subsequent controversial partitioning of the country, the GAA remained unified, an indication perhaps of the meaning attached to Gaelic games by communities of players, administrators and spectators (Tuathaigh, 2015). Perhaps owing to this historical, cultural and communal significance, in contemporary Irish society virtually every community, regardless of location, has a GAA club serving as both a sporting body and an important social outlet (Roberts, 2015). A unique feature of the GAA is that club membership is geographically defined, essentially determined by where you live. Furthermore, given the deeply parochial nature of Irish society (Cronin, 1999), inter-club player transfers are rare. This embodies immense pride in the local club and local community, promoted by the GAA's own branding campaign titled "Where we all belong" (GAA, 2019) which emphasises social inclusion and belonging, a reference to the notion that there is a place for everybody in their local club. This localised, inclusive aspect of Gaelic games is unique and in contrast to other sporting contexts where recent research has indicated that participation is linked to socio-economic status, often due to the broader privatisation of youth sport (Knoester & Bjork,

2024). In part, this connection to one's local GAA club is fuelled by the ethos of volunteerism which permeates all levels of the organisation (Keller & Wright, 2013).

Despite some differences in equipment and sport-specific skills, all four codes (sports) share common features including identical pitch dimensions and the same number of players per team. Hurling and Camogie, for example, are both played with a hurl which is used to strike a small leather ball referred to as a 'slíotar' and feature skills such as catching, blocking, and striking the slíotar with the hurl. The football codes use a ball comparable to that used in soccer and feature hand passing, kick passing, catching, blocking, and tackling. Supporting the notion that Gaelic games are at the heart of Irish society (Orejan, 2006), collectively, the respective governing bodies account for over 500,000 players, representing more than 3000 clubs on the island of Ireland (Lane et al., 2018). In the context of clubs, most coaches are parents who rely heavily on GAA guidance to shape their practice. Beyond participatory coaching at club level, Gaelic games also include structured inter-county systems for a smaller cohorts. This encompasses talent development systems in each county that place a significant emphasis on identifying and developing young players (Fitzgerald et al., 2024), and high performance systems for adults.

Throughout this programme of study, I have been embedded within team sport coaching and coach development. On commencing this research, I was employed as a Games Promotion Officer with Dublin GAA. This role involved actively coaching Gaelic games to approximately 500 children on a weekly basis. This coaching was conducted in primary schools, promoting Gaelic games to children and also in club contexts with club players who were registered members of the association. This role also involved a significant element of coach development practice through the delivery of mediated coach education programmes and workshops. This was in addition to the observation of coaching and the provision of targeted feedback and support. More recently I accepted a position to work as a research assistant with Insight Centre

for Data Analytics in Dublin City University, an opportunity that has substantially enhanced my capabilities as a researcher. Working on a GAA-related project within Insight has allowed me to bridge applied practice and academic inquiry offering me a "best of both worlds" perspective on applied coaching research, a domain I remain actively engaged in. I continue to hold multiple coaching roles; as a parent-coach in youth Gaelic games, a talent development role with Dublin U-16 footballers, and lead coach at senior club level. These roles provide me with an ongoing understanding of the challenges and opportunities inherent in coaching practice across contexts and stages. This is reflected in the breadth of this thesis through investigations of the experience at the participatory level of sport through to the planning practices of high level coaches at a more performance orientated level.

Over the last 10 years, through my experience as a player, coach, parent, parent-coach and coach developer in Gaelic games, a concern that I have witnessed is the widespread oversimplification of coaching. At every level, coaches are attracted to reductive, neatly packaged ideas that often fail to address the nuanced reality of coaching practice. In my experience, these trends have been detrimental to coaching and subsequently to player experience. Of particular concern is the growing advocation for "hands-off" coaching approaches which fall far short of what, in my experience, many players require from coaches. I, too, once subscribed to the notion that this was 'the way' to coach, and built my practice around the idea that minimal intervention was optimal. Over time though I began to sense that this approach was missing something essential. Though I lacked the conceptual frames to articulate it at the time, this led me to question the foundations of my coaching practice. Through my work as a coach developer, I encountered many coaches who faced similar dilemmas and, as such, I am aware that I was certainly not the only coach to fall victim to this oversimplification. My decision to embark on this programme of study was motivated by a decision to challenge myself, to broaden my knowledge and in turn, affect change within Gaelic

games coaching as a coach developer. This has challenged me to move beyond a superficial understanding of coaching theory and methods and to develop a deeper knowledge base.

1.2. Aims and objectives

The overarching aim of this thesis was to explore how coaching practices can influence the player experience. Thus, based on the need to better understand the impact of coaching practice in team sport, a set of objectives were formed at the early stages of planning for this thesis. This plan was utilised in a flexible and pragmatic manner with adjustments made in response to the findings of the research, along with gaps between the literature and the applied domain, coherent with the purpose of a professional doctorate. The objectives of each chapter are summarised as follows:

Chapter 2 objectives:

a) Synthesise a broad range of literature concerning sport coaching, learning theories, coach learning, pedagogical approaches to coaching, professional judgment and decision making and youth sport.

Chapter 3 objectives:

a) To explore how a GBA is advocated for and used across different Gaelic games contexts.

Chapter 4 objectives:

a) To examine how team sport coaches utilise game form activities in their coaching practice.

b) To investigate the underpinning knowledge of coaches' game form pedagogy and the sources of this knowledge.

Chapter 5 objectives:

a) To examine how team sport coaches utilise game form activities in their coaching practice**.**

b) To investigate how coaches plan for game form activities and how they form their intentions.

Chapter 6 objectives:

a) Explore player experience in youth Gaelic games.

b) To explore the perceptions and experiences of players, parents, and coaches involved in youth level Gaelic games, with a particular focus on the experiences of the transition through youth Gaelic games and the various factors influencing participation at this level.

Chapter 7 objectives:

a) Explore player experience in youth Gaelic games.

b) To investigate perceptions of adaptive and maladaptive uses of streaming in youth level Gaelic games.

Chapter 8 objectives:

a) Synthesise the literature pertaining to simulation fidelity across non-sporting domains.

b) Propose a framework of fidelity of practice applicable to team sport coaching.

Chapter 9 objectives:

a) Provide guidance for coaches to better support player development.

b) To summarise the various practical recommendations offered in this thesis for coaches, coach developers and NGB in relation to the use of game form practice.

c) To summarise the various practical recommendations offered in this thesis for coaches, coach developers and NGB in relation to facilitating appropriate player experience.

d) Provide guidance for coaches to better support player development.

1.3. Research philosophy

A research philosophy refers to the underlying set of assumptions, beliefs and principles that guide how a researcher sees the world and engages with it. Two branches of this philosophical positioning are ontological and epistemological assumptions, ontology referring to the nature of reality and existence, while epistemology is concerned with the nature, origins and limits of knowledge (Creswell & Creswell, 2017). These generalised views of the world form beliefs which shape a researcher's methodological choices and interpretations (Moon & Blackman, 2014). Consequently, as a feature of this programme of research, it was essential to reflect on and clearly articulate my own philosophical stance, particularly as it relates to the methodology and findings of this thesis. In this sense, this professional doctorate is underpinned by a pragmatic research philosophy and in alignment with the overarching aim of this study, the generation of practically meaningful knowledge for a diverse range of coaching stakeholders.

The pragmatic research paradigm embraces a plurality of methods, with the focus being on the research question and the consequences of the research rather than on the methods selected to conduct an inquiry (Kaushik & Walsh, 2019). Rather than seeking absolute truths, pragmatism is oriented toward what is useful to real-world problems (Goldkuhl, 2012). As a methodological approach, pragmatism requires the detection of a socially situated problem, appropriate methods to investigate and adequate action based on an evidential standard to address the problem (Kaushik & Walsh, 2019). Having originated with the work of Charles Sanders Peirce in the late 19th century, pragmatism was further developed by William James and John Dewey, with Peirce, James and Dewey collectively referred to as the 'classical pragmatists' (Bacon, 2014).

Importantly, pragmatism does not represent a single philosophical tradition (Bacon, 2014). Instead, pragmatism is often separated into two distinct strands influenced by Peirce and James respectively. Peirce's pragmatism emphasises logic, inquiry, and the scientific method.

James' pragmatism focuses on experience, pluralism, and the psychological significance of belief. In its infancy, pragmatism was presented by Peirce as a reaction to Cartesian dualism, the separation of mind and external world (Bacon, 2014). This rejection of Descartes' rational introspection, was exemplified in Peirce's pragmatic maxim: "consider what effects, which might conceivably have practical bearings, we conceive the object of our concept to have. Then, our conception of these effects is the whole of our conception of the object" (Peirce, 1878, p.132). That is to say, beliefs are meaningful not because they correspond to a static truth, but because of their practical consequences. James, adding a more humanistic tone argued that even the psychological consequences of belief were relevant to its meaning (James, 1907). He was distinctly anti-positivist, rejecting the notion that knowledge could be purely objective and suggesting that personal and experiential dimensions are legitimate in evaluating the utility of beliefs (Bacon, 2014). This anti-positivist stance of Jamesian pragmatism is also evident in the rejection of the idea that there is one correct or universal way to understand or live in the world. Here James proposed that no single theory can be an absolute transcript of reality. Instead, James posits that any theory, from some point of view, may be useful (James, 1907*).* This notion of pluralism recognising that no one holds a monopoly on truth. This is evident by Peirce and James diverging in their theories of truth - Peirce focusing on long-term convergence through inquiry, and James emphasising usefulness and experience. Both held that truth is always provisional and subject to revision, in other words fallible. This idea that inquiry aims not at eternal truth, but at resolving doubt lies at the very heart of pragmatism (Bacon, 2014). As Peirce argued, beliefs function as working assumptions, that guide action and can be relied upon until they are challenged (Bacon, 2014). While no belief is beyond revision, this fallibilism does not lead to scepticism, instead, it maintains confidence in the possibility of meaningful knowledge. In other words, pragmatism allows the possibility to be simultaneously fallibilist and antisceptical (Putnam, 1995). A belief is considered "true" when

it satisfactorily resolves doubt, but such truth remains provisional. In this sense, for pragmatists, knowledge is provisional and context-dependent, always open to revision as inquiry progresses (Kaushik & Walsh, 2019).

One critique of pragmatism as a research philosophy is that if oversimplified, it becomes an approach akin to 'whatever works' in the absence of sufficient philosophical underpinning (Biesta, 2010). In other words, an over emphasis on what works. In this sense the classical pragmatists suggested foundationalism and coherentism in terms of belief justification (Bacon, 2014). Foundationalism assumes that knowledge rests on indubitable "basic" beliefs, while coherentism justifies belief through how well it fits within a system of beliefs. As an example of later forms of pragmatism, labelled 'Neo-Pragmatism', Susan Haack offers 'foundherentism' as a hybrid model relevant to pragmatism, proposing that belief justification should depend both on evidence of support and coherence with other beliefs (Haack, 2009). This resonates with the pragmatist view that beliefs are justified by their practical impact and mutual reinforcement within inquiry, without requiring absolute foundations. As I endeavoured to fulfil the core aim of a professional doctorate – making significant and original contributions to the knowledge of professional practice through research – Haack's 'foundherentism' resonated strongly with me throughout this journey by offering a robust framework for interpreting the data I collected and thus avoiding the pitfalls of an oversimplified body of work. A further criticism aimed at pragmatism is that it is often viewed as ignoring ontological matters. In this sense, researchers have been accused of progressing research without considering metatheory (Frankel Pratt, 2016). Ontologically though, pragmatism is not committed to any single reality (Weaver, 2018). Instead reality is seen as being actively generated through an individual's experience of the world (Kaushik & Walsh, 2019). Hilary Putnam's 'pragmatic realism' develops this perspective of pragmatism and ontology (Sosa, 1993). Essentially pragmatic realism proposes the notion that a mind-independent reality

exists, however in keeping with pragmatic tradition, ones understanding of this reality is shaped by human perspectives and experiences (Goodman, 2020), though this reluctance to affirm universal truths should not be simply equated with relativism (Boncompagni, 2019). I addressed this criticism through the notion of knowledge being both fallible and anti-sceptical. While not claiming applicability across all coaching contexts, in other words universal truths, the contributions offered in this thesis can support better professional practice while of course being open to revision. A further critique of pragmatism is the idea that 'anything goes' in relation to the selection of methods (Biesta, 2010). Again, while this may be viewed as a limitation by some, I perceive it in a more adaptive manner. For example, pragmatism allows a researcher to utilise a range of methods dependant on the research aim rather than strict adherence to a particular method on inquiry, thus allowing the researcher to maintain a flexible but rigorous approach with methods selected based on how well the method serves the inquiry. Thus, throughout this thesis I have selected methods by contemplation of each research question, the context of the research and the subsequent adoption of the method I deemed to be the most suitable.

While pragmatism embraces a plurality of methods, this does not mean that a research project *must* embrace a plurality of methods. Rather, the best method is the one most effective in producing the desired consequences, be it single method or multiple methods. During the planning of this programme of research, a variety of methods were considered, particularly at the very early stages of conceptualisation prior to the finalisation of the research aims. Ultimately though, given the nature of the aims of this research, Chapters 3, 4, 5, 6 and 7 each utilise a single method of inquiry. Chapter 3 sought to investigate the impact of a specific pedagogy and its impact on player development. This investigation required a qualitative and interpretative methodological approach, utilising focus group discussions which were then analysed using Reflective Thematic Analysis (RTA) to identify patterns of meaning across the

dataset. Chapters 4 and 5 were concerned with how high level coaches utilise game form activity in practice. This was an in-depth exploration accounting for underpinning theoretical stances guiding practice, the sources of their knowledge, how they plan for game form activities (see glossary) and how they form intentions for impact. Again, this required a qualitative methodological approach utilising semi-structured interviews with analysis completed using RTA. Finally, Chapters 6 and 7 sought to understand the playing experience of youth Gaelic games players by exploring the perceptions and experiences of players, coaches and parent using rapid, semi-structured interviews, utilising RTA for analytic purposes.

In summary, pragmatism provides a flexible yet rigorous philosophical foundation for this thesis. It supports a mode of inquiry that is action-oriented, adaptive, and sensitive to the practical realities of coaching practice. By acknowledging the socially embedded and evolving nature of knowledge, pragmatism enables this research to remain responsive to context, inclusive of multiple perspectives, and grounded in real-world relevance. Finally, recognising that the primary aim of pragmatism is to create practical knowledge that makes a purposeful difference (Goldkuhl, 2012), this thesis sought to inform coaching practice at multiple levels. Aligned with this objective, the implications of the research are intended to operate both at the macro level, such as informing the work of coach developers and NGBs and at the micro level, by offering insights that can directly enhance day-to-day applied coaching practice.

1.4. Methodology

1.4.1. Research Approach

A pragmatic research philosophy does not dictate the choice of research methodology, but instead provides a scaffolding to help inform the selection of the most practically appropriate methods (Tashakkori & Teddlie, 2021). Given the intention to better understand the perceptions and experiences of a variety of stakeholders across different studies, I adopted an

interpretive lens throughout this thesis (Goldkuhl, 2012). This interpretive stance allows for a deeper understanding of fundamentally subjective socially generated meanings (Markula & Silk, 2011). Thus, with this pragmatic approach and epistemological positioning, and given the need for deep interpretative investigation, the application of qualitative methods to generate in-depth participant reflections was deemed most suitable for this thesis (Patton, 2002).

Chapter 3 utilised focus groups to explore the participants perceptions of GBA in Gaelic games contexts, while in Chapters 4, 5, 6 and 7, I chose to conduct individual, semi-structured interviews (Markula & Silk, 2011) as they were most likely to produce nuanced, contextualized and specific knowledge.

1.4.2. Data Analysis

Developed by Virginia Braun and Victoria Clarke, reflexive thematic analysis (RTA) is a flexible approach to qualitative data analysis, rooted in constructivist and interpretivist paradigms, that emphasises the active role of the researcher in the development of themes (Braun & Clarke, 2012, 2019, 2024). According to Braun and Clarke (Braun & Clarke, 2019, p.594), RTA is "about the researchers reflective and thoughtful engagement with their data and their reflective and thoughtful engagement with the analytic process". At its core, RTA is concerned with identifying and interpreting patterns of meaning, or themes, within a dataset. These themes as not seen as emergent from the data but actively generated by the researcher (Braun & Clarke, 2021). As such, a key consideration for researchers using RTA is reflexivity (Braun et al., 2022) and the recognition of the researcher's influence in shaping the data and subsequently telling the story of the dataset.

Braun and Clarke have proposed a six phase process to conducting analysis with RTA (Braun & Clarke, 2021). The six steps are: Familiarisation with the dataset; coding; generating initial themes; developing and reviewing themes; refining, defining and naming themes; and writing up. Crucially though, this 6-step process is conceptual rather than prescriptive with the

process being reflexive and iterative rather than sequential and mechanistic. RTA itself is a form of the broader thematic analysis and has been described as theoretically flexible (Braun et al., 2022). Crucially, this does not mean that theoretical underpinnings or epistemological assumptions are optional, it simply means that it is compatible with a range of philosophies, including pragmatism (Campbell et al., 2021).

With this in mind, RTA was used to analyse all data collected for the studies in this thesis. For each study, I conducted the analysis, with the supervisory team acting as critical friends and deliberately positioned to challenge my interpretations of the data during theme generation. The aforementioned six-phased approach outlined by Braun and Clarke was used fluidly and recursively across each study. In the first phase I immersed myself in the data, by listening to audio recordings several times before transcribing them verbatim and assigning pseudonyms to all participants. Transcripts were then read and re-read to enhance familiarity and support early theme generation. In the second phase, initial coding took place. NVivo 12 software (QSR International Pty Ltd., Doncaster, VIC, Australia) was used throughout to manually structure and organise the data preserving my active, interpretive engagement.

Coding was both semantic, focused on more explicit language and latent, where I used my positionality and experience to provide a level of interpretation to the data. Following this first coding sweep, a second sweep was used across the dataset to compare individual transcripts against the whole dataset. Coding followed an inductive-to-deductive approach, acknowledging that purely inductive analysis is not possible due to the role of my perspectival and theoretical priors involved in the interpretation of the data (Braun & Clarke, 2019). These priors were viewed as a resource, with my background and familiarity with team sport coaching informing decisions about what data was meaningful enough to code and later how to refine codes (Braun & Clarke, 2012). In phase three, I grouped transcripts and explored patterns across the dataset, collapsing related codes into potential themes. In the fourth phase, I

reviewed and refined themes based on a sense of coherence and meaningfulness. This was an iterative process involving the constant re-shaping of themes to tell a coherent story about the data, in line with the objectives of this thesis. In the fifth step, themes were finalised and defined based on shared meaning. Theme names were refined to enhance clarity and conceptual depth. The final phase consisted of writing the report which was a recursive process woven throughout the entire analysis, with ongoing refinement of narrative and theme development embedded in the writing itself.

Broadly speaking, each study followed the process outlined above, however throughout each chapter I will attempt to highlight how this process evolved with throughout the thesis while providing specific examples of how the analysis was carried out for each study.

1.4.3. Reflexivity

Reflexivity, an inherent aspect of qualitative research, involves critically examining a researcher's influence on, and contribution to, the research process. In this regard, I consider my own positionality here as being neither insider nor outsider in each of the studies conducted for this thesis (Dwyer & Buckle, 2009). That is, whilst not being an insider of any of the coaching environments of the participants, I cannot consider myself to be an outsider either given that I am an active coach and coach developer. On one hand, I deeply understand the issues discussed by participants, however I am not embedded in their contexts, facing their specific range of challenges. I understood this as occupying a liminal space. That is while knowledgeable about the subject being discussed and capable of interpreting nuances that might escape a more distant researcher, I also risked making assumptions without probing deep enough.

Thus, a series of procedures were adopted during generation and analysis to optimise the quality of the data generation and subsequent analysis. One example of this reflective approach was my use of reflexive journaling to explore my lived experience the issues being

discussed with participants and to question aspects of these topics which I had taken for granted. Here, it was imperative that I remain mindful of how my own experience might influence the codes and themes I was generating. This self-interrogation fostered critical engagement and was shared with my supervisory team throughout the data generation and analysis of each study. It led to constructive challenging of my interpretations, prioritising meaning-making (Braun & Clarke, 2019). These challenges reminded me that my role was not to simply confirm what I already believed, rather it was to allow participants meanings to shape my interpretations. Furthermore, constant comparison was used in each study. That is the comparison of data within each study with the aim being to further develop concepts and connections across the dataset, leading to a richer, more nuanced thematic development (Tuckett, 2005). Specific examples of this reflexivity will follow in each chapter.

1.4.4. Participants

In each chapter the sampling process was guided by information power (Malterud et al., 2016) which acknowledges the balance between data richness and sample size. In each case, I considered the objectives of the study, the breadth of previous research in this area and the nature of the data collection (Malterud et al., 2016). Information power suggests that the size of the sample depends on the aim of the study, the specificity of the sample, the use of established theory, the quality of dialogue and analysis strategy (Malterud et al., 2016). For example, in Chapter 4, 17 high level coaches were sampled for semi-structured interviews. Given the specificity of the sample and the aim of the study, 17 was deemed to be a large sample size. Furthermore, with interviews ranging in duration from 58-94 minutes (Mduration = 76 minutes), the quality of dialogue was considered to be very rich and informative. In contrast, the investigation into the youth sport experience in Chapter 7 required a sample of 140 participants. In part this was related to the quality of dialogue, with some player participants reluctant to provide in depth answers to questions or probes. Furthermore, the aim

of the study was to explore participant experience of youth level participation based Gaelic games, a context with a lot more variability than the high level investigation highlighted in Chapter 4.

1.4.4.1. Chapter 3

In Chapter 3 a total of 43 participants were purposefully sampled from different Gaelic games contexts across Ireland. These included parent coaches (PC) (n=15), talent development coaches (TDC) (n=17), and NGB staff (NGBS) (n=12), which included games and coach education managers. These categorisations were chosen to reflect the diversity of stakeholder perspectives within the Gaelic games community and to align with the domains of practice articulated by Lyle and Cushion (2016). PC were sampled based on their involvement in child and youth participation at club level representing grassroots and participation engagement. TDCs were recruited based on their roles focused on the long term, high-performance player development. Offering a strategic lens, NGBS were sampled to provide insight into the broader strategic and organisational impact of GBA promotion. Reflecting the unique structure of Gaelic games and the multi-faceted natures of roles within the organisation, many TDC and NGBS also coached at participation level and worked as coach developers in addition to their primary role.

1.4.4.2. Chapters 4 and 5

Chapters 4 and 5 were investigations into the use of game form activities by high level coaches. Based on the need to include coaches in this sample who would be able to provide informed accounts of their coaching process, the sampling criteria was designed to ensure that coaches could be justifiably considered to hold a level of expertise. Reflective of the need for a breadth of domain perspective amongst “high level” coaches, I also sought a balance of coaches working in talent development and high performance domains of practice (Lyle & Cushion, 2016). In order to sample an appropriate level of expertise, I used a combination of the recommendations of Crispen and Hoffman (2016) and Nash et al. (2012) to formulate a set of

inclusion criteria. Coaches were therefore recruited based on the following criteria: a) at least ten years of experience coaching; b) at least five years' experience working with their current level of player; c) holding the highest possible coaching qualification in their respective sport; d) if working at talent development level, hold a track record of developing players to the elite level, or if working in high performance, hold a track record of winning elite level competitions. In addition, given the focus of the study, all coaches must have followed a mediated coach education qualification route that promoted the use of game form training. Participants were recruited via professional networks (mine and my supervisors') and through snowball sampling (Onwuegbuzie & Leech, 2007). Coaches were also drawn from a variety of team-based invasion sports across Western Europe to allow for a broad range of experiences to be explored. This led to a total of N=17 team sport coaches being recruited as participants. These coaches had an average age of 41 (SD = 5.9), included 13 male coaches and 4 female coaches and represented a total of 5 sports: Gaelic football (n = 2), Hurling (n = 2), Soccer (n = 4), Rugby Union (n = 3), Hockey (n = 3), Netball (n=3). To illustrate the relative 'eliteness' of players being coached, Swann and colleagues' descriptors (2015) were used to demonstrate their player's standard of performance (see table 4.1.).

1.4.4.3. Chapter 6

In Chapters 6, given the broad aim of the study, lack of previous research and the concise nature of the interviews (Malterud et al., 2016), it was estimated that a significant number of participants would be needed to explore the experiences of youth level Gaelic games. In order to capture the experiences of a breadth of stakeholders, 140 participants, representing players, parents and coaches, were purposefully sampled from 10 GAA clubs. Clubs were also purposefully sampled to be broadly representative of the Gaelic games community, including urban, town and rural environments and from all Gaelic games sports (football, hurling, ladies' football and camogie). While I believe this was a justified choice to ensure representation of

varying sizes and contexts of participants, purposeful sampling may also be considered as a delimitation of the study against the localised context of Gaelic games. Participants of both sexes were recruited using a cross-sectional approach for the purpose of stratifying experiences in youth Gaelic games. Under-13 being the first year of youth Gaelic games, under-15 being the mid-point, and under-18 being the last year before transition to adult games (see table 6.1.). Finally, participants were recruited across a spectrum of ability based on divisional classifications in an effort to understand the experiences of those in higher and lower ability groups.

1.4.4.4. Chapter 7

In Chapter 7, an investigation into grouping by ability in youth Gaelic games, my initial estimate was to sample circa 60 participants from four GAA clubs. During the research, it was perceived that more participants would enhance understanding given the differences between city and town clubs and different codes within the GAA. As a result, a total of 85 participants, representing players, parents and coaches, were purposefully sampled using a cross-sectional approach. The participants included in the study were purposefully sampled from different contexts to include a representative selection of urban and town environments where clubs are likely to have sufficient numbers to allow for streaming of players. Additionally, I purposefully recruited participants from across the under 13, under 15, and under 18 age grades (see table 7.1.). As with Chapter 6, this purposeful sampling may be considered a delimitation here. Age grades were selected to give a comprehensive understanding of the experiences of streaming in youth Gaelic games, with under 13 being the first year of youth Gaelic games, under 15 being the mid-point, and under 18 being the last year before transition to adult games. Finally, participants were purposefully recruited from various ability levels. These included four high ability teams and four lower ability teams from five GAA clubs across a spectrum of divisional grades.

1.5. Programme of work

As outlined through the aims and objectives, this thesis explored coaching pedagogy and player experience. The initial focus of the thesis centred on investigating the use of specific coaching methods to better understand their impact on player development. Throughout the evolution of this project, the focus shifted from what the coach does towards a consideration of the player experiences.

Chapter 2 presents a comprehensive review of the research literature related to sport coaching. This chapter begins by providing an underpinning of the complexity of sport coaching, followed by an overview of the research on activity design and pedagogical approaches (see glossary). The chapter then explores the literature pertaining to coach learning and professional judgement and decision making. Finally, reviews of research related to youth sport and Gaelic games are presented.

Chapter 3 details the use of focus group discussions with parent coaches, talent development coaches and NGB staff aimed at exploring the impact of games-based approaches (GBA) (see glossary) on player development and coaching attitudes. The findings from Chapter 3 indicated that, in some cases, coaches were employing GBA in a naïve and unsophisticated manner. In order to further interrogate this, Chapter 4 presents semi-structured interviews with a purposefully selected sample of high level team sport coaches, investigating their use of game form activities, the knowledge underpinning the use of game form activities, and the sources of this knowledge. Building on the findings of Chapter 3 and 4, Chapter 5 utilised semi-structured interviews to examine how high level coaches plan, design and use game form practices, with particular attention on how these decisions shape player experience. Building on the need to better understand and account for player experience, Chapter 6 presents a broad investigation into player experience. This study employed rapid, semi-structured interviews with players, coaches and parents to explore experiences related to the transition through youth

sport. One important finding from this chapter was the use of streaming to group players by ability throughout youth sport. Following this series of snapshots of coaching contexts provided in Chapters 3, 4, 5 and 6, Chapters 7 and 8 seek to provide some tools to help coaches navigate the complexity highlighted in earlier chapters. Chapter 7 sought to build an understanding of the impact of streaming on the youth player experience again using rapid, semi-structured interviews with players, parents and coaches to provide a more focused understanding of its implications. Chapter 8 expands on the findings from Chapter 5 by conducting a review of the simulation literature from across domains and the proposal of a framework of fidelity of practice to better align intentions for impact with player experience. This chapter proposes a novel framework aimed at supporting coaches in better aligning their activity design with desired player experience, specifically in team sport coaching. Reflecting the pragmatic research philosophy outlined in Section 1.4 of this thesis, this framework seeks to provide practically meaningful support to coaches to better tailor their activity design towards appropriate player experience.

Finally, Chapter 9 offers a general and integrative discussion of the key findings across the thesis, while also presenting a future direction of travel for research in this area.

Chapter 2: Literature review

2.1. Sport coaching

2.1.1. Complexity

Sport coaching has long been recognised as a complex endeavour (Cushion et al., 2003; Dempsey et al., 2020). At the core of this intricate, pedagogical and sociocultural process is the relationship between the coach and player, alongside a complex balancing of individual and collective needs, all underpinned by an emphasis on learning (Cassidy et al., 2023; Cushion et al., 2003; Greif, 2007; Stober & Grant, 2006). As an applied domain, interest in sport coaching practice continues to grow across a broad range of areas such as coach education (Dempsey et al., 2020), coach learning (Cope et al., 2021), coaching pedagogy (Gavin et al, 2025) and coaching expertise (Cooper & Allen, 2018), with informing practice and generating implications for effective practice being at the core of this substantial empirical interest (Mallett & Lara-Bercial, 2016; North, 2017). Furthermore, coaches are required to operate in dynamic roles and fulfil a varied range of purposes, reflecting the complexity and adaptability demanded by the coaching context. This conceptualisation highlights coaching as a wide-ranging and multifaceted process, and as such, there remains a need to build an understanding of the coaching process in an effort to further inform and develop coaching practices.

Cushion et al. (2006) argue that the applied coaching process is continually constrained by a range of objectives from sources such as the club, player and the coach themselves. Moreover, it is well established that the coach has a unique opportunity to influence both individual player development and team development while also having significant influence upon the social and cultural dynamics of a team (see Cushion et al., 2012). To manage this complexity, coaching can involve a significant element of orchestration with the coach steering a dynamic interactive process towards desired outcomes through constant analysis and

evaluation and having a detailed oversight of each coaching situation (Potrac et al., 2013). Put simply, coaching can be described as an extremely complex endeavour.

Given this complexity, significant research attention has been devoted to understanding the knowledge bases underpinning coaching and how this impacts practice (Cassidy et al., 2023). In this regard, it has been suggested that coaches primarily influence player development through two key mechanisms;, their coaching behaviours and their learning design (Muir & Lyle, 2024). A pertinent example of the impact of coaching behaviours on player development can be found in the context of youth sport, which is typically characterised by an increased focus on performance and competition. This has led to concerns in relation to the prioritisation of winning and outcome-based measures in youth sport and the consequent effects on participation, retention, and inclusion (Meân & Vynalek, 2024; Torres & Hager, 2007). Crucially, the developmental trajectory of those engaged in youth sport is shaped by the quality of coaching and support available (Fraser-Thomas et al., 2008). However, the complexity of the coaching process, coupled with the diverse range of motivations for youth sport participation (Gill et al., 1983), makes coaching more nuanced than the simple reproduction of a 'best way' (Nash & Taylor, 2021). Instead, it has been posited that coaches should adopt an approach focused on long term development and improvement (Jørgensen, 2024). Moreover, considerable attention has been paid in the literature (Back et al., 2022) to dropout during the transition to youth sport, highlighting the importance of sport experience. Reflecting the agency of players to make decisions concerning their own lives (Persson et al., 2020), some researchers have replaced the term dropout with opting out suggesting a more autonomous, choice-driven process. In many cases, this opting out may reflect a phase of sport sampling, whereby young people try multiple different activities before specialising in their chosen sport in adolescence (Côté et al., 2009). Thus, while a certain level of opting out can and should be expected across

youth sport, it seems a valid strategy for coaches to orient their participant's experience to facilitate longer term participation (Merkel, 2013).

Conversely, recent decades have seen a trend towards continual, intense training in a single sport, often as a result of intrinsic and extrinsic pressures related to maximisation of potential (Merkel, 2013). This phenomenon has been linked with detrimental impacts on psychosocial development, in turn affecting participation (Rosenbaum & Callender, 2010). Compounding these challenges are the seemingly pervasive maladaptive coaching practices that exist in some youth sport contexts (Breuner, 2012). This is exemplified by literature suggesting participant's experience of aggressive communication (e.g., name calling and extensive shouting by coaches) in addition to a perceived favouritism of higher performing players (Merkel, 2013). These behaviours seem especially deleterious for female participation, with girls more likely to opt out due to perceptions of their coaching experience, perhaps based on a stronger relational orientation than boys (Keathley et al., 2013). Some of these maladaptive elements of coaching may be explained by the increased emphasis on competition associated with youth sport (Persson et al., 2020). Indeed, by its very nature, competition acts as a process of judgement against an objective, external standard; something that will, of course, shape coach and player experience (Camiré, 2015). The impact of this judgement-oriented environment is likely to vary depending on individual players' dispositions towards competition, further complicating the role of the coach in fostering developmentally appropriate experiences.

2.1.2. Motivations of players

Various theoretical perspectives have been proposed in recent decades to explain patterns of youth sport participation. One prominent example is the long-term athlete development framework which outlines an idealised progression of physical and mental development through a series of clearly defined critical periods from foundational physical literacy in

childhood to lifelong participation in adulthood (Balyi, 2002). While this framework has gained significant popularity and has been adopted by a range of NGBs, its prescribed, linear progression has been critiqued for failing to fully account for the complexity and variability of youth sport development. Furthermore, this model (see glossary) neglects a wide variety of psychosocial factors which shape young people's experiences in sport. For example, a review of the literature identified five underpinning factors of youth sport participation: perceived competence; fun; parents; learning new skills; and friendships (Bailey et al., 2013). A further example, being an increased emphasis on competition, acting as a motivator for some but not all youth sport players (Persson et al., 2020), who represent a broad range of motivations. Reflecting this diversity of motivation, Collins and colleagues proposed the 'three worlds' framework to conceptualise youth sport participant development (Collins et al., 2012). These authors propose three orientations: elite referenced excellence, where excellence can be seen as high level sporting performance, with achievement measured against other competitors; personal referenced excellence, where achievement is based on participation and one's own personal performance; and participation for personal well-being where motivations are typically understood as physical activity being undertaken to fulfil needs, such as development of one's social life, as opposed to personal progression. It has been proposed that these 'worlds', are not mutually exclusive but are better understood as a continuum, with players transitioning between worlds over time based on contextual and individual factors (Collins et al., 2012). Recognising this fluidity of motivation is essential for coaches to promote meaningful and sustained sport participation. Importantly, the Three Worlds framework, alongside earlier work on motivation in youth sport (Gill et al., 1983), reinforces the need for flexible coaching practice and support that accommodate diverse goals and evolving participant needs to promote long term participation.

2.1.3. Activity design

While understanding participant motivation is an important coaching consideration, it is similarly important to consider how these motivational factors are shaped by the coach's practice design. Though often used interchangeably in sport coaching, in the context of this thesis, practice design refers to the process of planning and sequencing of activities within a practice session, while activity design referring to all activities both on and off the pitch or court which players engages in. Individual session plans are typically seen as a linear process (Denison, 2010), where coaches move methodically from activity to activity throughout a session. As part of this practice design, activities in team sport environments can be guided by explicit learning outcomes related to tactics or strategy (Mitchell et al., 2020). Crucially though, it is incredibly difficult to predict how others will interact with an activity, making the use of learning outcomes a futile endeavour. Furthermore, the sequencing of these activities requires careful consideration (Metzler, 2017), the implication being a more purposeful sequencing of activities having the potential to aid learning (Jones & Thomas, 2015). Moreover, this planning of session content is increasingly see as a collaborative effort involving multidisciplinary input to align physical, technical and tactical goals (Kinnerk et al., 2023).

The type of activities utilised have been proposed as either being more game form or more "training form" (Ford et al., 2010). Game form activities can be considered to be phases of play or small-sided/conditioned games (Ford et al., 2010) whereas training form activities are classified as physical training or technique, or skills practices (Ford et al., 2010). This is often associated with isolated practice (Gearing & Bridge, 2024) involving the isolation of a particular skill to be practiced in a 'drill' format and typically progressing from basic to more complex in terms of task difficulty (Gearing & Bridge, 2024). Detractors of isolated practice have tended towards a straw man argument suggesting that this approach to skill acquisition is focused on ideal movement patterns (Parry et al., 2025). However, research demonstrates that

a player performing multiple repetitions of the same technique will not complete any two repetitions in the exact same manner, even in a highly controlled, isolated activity (Krakauer et al., 2019).

On the other hand, the use of game form training has consistently been advocated as a feature of effective practice across pedagogic approaches (see glossary) and underpinning theory. This has resulted in reports of a shift, in practice, from a greater proportion of time being spent in training form activities to sessions with more game form activities (see Larkin et al., 2022). This shift reflects a broader tension in the literature, mirroring debates in education, for example, between 'traditional' and 'contemporary' approaches. This false dichotomy presents training form activities as traditional and outdated; whereas game form activities are labelled as contemporary and progressive. This binary framing neglects the reality of applied coaching practice where coaches report utilising both training form and game form activities (Kinnerk et al., 2019) based on context, goals and players' needs. In doing so, many coaches appear to adopt a theoretically neutral stance to activity design, selecting methods pragmatically rather than dogmatically against a singular approach.

2.2. Theoretical underpinnings of activity design

2.2.1 Ecological Dynamics

Ecological Dynamics offers a framework for understanding how behaviour emerges from direct interactions between organisms and their environment with an emphasis on the importance of understanding perception and action in context (Gibson, 1979). Ecological Dynamics takes a radical position, based on a combination of Ecological Psychology and Dynamical Systems Theory (Wood et al., 2023), suggesting that human perception is direct and actions are shaped by the relationship between the organism and its environment (Gibson, 1979). This perspective challenges more cognitive approaches to learning (Button et al., 2020),

which tend to emphasise the role of mental representations (Michaels & Palatinus, 2010). Moreover, Ecological Dynamics emphasises the continuous adaptation of the player between functional movement patterns to adapt to changing performance environments. This adaptive process occurs through the continuous reorganisation of system components, enabling functional movement solutions to emerge in context (Button et al., 2020). From this perspective, practice activities should allow players to interact with their environment; that is skill acquisition not based on ideal movement patterns but rather on the basis of continuous, information-based interactions between a player and their environment. Accordingly, practice environments should afford players opportunities to perceive and act in relation to these rich, contextualised interactions.

For sport coaches, this suggests the deliberate manipulation of these interactions to promote skill acquisition and transfer, a process operationalised as the constraints led approach (CLA). Originating from the foundational work of Newell and underpinned by the principles of ecological dynamics, the CLA posits that the player will self-organise and thus generate effective movement solutions through the interaction and manipulation of various constraints; task, environment, and individual (Renshaw et al., 2011). In line with Gibson's theory of direct perception, CLA considers the individual and the environment as one singular system to be treated as an inseparable pair (Renshaw & Chow, 2019).

A key implication of this approach is that practice tasks must be representative of the performance environment. That is, these practice activities should present relevant contextual information that enables players to couple their actions to their perceptions (Button et al., 2020). An increasingly popular perspective on activity design based on this thinking, supported by a growing body of literature, is representative practice design (Dann et al., 2024; Krause et al., 2018). The term itself, representative design, originated in the 1950's through the body of work attributed to psychologist Egon Brunswik (1956) who proposed that without a

representative design, an experiment cannot be reflective of the performance environments to which the results are applied (Araújo & Davids, 2016). Thus, representative practice design is a framework concerned with creating practice tasks which look similar to performance environments (Pinder et al., 2011). Proponents of representative learning design stress the importance of having the participant situated in the context of the learning environment; hence, the desire to accurately replicate performance domains in practice activities with the aim being better transfer from practice to performance (Chow, 2010; Renshaw et al., 2019). In the context of sports coaching, representative learning design posits that by simulating relevant contextual information within practice environments, players can develop adaptive movement solutions that effectively transfer to competition. Representative practice involving coaches designing tasks that sample characteristics from competition, consider various constraints on movement, and foster relevant information for action to be coupled to (Araújo et al., 2006). This coupling refers to the notion that a player's perception is based on the available sensory information and their actions are fundamentally intertwined with these perceptions (Michaels & Palatinus, 2010). As the literature on representative design continues to expand, a growing body of research highlights its effectiveness supporting learning and transfer (Krause et al., 2019). However, evidence also suggests that players will respond differently to the various conditions of representative design. In their work with tennis players, Krause et al., (2019) noted that efforts to enhance skill transfer were dependant on the individualisation of task representativeness relative to the player's specific objectives and the level of challenge posed by the level of representativeness. This suggests a need for tasks to be scaled or simplified, rather than decomposed, whilst retaining perception-action coupling (Davids, 2012). Simplification is considered an appropriate strategy for players at earlier stages while increasing complexity is seen as more suited to more experienced players (Renshaw et al., 2019). However, the application of scaling of complexity has become a controversial topic in

the coaching literature where it has been suggested that there is a theoretical distinction between the ecological dynamics informed task simplification, and the more cognitive informed approach of task decomposition (Lindsay & Spittle, 2024). This distinction reflects broader philosophical differences regarding how learning and skill acquisition are understood and supported in coaching practice.

2.2.2. Cognitive approaches

From a less radical perspective, information processing offers a framework for understanding how humans acquire, process, store and retrieve information. Within this approach knowledge acquisition is described as entailing internal coding and structuring by the learner (see Simon, 1979). Information processing theory posits that information passes through a finite number of distinct stages which operate serially, rather than working in parallel (Estes, 2014; Pyke et al., 2024). Information processing also acknowledges the relationship between working memory and long-term memory (Norman, 2013).

A key concept of some cognitive theories, the multistore model of information processing proposed by Atkinson and Shiffrin provides a structure of the memory system by classifying three separate components of memory; sensory register; short term storage and long-term storage (Atkinson & Shiffrin, 1968), later referred to as sensory memory, working memory and long-term memory. This model (see glossary) would act as the foundations for the depth of processing model, which provided a better explanation as to why certain information was learnt and retained better than others (Craik & Lockhart, 1972). Here it is suggested that perception involves the analysis of sensory information and matching of this input with what is already stored in memory (Kirschner & Hendrick, 2020). If the input is recognised it undergoes further mental processing and a memory trace is created, with deeper processing leading to a stronger trace, which in turn leads to better retention and learning (Craik & Lockhart, 1972).

Working memory, where conscious cognitive processing occurs, temporarily holds new information and has been suggested as having a capacity of 7 +/- 2 items (Mattarella-Micke & Beilock, 2012). Crucially though, this number is derived from experiments utilising recall of lists immediately after presentation which do not involve any interaction between elements. When element interactivity is taken into consideration, this working memory is limited to between two and four novel interacting elements at any one time (Paas et al., 2003; Sweller et al., 2011). This has important implications for sport coaches, particularly in relation to activity design and the subsequent effect on working memory for players. Tasks that require high levels of element interactivity may quickly exceed a player's working memory capacity, thereby hindering learning and performance. This limitation of working memory is widely accepted across the literature (Sweller et al., 1998). Unlike the conscious processing occurring in working memory, humans are not directly conscious of long term memory (Sweller et al., 1998). Conversely, long-term memory is the permanent store on knowledge and offers humans the ability to vastly expand processing ability as a result of the storage of extensive amounts of schemas (Paas et al., 2003). The learner is viewed as necessarily active in the learning process. Additionally, long-term memory is viewed as the central, dominant structure of human cognitive architecture with learning being defined as a change in long term-memory (Kirschner & Hendrick, 2020).

Schema theory is a framework which explains how humans interpret and organise information based on mental constructs of already learnt and available knowledge or skills, known as schema (Kirschner, 2020). Contemporary conceptions of schema derive primarily from work conducted in cognitive science during the 1970s which have significantly contributed to the understanding of cognitive processing and learning (McVee et al., 2005). According to schema theory, knowledge is stored in long-term memory in the form of schemas (Sweller et al., 1998). A schema can be defined as an organised unit of knowledge which is

based on past experience and can be accessed to guide current understanding or action (Reiser et al., 1985).

Some of the important characteristics of schema have been summarised by Rumelhart and include the fact that schemas are embedded within each other, represent knowledge at all levels of abstraction, are active processes and represent knowledge not definitions (Rumelhart, 1984). While both novice and experts possess schemata, the schemata of novices tend to be less extensive and less developed and as such less effective for the learner (Kirschner, 2020). In contrast owing to their more extensive schemata, experts can efficiently categorise new problems and link them to the correct strategy. This was most famously evidenced in De Groot's (1946) chess experiments which demonstrated that expert performance was fundamentally different to that of a beginner. Not only do they have more knowledge and can work faster than beginners, they also view problems differently due to their knowledge rich schemata (De Groot, 1946).

These differences between novice and expert are also suggested under cognitive load theory (Paas et al., 2003) which emphasises the limitations of working memory in processing new information. First suggested by John Sweller (1988), the theory holds that working memory has a limited ability when coding new information (Sweller, 1988). Thus, what a participant understands prior to a learning activity will directly influence what they learn. Simply, a learner's prior knowledge plays a crucial role in determining how effectively new information is understood and integrated. Furthermore, Sweller identified three types of cognitive load which may influence learning or performance; intrinsic, extraneous, and germane. Intrinsic cognitive load refers to the inherent difficulty of a task or concept and is determined by both the complexity of the information and the level of the learner (Sweller et al., 2019). Extraneous cognitive load refers to load caused by activity design, that is to say that this load is determined by how the to-be-learnt material is presented (Sweller et al., 2019).

Lastly, germane cognitive load refers to the mental effort devoted to constructing and organising knowledge, or in other words the cognitive load required to learn (Sweller et al., 2019). Understanding and managing these types of cognitive load is essential for educators and coaches alike, as poorly designed instructional strategies may overwhelm working memory, particularly for novice learners.

Moreover, Sweller proposed that problem solving imposes high cognitive load and, as such, is not the optimal strategy for novices to acquire new knowledge. He also argued that how we problem solve and how we acquire cognitive schemata are completely different processes. That is to say, problem solving does little to aid schema acquisition and, as such, learners do not learn *how* to problem solve by simply solving problems (Sweller, 1988). This insight has implications for sport coaching, particularly given the popularity of representative design and the perceived need to replicate performance environments in practice. In this regard, the previously discussed notion of scaling of activity can also be considered through the lens of cognitive load theory. Scaling may take the form of either simplification or decomposition, depending on the learner's needs and demands of the task (R. Taylor et al., 2023). The literature provides evidence that insufficiently scaled or overly complex practice tasks can result in excessive cognitive load, potentially overwhelming the learner and inhibiting effective schema construction (Kirschner et al., 2006). This phenomenon has manifested itself within team sports settings, where some coaches favour limited scaling of game form training, in conjunction minimal guidance and eschewing methods such as isolated practice or direct instruction (Cope & Cushion, 2020). While these methods, highly representative practice coupled with minimal guidance (e.g., just playing a game), might yield high activity, without deliberate attention they may not promote desired learning adaptation (Sweller et al., 2023). This is not to say that game form practice is to be avoided. Rather it highlights how coaches must weigh up a variety of considerations when deciding on the extent to which tasks should be decomposed or scaled

(Smink et al., 2017). This involves careful consideration, on the part of the coach, of contextual factors such as the prior knowledge of the players and the intentions for impact (Fiorella & Mayer, 2016).

One means of considering the aforementioned decomposition or scaling of activities is through the level of challenge posed for the player. The notion of an optimal level of challenge is based on a range of factors relating to the learner, such as prior knowledge. In this sense, important distinctions between novice and expert have been suggested with the novice stage characterised by inconsistent and 'clunky' performances while the expert stage is typified by more consistent and smoother performance (Sweller et al., 1998). The challenge point framework, proposed by Guadagnoli and Lee, is a theoretical model in motor learning which posits that optimal learning occurs at a "challenge point" where the task difficulty is appropriately matched to the player's current capabilities, thus optimising effort and engagement (Guadagnoli & Lee, 2004). The framework considers two concepts; nominal task difficulty, reflecting a constant amount of task difficulty regardless of context or the individual, and functional task difficulty, referring to how challenging a task is relative to the individual's ability and the context of the task (Guadagnoli & Lee, 2004). The implication being that performance expectations are linked to the difficulty of the task and the skill of the player. In essence the authors suggesting that task difficulties create a learning potential, the function of which differs dependant on the level of the player, the complexity of the task and the training environment.

A key distinction of the Challenge Point Framework is the assumption that learning and performance are distinct yet interrelated processes. While learning refers to the relatively permanent change in skill level, performance is the temporal execution of a skill (Soderstrom & Bjork, 2015). As such, the optimal challenge point for learning and the optimal activities for performance are independent of each other (Guadagnoli & Lee, 2004). For example, a practice

task that is too difficult may impair short-term performance but may be beneficial for long term learning. To enhance the practical relevance of this framework and as a means to guide practice, Hodges and Lohse (2022) conceptualised three 'types' of practice: practicing to learn, practicing to transfer, and practicing to maintain. The authors also sought to incorporate the notion of specificity of practice into this framework. That is the matching of conditions found in competition in practice sessions (Hodges and Lohse, 2022). This specificity of practice to competition can also be understood as fidelity of practice. That is the degree of realism between practice and performance situations, with fidelity being a multi-dimensional concept incorporating not only visual perception but also behavioural, physiological and affective responses (Adamson, 2015; Choi & Wong, 2019; Cook et al., 2013; Harris et al., 2020). Furthermore, the Challenge Point Framework acknowledges the motivational costs of challenge in practice, the suggestion being that the challenge should be related to learning, not arbitrarily making things difficult, and a recognition that in sport the challenge point will likely be a dynamic variable (Hodges & Lohse, 2022; Williams & Hodges, 2023). The ability to adjust the challenge point therefore demands expertise on the part of the coach. If the functional task difficulty is too high, it may bring about frustration or confusion and as a potential outcome, demotivation (Hodges & Lohse, 2022). While lower levels of challenge may be desirable to improve perceptions of competence, under challenged players may suffer from boredom (Krannich et al., 2019). In this regard, the suggestion is that the coach should consider not just the extent of functional task difficulty, but *how* players are challenged by a given activity design. This entails a nuanced understanding of both the player and the learning context, ensuring that challenge is calibrated to promote not just engagement but learning.

2.2.3. Constructivism

While the cognitive approaches outlined previously emphasise the internal processing of information, they often conceptualise learning as the acquisition of discrete skills. In contrast,

constructivism is an epistemology which posits that learning is an active process of constructing meaning (Merriam & Baumgartner, 2020) with knowledge constructed through experience rather than passively received. The origins of this theory can be traced back to Socrates who suggested educators and learners engage in dialogue and construct knowledge through asking questions (Amineh & Asl, 2015). Since then constructivism has been described as a complex, multi-faceted and indefinable doctrine (Mayer, 2004) and as a "vague concept" (Powell & Kalina, 2009) perhaps explaining suggestions that as a philosophy it is frequently misunderstood (Krahenbuhl, 2016). Despite this apparent lack of clarity, constructivism has become the dominant view of learning in recent decades (Mayer, 2004), following a shift from behaviourism to cognitivism and subsequently from cognitivism to constructivism (Cooper, 1993).

Currently, two major perspectives dominate the literature (Chisholm, 2014). Cognitivist constructivism and social constructivism, the former emanating from Piaget's theory and the latter from Vygotsky's (Piaget, 1952; Vygotsky, 1978). Piaget placed an emphasis on the internalisation of knowledge through assimilation and accommodation. Here assimilation is the incorporation of the new experience into an already existing framework without change to that framework. Accommodation refers to the process of reframing ones mental representation of the external world to fit new experiences (Piaget, 1976). In contrast to Piaget's individual cognitive focus, Vygotsky described learning as a social process and proposed that social interaction, culture and language play a significant role in how an individual constructs knowledge (Vygotsky, 1978). Despite these differing emphasis, constructivist perspectives share two foundational principles. Firstly, a learner's prior knowledge influences their new knowledge and secondly, learning is an active process in which understanding is constructed based on their experiences within a new learning situation (Hoover, 1996).

Though often associated with “learning by doing” or active learning, constructivism is not aligned with a specific pedagogy, rather it is a theory to explain learning. In this regard there is an important distinction to be made between constructivism as a theory of learning and constructivist methods of instruction (Mayer, 2004). This distinction prompted Mayer to suggest the constructivist teaching fallacy, referring to the misguided idea that constructivist learning requires active teaching methods (Mayer, 2004). In his seminal work, Mayer reviewed three decades worth of research on discovery learning and suggested that a constructivist view of learning should focus on cognitive activity rather than behavioural activity, guidance rather than pure discovery, and curricular focus rather than unstructured exploration (Mayer, 2004). In fact, it has been argued that such minimally guided instructional techniques were developed prior to the attainment of the comprehensive understanding of human cognitive architecture as exists now, and thus may be redundant in some contexts (Sweller, 2009). Despite these criticisms, constructivist methods of instruction, such as discovery learning (Bruner, 1961), remain a dominant pedagogical tool (Mayer, 2009) and are often adopted without sufficient evaluation of their suitability for specific learners or learning environments (Rowe, 2006). This widespread and at times uncritical adoption of constructivist pedagogy contrasts with long standing educational guidance and literature that emphasises how no single theory can universally explain learning, thus making a one size fits all approach to instruction ineffective (Rink, 2001).

2.3. Coach learning

2.3.1 Categorisations

The recognition that no single approach to learning is universally appropriate seems especially pertinent to coach learning, particularly given recent shifts in how this domain is conceptualised and approached. Coach learning, defined as the development, education and

training of coaches (Muir & Lyle, 2024), is an area of importance not just for coaches, but also researchers, coach developers, and those who govern sport. Coach learning has long been a topic of interest, with coaches being acknowledged as active constructors of their knowledge (Stodter & Cushion, 2017) by utilising a range of sources to inform their practice (Dempsey et al., 2020). In this sense, the range of coach learning sources have been categorised as formal, non-formal, and informal (Nelson et al., 2006). Formal coach learning is typically defined by compulsory attendance and a standardised curricula with the coach obtaining a certification upon completion of the programme (e.g., national governing body coaching courses) (La Belle, 1982). Non-formal coach learning situations referring to an organised educational activity taking place outside of the formal system (e.g., workshops). Informal learning referring to the accumulation of knowledge from daily experiences (e.g., previous experience as an player, or reading coaching books) (Coombs & Ahmed, 1974).

Another useful framing, proposed by Werthner and Trudel, categorises coach learning into three distinct situations: mediated, unmediated, and internal (Werthner & Trudel, 2006). Mediated learning refers to situations in which the coach is directed to salient information (e.g., postgraduate coaching degrees), unmediated situations occur where the learner independently decides selects and engages with content (e.g. observation of other coaches), and internal learning refers to processes such as self-reflection (Werthner & Trudel, 2006) that allow coaches to make sense of their experiences and beliefs. An interesting aspect of these categorisations is the idea that one context can provide multiple types of learning. For example, a formal or mediated learning environment, such as a coach education course, may also facilitate mediated or informal learning through peer-to-peer discussion on coaching issues and shared experiences.

Interestingly, it appears that unmediated learning situations are the preferred form of coach learning (Walker et al., 2018). While this may be the case, it is important to note that the

preferred method of learning is not necessarily the optimal method (Kirschner & van Merriënboer, 2013). Effective learning is underpinned by the coach's ability to evaluate the validity and relevance of sources of knowledge (Stoszkowski & Collins, 2016). One potential implication being that coaches may prioritise procedural knowledge (how to do something?) over declarative knowledge (why to do it?) and the appropriateness of an activity in a given setting (Stoszkowski & Collins, 2016). As such, it would appear that a prerequisite feature of effective unmediated learning is the coach's ability to critically consider sources of knowledge (Stoszkowski et al., 2020). Without this reflective capability and reflection, unmediated coach learning may not improve coaching expertise (Abraham & Collins, 1998; Nelson et al., 2014). This underscores the need for coach learning frameworks to not only provide access to knowledge, but also foster critical thinking, contextual application, and the development of professional judgment.

2.3.2. Proceduralised coach education

In an effort to increase the professionalisation of coaches, NGBs around the world have developed and offered coach education programmes (Walker et al., 2018). Today, virtually every sports' national governing body has their own coach education programme. In Ireland, a coach development programme, run centrally by Sport Ireland, has worked with the country's various NGBs since 1993, to develop and support coaches (Sport Ireland, 2024). Often these programmes, or at least components of the programmes, are compulsory in nature (Wright et al., 2007). As a result, large numbers of coaches enter into these mediated programmes. In the case of Ireland, over 20,000 coaches being certified annually, across over 50 NGBs (Sport Ireland, 2024).

Despite the widespread engagement with mediated coach education, the coaching literature presents various critiques of its effectiveness and relevance (Cope & Cushion, 2020; Wang et al., 2025). These critiques include an over emphasis on bio-scientific disciplines

(Jones, 2000), the presentation of a 'right' way (Cushion & Nelson, 2013), and being a form of indoctrination (Côté, 2006; Nelson et al., 2006). Additionally, empirical evidence from North American illustrates these concerns with findings indicating that more than 25% of mediated coach education programmes were perceived to offer little in the way of practical application (Gano-Overway & Dieffenbach, 2019). The reason for this ineffectiveness, and the perception that research is divorced from the reality of coaching (Lyle, 2018), is attributed to a mismatch between academic research, its dissemination, and the reality of coaching experiences (Cushion et al., 2012). An additional perspective here being the lack of coaches involvement in this type of learning, with the suggestion being that more involvement leads to more reflexivity about their coaching (Cope et al., 2021).

2.3.3. Game as the teacher

A pertinent issue reflective of these concerns has been naïve interpretations of the games-based and game form literature, often regardless of its theoretical underpinning. With coach education lacking opportunities for deep pedagogic development and many coaches tending towards the uncritical consumption of unmediated learning, the proliferation of memes and simplistic narratives such as 'game is the teacher' and 'just let them play' has led to the related devaluation of the role of the coach (Nash & Taylor, 2021). In this sense, it can be argued that coach learning seems to be promoting procedural knowledge, simplifying the inherent complexity of coaching practice. Unfortunately, a consequence of this oversimplification has been the sub-optimal interpretation of the nuances involved in the planning, design and application of games in training. The implication being that rather than the sophisticated use of GBA, some coaches tend towards the limited scaling of game form practice coupled with minimal guidance. Subsequently, 'hands-off' approaches have been seen as being beneficial for players (Nash & Taylor, 2021). This, despite cross-theoretical agreement that the coach should play a highly active role (Chow et al., 2023; Cope & Cushion, 2020).

Consequently, there have been growing calls for coach education to move beyond "just playing games" to using a more nuanced pedagogical approach (see glossary) involving the deliberate articulation of explicit tactical concepts (Kinnerk et al., 2018; Mitchell et al., 2020; Pill, 2013). Unfortunately, this shift towards 'just playing games' has also contributed to the demotion of isolated practice and direct instruction (Cope & Cushion, 2020). The result is the application of small sided games (SSG) rather than GBA, not as part of a broader pedagogical strategy but rather as an end in themselves. SSG refers to game form activities which feature a reduction in the number of players and size of the pitch, but lacking in pedagogical intent (Rampinini et al., 2007). While this approach may yield lots of activity (Castillo et al., 2021) and more frequent opportunities for technical action (Sgrò et al., 2018), it lacks a deliberate focus placed on learning (see Sweller et al., 2023). Furthermore, this lack of coaching input can lead to discovery learning (Alfieri et al., 2011), which may be beneficial for experienced players, but not for less experienced players, an idea discussed earlier in this Chapter, as supported in educational literature (Tuovinen & Sweller, 1999). This has the potential to create an inequitable, inconsistent playing experience for players of different skill levels and experience. This raises challenging questions, both regarding the extent to which coaching research reflects practice and, how coaches use pedagogical theory in practice. As regards the latter, researchers have found a misalignment between some coaches' intentions for practice, awareness of methods used, and what they did during practice (Ashford et al., 2022). This is further supported by work with swimming coaches who utilised a particular approach without an appropriate theoretical understanding (Brackley et al., 2020). This points to the importance of research to consider pedagogically informed, critically reflective, and context-sensitive approaches to practice design.

2.4. Pedagogical approaches

With pedagogy defined as any purposeful activity by one person with the intention to enhance learning in another (Watkins & Mortimore, 1999), a pedagogical approach can be seen as a method or practice of coaching (see glossary). Mirroring recent trends in education, applied coaching practice has experienced a shift toward the promotion of more constructivist-informed pedagogies (Paquette & Trudel, 2018). This has led to debates in both literature and practice framed around the aforementioned and somewhat dichotomous distinction between "traditional" and "contemporary" approaches (R. Taylor et al., 2023). Here behaviourist informed approaches to activity design are branded traditional, typically referring to the use of repetitive training form activities that are progressively sequenced from part to whole (Lindsay & Spittle, 2024). Behaviourism referring to a learning theory (see glossary) which emphasises observable behaviours over internal mental processes (Ertmer & Newby, 2013). Behaviourism emphasises the interaction between an individual and their environment with these interactions forming behaviours through a process known as conditioning (Schunk, 2012), an example of which being the aforementioned repetitive training form activities. As a contrast, voguish pedagogical approaches have been adopted by practitioners under the umbrella term of GBA, referring to a collection of subtly different approaches which all share the common feature of placing game form activities at the centre of activity design.

2.4.1. Games-based approaches

With a rise in popularity over the last number of decades, GBA have been adopted by a number practitioners to describe a variety of pedagogical approaches that share certain features, although also feature subtle differences (Kinnerk et al., 2018). Whilst the notion of using games as a feature of practice has a significant history (Wade 1967; Worthington, 1974), the development of the Teaching Games for Understanding (TGfU) framework in the 1980's acted as a catalyst for change in how sports are coached. The original proponents of Teaching Games

for Understanding (TGfU) developed the approach as a response to dominant trends in physical education at the time, which were heavily influenced by behaviourist principles and often lacked game context, tactical understanding, and opportunities for decision-making (Bunker & Thorpe, 1982). Their aim was developing physical education practices towards more contextualised learning environments and away from decontextualised, technique-focused instruction rooted in behaviourist practices (Bunker & Thorpe, 1982). The authors identified a number of issues with these dominant behaviourist approaches. These issues included the perception most children achieved limited success, and that players possessed rigid technique coupled with poor decision making capabilities (Bunker & Thorpe, 1982). As such, it has been suggested that the original intention of the development of TGfU was to develop players' understanding within the context of the game, that is through attempts at 'outwitting the opposition', a phrase that captures TGfU's emphasis on developing strategic thinking (Almond, 2015).

The TGfU approach does not offer a simple solution to teaching games but places a significant demand on the teacher or coach to design and facilitate learning in a contextually meaningful manner. To support this, the authors proposed a procedural model (see glossary) which put the player at the centre of the learning process (Griffin & Butler, 2005). This six-step model comprises the game, game appreciation, tactical awareness, making appropriate decisions, skill execution and performance with each step designed to scaffold the player's understanding of the game through contextualised engagement and reflection. In addition to these procedures, a set of four pedagogical principles to guide practitioners are outlined (Bunker & Thorpe, 1982). The first principle, sampling, involves the selection of a variety of games from the same category to facilitate the development of understanding of similar tactical problems and solutions across contexts. The second principle, representation, utilises lead up games that are developmentally appropriate for players to see how a particular skill or tactical

strategy can be used in a game. Exaggeration, the third principle, creates a specific focus for an activity and exaggerates it, making it the primary focus of that particular game. This could include, for example, modifying rules to highlight passing or defensive pressures. Finally, tactical complexity, involves the progression of tactical solutions from simple to complex supporting players as they develop increasingly sophisticated game understanding (Griffin & Butler, 2005).

Since the conceptualisation of TGfU, with its focus on development of game appreciation and tactical awareness (Bunker & Thorpe, 1982), a plethora of similar but distinctly different approaches have been developed, including Play Practice (Launder, 2001), Tactical Games Model (Mitchell et al., 2006), Ball School (Kroger & Roth, 2005), the Integrated Technical-Tactical Model (López-Ros & Castejón, 1998), the Invasion Games Competence model (Mesquita et al., 2012), the Games Concept Approach (Rossi et al., 2007), Game Sense (Light, 2004), the Tactical Decision Learning Model (Gréhaigne et al., 2005), and Digital Video Game Design (Price et al., 2018). These approaches share certain common features such as the use of questioning, the provision of opportunities for dialogue, building a supportive socio-moral environment, and the design and manipulation of practice games and activates (Light, 2012). Collectively, these approaches reflect an ongoing evolution of game-based pedagogies that seek to balance technical development with contextualised instruction.

2.4.2. Constraints led approach

Game form activities can be understood through multiple theoretical lenses and, as such, have been advocated for from a variety of pedagogical and learning perspectives. As an example, the CLA has gained popularity as a method for sport coaches over the past two decades (Kennedy & O'Brien, 2024). Advocates of the CLA have dismissed comparisons with TGfU despite commonalities (Renshaw et al., 2016) and have instead suggested that its uniqueness is built from a theoretical model of motor behaviour (Renshaw & Chow, 2019). Underpinned by

ecological dynamics, skill acquisition is viewed as the emergence of an adaptive, functional relationship between an organism and its environment (Araujo & Davids, 2011). That is to say that skill acquisition is perceived as the process of adapting or attuning to the environment, with the environment affording 'opportunities for action' (Renshaw & Chow, 2019). These affordances surround the individuals in their environment and are present in many forms, all of which will provide opportunities for action based on the information present (Renshaw & Chow, 2019). An example being the differences between playing soccer on a muddy pitch compared with a synthetic all-weather surface. Importantly, an event or an object affords what it does because it has certain specific properties. But these properties are not intrinsic to an object. On the contrary, they are properties taken with reference to perceiving actors who will perceive or use the object (Araujo et al., 2007). Furthermore, this information emerges and decays rapidly (Araujo & Davids, 2009), an example being two opponents moving away from each other providing an opportunity for an attacker to move between them, an opportunity that did not exist prior to the opponent's movement. What is seen by a player is dependent on the player's capacities and resources available in the activity and subsequently the ability of the player to perceive information (Roberts, 2019). This is a key concept for practitioners as it highlights the importance of designing activities that provide players with opportunities to attune to information from the environment to which they can couple their actions with their perception (Renshaw & Chow, 2019). To achieve this, coaches must skilfully and carefully manipulate constraints. These are typically characterised as task constraints such as goals, rules and playing space used in practice activities, individual constraints such as player's individual characteristics and environmental constraints such as physical or social characteristics of performance such as playing surface and the presence of others during practice activities (Correia et al., 2019).

In contrast to the ‘game being the teacher’, another aspect of a CLA is the role of instruction and how it is used to shape the learning environment. In this regard, instruction is seen as detrimental and instead instructions are suggested as being the manipulation of constraints to allow exploratory search activities of players (Correia et al., 2019). The implication being the role of the coach reduced to that of “ecology designer” (Woods et al., 2020), a facilitator who monitors, manipulates and adapts constraints to support learning through interaction with the environment (Orth et al., 2019).

2.4.3. Digital Video Games Design

As a novel pedagogical approach, digital video game design (DVGA) proposes a model (see glossary) based on the “game design teaching and learning” approach (Gee & Price, 2021). In contrast to previous approaches where the focus has largely been on what the coach does, either in terms of coaching style or activity design, DVGA considers the experience of the player and emphasises the creation of an immersive experience which facilitates metacognition, through reflection-on-strategy. The aim of this approach is enabling players to figure out how the rules of the game can be understood and used to their advantage (Gee & Price, 2021; Price et al., 2018). In other words, this approach moves beyond an emphasis on the activity design and learning outcomes decided in advance by the coach, and instead considers the activity design in terms of the how the players engage with and experience the activity. As an example, DVGA features a change from traditional modes of thinking about game design, framed as a move away from “what will we be learning today” to “this is today’s mission”. Originally proposed by Price et al. (2018), and underpinned by metacognitive theory (Flavell, 1979), DVGA applies principles of digital video game design, supported by contemporary work in learning sciences (Gee & Price, 2021). DVGA is primarily concerned with deepening players’ understanding by immersing them in a constructed “game world” bound by three learning principles: deep understanding, problem solving, and empowerment (Price et. al., 2018). Furthermore, the look

and feel of these game worlds are consistently updated to provide an embodied experience for game players, enhancing engagement and immersion. This immersive experience aligns to Gee's concept of the 'situatedness' of learning (Gee, 2003), where the player develops 'know-how' by becoming a part of the game itself and accepting the cultural and physical constructs of the game and how it is played. In this sense, the original authors suggest five pedagogical principles for designing games (Price et al., 2018). These principles are: missions (players can identify with the 'mission', thereby masking the formal learning process.); level-ups (reflects the adding of complexity in games with the focus of assessment shifting from skill based competencies towards an assessment of metacognitive skills); super powers (using a super power enables the game to be explored from new perspectives, otherwise not possible without the power); using the pause button (places the onus on the players to decide when to interact with the coach when seeking support); and save progress (players have a clear point at which they end the game and begin a new game, advocating player progress as a means to pace learning, rather than ticking off technical or tactical content). The DVGA further reflects a shift toward learner-driven, immersive and metacognitively rich environments underpinned by pedagogical intentionality and contextualised experiences that are engaging and cognitively demanding.

2.5. Professional Judgement and Decision Making

2.5.1. Curriculum

While the pedagogical approaches (see glossary) previously described offer important conceptualisations of the methods and strategies used to facilitate learning, it is important to note that learning occurs within the broader framework of the participant's curriculum. Here, player experience in sport is increasingly conceptualised through the lens of curriculum, encompassing all aspects of the player's journey and interactions within a sporting context (Coakley, 1994). Often falsely equated with simply representing a syllabus, a document that

defines expectations and communicates information about an academic course or class, the concept of curriculum is more complex, though frequently overly simplified or misunderstood (Burton & McDonald, 2001). Supported by work conducted in educational settings and across countries and cultures (Barnett, 2009; Billett, 2006; Hutchinson et al., 2001; Wyse & Torrance, 2009), conceptions of curriculum have been proposed to consist of three broad categories; intended, enacted, and experienced (Billett, 2006). Here, the intended curriculum refers to what is intended to occur, the enacted curriculum being what happens in situ through the enactment of the intended curriculum, and the experienced curriculum being what participants actually experience. These three concepts being inextricably related to each another with the enacted curriculum serving as the bridge between what is intended and what is ultimately experienced: "it is how the intended curriculum is enacted… that ultimately shapes what learners experience" (Billett, 2006, p. 38).

A fourth concept relating to curriculum is that of the hidden curriculum (Jackson, 1968), understood as the implicit norms, values and beliefs associated with education (Margolis, 2001). This posits learning situations within the context of wider society and acknowledges the tacit teaching which takes place in these situations such as ideological messages embedded in the content of the intended curriculum and the social relations involved through the enacted curriculum (Giroux & Penna, 1979). Within the sporting context, this may include expectations about competitiveness, gender roles, and hierarchies within contexts (Cushion & Jones, 2014). Further, these four dimensions of curriculum offer a useful lens to examine the learning experiences of players.

In the context of participatory youth sport the intended curriculum can be considered on three levels involving multi-layered intentions shaped from NGB policies, club level policies affecting practice and competitive norms, and the micro level planning of coaches (Surma et al., 2025). The intended curriculum for children in sport from age 6 to 11 years old,

for example, is typically based on enjoyment, social interaction and skill acquisition, often explicitly avoiding formal competition during this early stage of participation (Gavin et al., 2023). As young players transition into youth sport, the timing of which varies but is typically categorised from age 12-18, the intended curriculum often shifts towards increased formal competition while still striving to maintain an appropriately developmental orientation (McCarthy et al., 2008).

The enacted curriculum represents what is actually delivered in practice by coaches, in other words, their pedagogical approach. This may differ from the intended curriculum due to contextual issues such as availability of resources, availability of facilities, and interpretation of the intended curriculum and overarching policies, by clubs and coaches (Bauersfeld, 1979). The experienced curriculum can be understood as the player's perspective, encompassing the totality of their experience as they interact with the enacted curriculum (Bauersfeld, 1979). In essence, the experienced curriculum reflects what the player experiences which may or may not align with what was intended or delivered.

Finally, the hidden curriculum refers to aspects of the experienced curriculum which are not overtly planned for at the level of intended or enacted curriculum and include cultural expectations and social values and norms (Kelly, 2009). This hidden curriculum is often subtle and difficult to observe directly but can exert significant influence on participants' experience given that it operates at all levels throughout the intended-enacted-experienced framework (Relf et al., 2017).

2.5.2. Types of thinking

This notion of intended-enacted-experienced curriculum can be further understood through coach decision making, with the intended curriculum being linked with more deliberative decisions made by a coach and the enacted curriculum reflecting the more intuitive thinking demonstrated in coaching practice. In this sense, the concept of professional judgement and

decision making (PJDM) has been developed as an approach to practice that supports practitioner decision making within the dynamic and often unpredictable realities of coaching (Collins et al., 2022). PJDM is positioned as a practical approach to coaching that prioritises adaptive decision-making over adherence to fixed methods or particular epistemological or ontological orientations (J. Taylor et al., 2023). PJDM has been applied across various applied domains such as sport psychology (Martindale & Collins, 2005), coaching (Abraham & Collins, 2011), and strength and conditioning (Downes & Collins, 2021). Central to this approach is that coaches make contextually informed decisions about which coaching tool, method, or strategy to use, guided by the situational demands they face (Collins et al., 2022). This is underpinned by the notion of 'conditional knowledge', a recognition that knowledge applies under certain circumstances or contexts and thus knowledge and context both guide coaching planning (Collins et al., 2022). In order for a coach to operationalise PJDM, a broad conditional knowledge base is a critical prerequisite (Collins et al., 2022). This allows the coach to utilise informed decision making in their practice. In this sense, and based on the dual processing theory as an explanation of human cognitive decision making (Djulbegovic et al., 2012; Evans, 2008; Sloman, 1996), PJDM makes a distinction between the roles of intuitive or fast decision making (system 1) and more deliberative or slow decisions used in coaching practice (system 2) (Kahneman, 2003). Importantly, these systems do not operate in isolation; rather, they interact and influence one another, with experienced coaches often drawing on both simultaneously depending on the situation (Collins et al., 2016). This interplay between intuition and analysis is central to PJDM, reinforcing the need for coaches to not only build a strong foundation of knowledge, but also to cultivate the capacity to flexibly apply that knowledge in contextually appropriate ways.

Contrasting with critiques (e.g., Jones & Corsby, 2015), at the core of PJDM is an acknowledgement that fast decision making, such as interventions during practice, is not

always a rational, objective process (Iwamoto et al., 2024). Instead, it has been proposed that coaches follow a sequential search process based on the notion of satisficing (Simon, 1955). This process involves the establishment of an aspiration level, a threshold of acceptability based on prior experience of the coach, where the search for a solution is concluded once a sufficiently good option has been encountered, rather than engaging in a prolonged search for the optimal solution (Todd & Gigerenzer, 2001). The determination of what constitutes an acceptable solution is influenced by the coach's prior education, experience and understanding of how coaching is operationalised and conceptualised (Collins et al., 2016).

Conversely, the more deliberate and slow decision making associated with System 2 thinking, relies on a rational and structured approach to decision making with the aim being to select the optimal approach. In coaching terms, this involves the weighting of multi-levelled agendas, for example balancing short and long term developmental outcomes, and reflects decisions made by the coach through a process of planning and re-planning to deal with a myriad of shifting circumstances (Collins et al., 2022; J. Taylor, Ashford, et al., 2023). These decisions typically takes place off the field, thus allowing more time for a variety of considerations such as a desire for a range of outcomes while drawing on an array of knowledge bases (Abraham & Collins, 2011). Critically, this form of decision making is underpinned by an assumption that the coach possesses a broad and integrated knowledge base and can apply this understanding to make logical, informed decisions. Importantly though, intuitive decision making is not divorced from the deliberative process. Instead, more deliberative thinking can shape intuitive judgments over time, supported by the notion that system 1 and system 2 exist on a continuum rather than as rigidly separate systems (Collins et al., 2016).

2.5.3. Nested Planning

A core construct within the PJDM framework (Collins et al., 2022) is the notion that planning should be a central feature of both the coaching process and of coaches' practice (Lyle &

Cushion, 2010). Planning, long regarded as a foundational element of effective coaching, involves a formulation of actions prior to the execution of the plan (Jones et al., 1995; Klein, 2007; Lyle & Cushion, 2010). Work with high level coaches suggests that effective planning is first manifested with a vision of the big picture before being deconstructed into manageable components (Mallett & Lara-Bercial, 2016). Furthermore, planning has been conceptualised as a flexible framework that enables both foresight and adaptability. In fact the term flexecution has been suggested to capture this adaptability (Klein, 2007). The original author suggesting the futility of simply adapting a predetermined plan. Instead, flexecution captures the broader process of the formulation of a plan before replanning once execution has begun. That is the revision or replacement of goals in the original plan as more is learnt about the situation during execution (Klein, 2007).

Furthermore, reflecting the distinction between intuitive and more deliberate decision making, the term 'nestedness' has been suggested to capture this multi-level planning process (Abraham & Collins, 2011). Here the authors suggest that coaches initially plan for the long term (macro) before deliberately planning the sub-phases (meso). Once these phases of planning are accounted for, session-to-session level activities (micro) are nested within these broader structures. This allows the coach to be responsive to any short-term needs of players without neglecting the bigger picture as various elements of practice might be 'nested' within one another. Consequently, by deploying nested planning at multiple levels, the coach can engage in nested thinking to make coherent decisions in their moment-to-moment coaching practice (Collins et al., 2016). This allows for decisions to be continually reviewed and the effectiveness of those decisions judged, in turn creating a cycle of planning, reflection and replanning to cope with ever changing situational demands (Collins et al., 2022; J. Taylor et al., 2023). Crucially, coaches operating without a nested plan, and instead operating on a more session-to-session basis may struggle to achieve desirable outcomes (Nash & Taylor, 2021). In

essence, it is this concept of integrated nested planning which can ultimately determine the overall quality of a coaching intervention by ensuring coherence of a shared intention for impact across a network of actors (Martindale & Collins, 2005).

2.5.4. Intentions for impact

In an effort to optimise a coach's planning and thinking processes, Abraham and Collins (2011) proposed a deliberate cognitive process by which a coach formulates "intentions for impact". These intentions represent the rationale for selecting a specific behaviour, technique, or intervention to use at a given moment (Martindale & Collins, 2007). This can be regarded as first logical step in the design and application of an effective coaching intervention (Hill & O'Grady, 1985). Within this construct, coaches essentially reverse engineer the required steps to reach the intended outcome, utilising their coaching knowledge and expertise to select the appropriate interventions to achieve the desired impact (Martindale & Collins, 2005). A key component of this approach is the distinction between impact and outcome. Essentially, this process involves a distinction between the desired impact, understood as the player experience within that session and how they perceive and engage with that activity, and outcomes, which typically refer to the attainment or improvement of some form of competency following the practice. Moreover it has been suggested that activity design refers to the *what* of planning, with the intentions for impact referring to the *why* a particular intervention or task is selected (Martindale & Collins, 2007). An example being work with high level S&C coaches which suggests that decisions are based not solely on metrics or performance outcomes, but also on the look and feel of the session and its alignment with broader psychosocial goals (Downes & Collins, 2021). In this regard, the coaches in that study demonstrated a sensitivity to variables such as player mood, motivation and interpersonal dynamics, factors that are often overlooked in more reductionist models of practice. Without a clearly articulated set of intentions, and a nested planning structure, it becomes difficult for the coach to reflect on, or evaluate, the

effectiveness of their practice (Collins & Collins, 2021). Previous work suggesting that many coaches operate with low levels of awareness regarding their intentions for impact, how these link to practice within a session and how these impact the player experience (Partington & Cushion, 2013). One barrier to the formulation of intentions for impact and nested planning is the cognitive effort required by the coach to identify different trade-offs and weigh up priorities as needed for the individual player (Taylor et al., 2023). This apparent lack of understanding of one's own intentions combined with the difficulty in prioritisation of player needs, suggests a potential difficulty for coaches in delivering a coherent enacted curriculum.

2.5.5. It depends

As the advancements continue within the applied field of coaching and coach development, PJDM offers an opportunity to develop practice rather than reliance on a single approach or model (see glossary) of what coaching ought to be (Cushion et al., 2006). In this sense, it appears critical for coaches to deliberately adopt different approaches based on their intentions (Nash & Taylor, 2021). This proposition has seen the widespread use of the term "it depends", the proposal that good coaching is adaptable and flexible (Collins et al., 2022). This stance is in line with the long standing idea from the literature that no single theory can explain learning in all contexts (Rink, 2001).

Such adaptability highlights the importance of conditional knowledge, where coaches can draw upon their experience and knowledge bases to make informed, context-specific decisions in line with intentions. However, critics of PJDM tend to misconstrue this flexibility as a license for arbitrary and unstructured practice. This criticism overlooks the extensive body of research previously described that underpins PJDM which is grounded in deliberate and reflective decision making (Collins et al., 2016). This reflective practice including reflection on issue framing and conceptualisation, intentions for impact and implementation, with an emphasis on why a decision was made (Martindale & Collins, 2012). Thus, rather than

justifying the random selection of activities, the concept of 'it depends' underscores the need for careful consideration of a multitude of factors when planning, designing and delivering coaching practice. Conversely, a pertinent issue in the sport coaching literature is the tendency for some coaching practice and education to be built around a single theoretical orientation, as discussed earlier in this Chapter. This is especially prevalent in the ongoing debates between so-called 'traditional' and 'contemporary' approaches (R. Taylor et al., 2023), debates that risk oversimplifying the inherent complexity of coaching practice.

2.5.6. Strategies used to manage the complexity

One example of coach decision making, reflective of the diverse motivations and development needs of youth players, is the organisation of youth sport through ability grouping. In this approach, players are grouped based on their current performance, allowing coaches to group individuals together for training and competition. On an organisational and competitive level, this often results in the creation of skill-based divisions intended to provide appropriate levels of challenge on an individual and team level (Jørgensen, 2024). Borrowed from the educational literature, this practice is commonly referred to as streaming, a term which tends to evoke heated debate in educational settings (Johnston & Wildy, 2016). Interestingly, the vast majority of research in streaming shows no improvement in academic learning across an educational system (Terrin & Triventi, 2023). Of course, focusing on outcome measures does not provide sufficient information about the experiences of the implementation of ability grouping or how it is experienced by young people (Johnston & Wildy, 2016). Moreover, in the sporting context, the purpose of streaming may not be learning per se, instead streaming can be viewed as a tool to provide appropriate challenge and impact the player experience. That is, streaming may have the potential to provide a level of challenge within or just beyond a player's current capability, which can support development, a notion consistent with the Challenge Point Framework discussed earlier in this Chapter (Guadagnoli & Lee, 2004). Grouping players into streams of

similar ability may also aid the coach to tailor instruction more effectively, thereby fostering skill development and perceived competence (Kususanto & Fui, 2012), an important factor in sport participation (Roberts et al., 1981). In essence, while streaming may offer practical solutions for managing variations of ability, the purpose behind its implementation should be player development, through appropriate level of player challenge.

It is worth noting that streaming is not without its critics. One condemnation of streaming being the potential negative psychosocial effects particularly on self-esteem for those placed in lower streams (Odongo et al., 2021). Reduced expectations can also contribute to self-fulfilling prophecies affecting those streamed in lower ability groups who face lower expectations than those in higher ability groups (Rubie-Davies et al., 2010). Despite this criticism, streaming remains common practice in both educational settings around the world and in youth sport settings. While a vast body of research exists in the academic literature (Johnston & Wildy, 2016), there remains a notable gap in the literature concerning its implementation in participatory sporting contexts. As a result, coaches may be implementing this approach without the support of an evidence base, raising concerns about unintended or *maladaptive outcomes* for young players. This is important; although streaming may offer the coach practical advantages in managing variations in ability, its use should be guided by a developmental rationale and informed by research. In particular, attention is warranted to understand how streaming is experienced by young players across contexts, at different levels of participation, and how it shapes both performance and participation outcomes.

2.6. Conclusion

This chapter explored the multifaceted nature of team sport coaching, drawing attention to its inherent complexity, diverse theoretical underpinnings, pedagogical approaches and current coach learning landscape. This chapter positions coaching as a context dependant practice requiring coaches to carefully balance individual and collective needs, pedagogical strategies

and broader sociocultural influences to be effective in their practice. In essence, a much more nuanced endeavour than a simple reproduction of a 'right way' to do things.

Three dominant theoretical perspectives were examined: ecological dynamics, cognitive approaches and constructivism - each offering distinct interpretations of learning and skill acquisition. Ecological dynamics emphasising the coupling of perception and action while in contrast, cognitive perspectives being concerned with information processing, schema development and the management of cognitive load. The constructivist view of learning, meanwhile, promotes the active construction of knowledge and socially situated learning.

Pedagogically, the rise in popularity of GBA reflect a shift towards a more constructivist view of learning in coaching. This seems to have resulted in the constructivist teaching fallacy being adopted into coaching discourse, the misguided idea that constructivist learning requires active teaching methods. The promotion of these methods, through mediated coach education systems and unmediated channels such as social media, has led to some oversimplified interpretations, including the notion that "the game is the teacher". Such reductionist views risk undermining the complexity of coaching pedagogy and seem to either dismiss or be oblivious to well evidenced critiques of discovery learning. The result appears to be well-intentioned coaches attempting to adopt a GBA, yet in the absence of any pedagogical considerations, this likely results in the delivery of nothing more than game form activities. This it appears is a central issue to the current landscape of team sport coaching – the difference between a GBA and a game form activity. Thus, a more nuanced approach, tailored to player needs, anchored in contextual demands and recognising the need for the use of pedagogical features of GBA is being increasingly advocated.

Beyond coach learning, another factor central to the quality and effectiveness discussed in this chapter is a coach's decision making. In this sense, the PJDM framework offers a valuable lens through which to understand how coaches formulate plans and intentions for

impact and respond to changes within their dynamic practices, emphasising intentionality, execution and the notion of "it depends". Here the formulation of intentions for impact, based on how players will perceive and engage with an activity, rather than outcomes referring to the attainment or improvement of some form of competency, become the first step in the designing an intervention. This is another central point in this chapter – the idea that rather than activity design being viewed in binary terms (good or bad, resembles the game or does not resemble the game), it is the context and the coaches intentions which dictate the appropriateness or effectiveness of an activity. Furthermore, the notion of intentions for impact highlighted the importance for coaches to consider how their practices are experienced by players, rather than adherence to a particular method.

Reflecting both the importance of these micro level coaching interactions between coach and player, and broader influences on player experience such as NGB policy, the notion of the intended-enacted-experienced curriculum, in parallel to the influence of the hidden curriculum, reveal a potential for discrepancies between coaches intentions for impact and the player experience. In this regard, a pertinent example of these incongruences is presented in the form of grouping players by ability, known as streaming. While often implemented for practical reasons related to large squads of players, without appropriate consideration and critical reflection, streaming may present unintended consequences for players.

In sum, I have presented literature which points towards the idea that effective coaching cannot be reduced to a single method or approach. Instead it demands the ability to synthesise knowledge, respond to complexity and make contextually driven decisions that prioritise player experience. This chapter provides a foundation for this thesis to address the concerns highlighted in this conclusion such as the impact of the widespread and at times uncritical adoption of GBA, the intentions for impact underpinning the use of GBA and the factors influencing the quality of player experience.

Chapter 3: Game is the teacher? Understandings and misunderstandings of a games-based approach

3.1. Introduction

Although Chapter 2 outlines broad theoretical foundation for GBA (see glossary), previous research has highlighted misinterpretations that can hinder effective implementation (Reid & Harvey, 2014). Similarly, despite the research emphasising mediated learning, unmediated experiences and situations appear to be the preferred source of coach learning (Stoszkowski & Collins, 2016). However, preferences are not necessarily optimal or the most effective (Kirschner & van Merriënboer, 2013) with effective coach learning relying on the critical consideration and evaluation of knowledge sources (Stoszkowski & Collins, 2017). The implication being that coaches may prioritise procedural knowledge (how to do something) over declarative knowledge (why do it) (Stoszkowski & Collins, 2016). In practice, this tendency is reflected in concerns relating to memes such as 'just let them play' (Nash & Taylor, 2021) and the denigration of isolated practice and direct instruction (Cope & Cushion, 2020). Rather than engaging with GBA in a nuanced and sophisticated manner, some coaches tend towards a simplified version that involves the limited scaling of game form practice (see glossary) coupled with minimal guidance, relying on the idea of letting the 'game be the teacher'. Such approaches contradict the principles of GBA (Pill, 2021) including the use of questioning, the provision of opportunities for dialogue, building a supportive socio-moral environment, and the design and manipulation of practice games and activities (Light, 2012).

Mirroring trends across many NGBs, the GAA (see glossary) has advocated for GBA as a formal policy for the last 15 years through mediated coach education and various online resources (Tobar, 2024), with GBA being a prominent topic in contemporary Gaelic games (see glossary) coaching discourse (Barrett et al., 2025). Recent research on GBA in GAA contexts seems to suggest that coaches utilise more training from activities in earlier phases of

the season before increasing the amount of time spent in game form activities as the season progresses (Gavin et al., 2025; Kinnerk et al., 2019), with GBA sessions resulting in higher levels of physical activity (Gavin et al., 2024) and enhanced player performance (Kinnerk et al., 2025). While these findings seem to suggest a generally positive perception of GBA within GAA contexts and outline support for its use, a critical consideration here is the level to which these coaches in these studies genuinely understand what a GBA entails, given the naïve GBA often promoted in mediated coach education as discussed in Chapter 2. Here Gavin et al. (2025) utilises what they describe as 'experienced GBA practitioners' who had completed a 26-week intervention tailored toward GBA pedagogy, while in Kinnerk et al.'s work (2025) coaches had the benefit of a series of intervention sessions led by a sports pedagogue based on the principles of GBA highlighted in Chapter 2 (Light, 2013). The question raised by these works though, is to what extent they replicate the true landscape of coaches in Gaelic games contexts given the interventions utilised. This highlights a gap in the literature concerned with the true understanding of GBA held by Gaelic games coaches. Furthermore, while this work seems to point to metrics such as higher levels of activity and performance, little is known about how the prevalence of GBA in Gaelic games has affected player development and coaching attitudes. As such, research is needed to build a more comprehensive picture of GBA in GAA contexts, beyond quantitative markers such as levels of activity, and better reflecting the true nature of coaching expertise, in line with the objectives of this chapter as outlined in Chapter 1.

Thus, given the barriers identified in the literature regarding implementation and the prominence of GBA within Gaelic games, this context offers a unique opportunity to examine the long-term impact of its widespread promotion as NGB policy from multiple perspectives. Accordingly, this study aimed to explore perceptions of how the sustained promotion of GBA

has influenced player development and coaching attitudes in different contexts across Gaelic games.

3.2. Methodology

3.2.1. Research Approach

Guided by philosophical pragmatism as outlined in Chapter 1, this research sought to impact practice through generating meaningful knowledge and aligned with the research aims and positionality also outlined in Chapter 1, this study utilised focus group discussions to examine the perceptions and experiences of a variety of coaches and NGB staff in relation to the use of GBA in GAA contexts.

3.2.2. Reflexivity

While not being an insider of any of the coaching environments of the participants, I cannot consider myself to be an outsider given that I am situated within Gaelic games as an active coach and coach developer. On one hand, I deeply understand the issues pertaining to GBA discussed by participants, however I am not embedded in their contexts, facing their specific range of challenges. I understood this as occupying a liminal space. That is while knowledgeable about the subject being discussed and capable of interpreting nuances that might escape a more distant researcher, I also risked making assumptions without probing deep enough. As described in Chapter 1, a series of procedures were adopted during generation and analysis to optimise the quality of the data generation and subsequent analysis. One example of this reflective approach was my use of reflexive journaling to explore my lived experience of GBA against participant discussions and to question aspects of GBA which I had taken for granted. For example, I found myself relating closely to participants who stated that GBA were being promoted by high profile coaches within Gaelic games. Thus it was imperative that I remain mindful of how this might influence the codes and themes I was generating. This self-interrogation fostered critical engagement and was shared with my supervisory team

throughout data generation and analysis. It led to constructive challenging of my interpretations, prioritising meaning-making (Braun & Clarke, 2019). Furthermore, constant comparison was used throughout the analyses across the different focus groups further developing concepts and connections across the dataset and leading to a richer, more nuanced thematic development (Tuckett, 2005). Here, the comparison across focus groups allowed the refinement of probes which were used with later groups as trends and patterns in the conversations evolved.

3.2.3. Participants

The sampling process was guided by information power (Malterud et al., 2016) which acknowledges the balance between data richness and sample size. In this case, I considered the potential limitations of focus groups in limiting individual depth of conversation and reflection, against the benefits of socially generated meaning. This was more a concern for the coaching groups than NGBS, who represented a significant proportion of the overall population. NGBS were recruited through a professional gatekeeper at the GAA who contacted relevant staff. TDC were recruited through organisational gatekeepers from each of Ireland's four provinces. PC were intentionally recruited through a distinct and non-organisational process to amplify voices that might not otherwise have been represented, ensuring a broader and more inclusive range of perspectives. Initial recruitment of PC's began through my professional network (n=8), followed by snowball sampling to recruit additional participants. Recruitment ended when I was satisfied that the contribution of new knowledge had ceased and when participants were considered broadly representative of the Gaelic games community spanning urban, town, and rural environments, multiple sports, and representative of both male and female coaches. In total, 44 participants were purposefully sampled from different Gaelic games contexts across Ireland. These included parent coaches (PC) (n=15), talent development coaches (TDC) (n=17), and NGB staff (NGBS) (n=12).

3.2.4. Data Generation

Following ethical clearance from DCU's institutional ethics committee (REC/2023/135) (see Appendices K and L), I contacted each participant to share study information and to seek informed consent (see Appendix B). Focus groups were designed to be relatively homogenous organised around coaching domain or job role and designed to promote open and relevant discussion. In the case of the NGBS, two of the focus groups were conducted in their place of work, while the third NGBS group, and all other focus groups, were conducted online using Zoom (Zoom Video Communications, San Jose, California, U.S.A.). NGBS focus groups were organised at a time which suited the majority of participants, PC were provided with a selection of focus groups to accommodate their availability and TDC were purposefully matched with counterparts from different Gaelic codes and counties to encourage cross-context dialogue and discussion.

A semi-structured discussion guide was developed including open-ended questions with a focus on the implementation of GBA in Gaelic games (see Appendix C). To help make participants feel comfortable, respected, and free to give their opinions, and to establish rapport, each focus group began by all participants to share their coaching background (Krueger, 2014). Following these introductions, I shared a page from the GAA's learning portal (learning.gaa.ie) which presented guidelines for the use of GBA. This step acted as a shared reference point to build subsequent discussions on. Following these steps, each focus group lasted between 31 and 54 minutes (M= 43 minutes), each with between four and seven participants (M=5). During each focus group I facilitated conversation based around six conversation catalysts with a small number of probes. This was purposefully done to strike an appropriate balance between free flowing conversation which was also somewhat focused on the catalyst. Once the conversation around each catalyst had reached a lull, the I either prompted any participant who did not voice an opinion to do so, or moved onto the next question if everyone had taken an opportunity to

speak. As each discussion continued I attempted to provide opportunities for certain participants to answer first. This allowed quieter participants the chance to offer their opinion prior to more dominant voices thus potentially avoiding any withholding of opinions due to conflicting views with the wider group (Morgan, 1997). Finally, it should be noted that single session focus groups may present issues related to the limited time for participants to fully reflect on or articulate their views while also offering a limited ability to establish rapport between participants and between the group and facilitator (Barbour, 2007).

3.2.5. Data Analysis Procedures

Reflexive thematic analysis, as developed by Virginia Braun and Victoria Clarke, was used for data analysis (Braun & Clarke, 2012, 2019, 2024). I conducted the analysis (see section 1.4.2.), with the supervisory team acting as critical friends and deliberately positioned to challenge my interpretations during theme generation. The aforementioned six-phased approach outlined by Braun and Clarke was used fluidly and recursively. In the first phase I immersed myself in the data, by listening to audio recordings several times before transcribing them verbatim and assigning pseudonyms to all participants. Transcripts were then read and re-read to enhance familiarity and support early theme generation. This began prior to the completion of the data collection phase. In the second phase, initial coding took place after transcripts were grouped by participant group. NVivo 12 software (QSR International Pty Ltd., Doncaster, VIC, Australia) was used to manually structure and organise the data preserving my active, interpretive engagement. Coding was both semantic and latent, for example, a semantic code captured the observed increase in games-based activities and impact of GBA on coaching (e.g., there's definitely more games'), while a latent code reflected impacts on player experience (e.g., your son got the ball an awful lot, but how many boys didn't touch the ball?'). Following this first coding sweep, a second sweep was used across participant groups to consider individual focus groups perspectives against the whole dataset. Coding followed an inductive-

to-deductive approach, acknowledging that purely inductive analysis is not possible due to the role of my perspectival and theoretical priors involved in the interpretation of the data (Braun & Clarke, 2019). These priors were viewed as a resource, with my background and familiarity with team sport coaching and Gaelic games informing decisions about what data was meaningful enough to code and later how to refine codes (Braun & Clarke, 2012). In phase three, I grouped transcripts and explored patterns within and across stakeholder groups, collapsing related codes into potential themes. In the fourth phase, I reviewed and refined themes based on a sense of coherence and meaningfulness. This was an iterative process involving the constant re-shaping of themes to tell a coherent story about the data, in line with the aims of this thesis as outlined in Chapter 1. For example, a sub-theme labelled "the importance of observation" which explored coaches' perceptions of the importance of observation in GBA, was removed due to its limited relevance to the aims of this thesis. In the fifth step, themes were finalised and defined based on shared meaning. Theme names were refined to enhance clarity and conceptual depth. For example, the theme 'what is it and where is it coming from?' was renamed 'what is it and who says so' to better reflect the notion that GBA were being actively promoted to Gaelic games coaches. The final phase consisted of writing the report which was a recursive process woven throughout the entire analysis, with ongoing refinement of narrative and theme development embedded in the writing itself.

3.3. Analysis

The purpose of this study was to investigate how GBA are advocated for and used across different Gaelic games contexts. Three themes were generated; 'What is it and who says so?, 'impact on player development' and 'set it up and stand back' (see table 3.1). Each theme captures a dimension of how GBA is understood, implemented, and experienced across different stakeholder groups in the GAA. These themes and their respective sub-themes are presented in the following section and illustrated using exemplar quotations from participants.

Table 3.1. Thematic table

Theme	Sub theme	Raw data exemplar
What is it and who says so?	Just playing games	The majority of your training you were trying to get it as game tempo as possible and that most of the stuff you were doing in training was a games-based approach. You were using the full-size pitch, the width of the pitch, that would have been my games-based approach...but I couldn't even tell you what it means [PC14]
	Who says?	We held a provincial coaching conference last year. We had it around a games-based approach [NGBS3]
Impact on player development	Its changed how the games played	It's all about all about possession, it's all about working the ball into the scoring zone, not taking a shot unless you know that you've probably got an 80% probability of getting a score out of it. I would say that shift in both football and hurling is as a direct result of small sided games probably over the last five or 10 years [TDC12]
	Create thinking players	They can see the connection to what they're going to be asked to do on a Saturday morning when they're playing and when it's done right, they can learn, they can be better decision makers. [NGBS5]
Set it up and stand back	Game is the teacher	I think it's often nearly a safety thing for coaches. Fire them into a game, let them play and they don't coach. Which I think is a negative thing, because if they're going to use a GBA they need to be coaching within the game and if they're not, then there's no real development going on. Players are just going out and repeating errors or repeating poor practice and they're not getting anything from the coach [NGBS8]
	Copy and paste	Over-explanation by a coach is kind of a telltale sign that the coach clearly isn't comfortable with [the activity]. Unfortunately, they want to just get what they've seen on the screen and they kind of forget the structure of it or the purpose of it [PC2]

3.3.1. What is it and who says so?

This theme explored participants' conceptualisations of GBA and perceived origins. Participants held a variety of differing interpretations of GBA which are explored in the sub-

theme ‘just playing games’. Participants seemed to suggest that their understandings were socially conferred, something explored in the sub-theme ‘who says?’.

3.3.1.1. Just playing games

Effective application of an approach or method is based on an understanding of its principles (Collins et al., 2022). Although participants were familiar with the concept of GBA, and despite the extensive underpinning research (Light, 2012), interpretations of GBA varied widely both within and between focus groups. For some, GBA were presented to coaches, often during formal coach education, as a selection of fun games, that were non-sport-specific: ‘In entry level courses, it's coming across that GBA is “rob the nest”, “flush the toilet” these kinds of games, which are fine...for under seven, but, that's not what a GBA is to me’ [PC1]. This led to misconceptions about the purpose of GBA with one coach suggesting that GBA have been misinterpreted and presented in mediated coach education as a tool for engagement and fun rather than as a method to develop sport-specific understanding. These issues, especially the lack of conceptual clarity, became more pronounced at older participation ages, particularly the confusion between SSG (see glossary) and GBA:

> We did an awful lot of SSG…I found myself then at the end of the year kicking myself …everything was short, and everything's keep the ball... medium sized games and larger size games is something that shouldn't be ignored and I know we call it SSG but I think games-based is better. [TDC1]

Aside from any commentary on the transfer from practice to competition, many participants used the terms GBA and SSG interchangeably. Mirroring the lack of inherent pedagogical consideration associated with SSG (Rampinini et al., 2007), the coach in the quotation above, believed that using SSG without a pedagogical focus, had a detrimental impact. This coach initially interpreted GBA as merely playing games of varying pitch sizes, demonstrating a superficial interpretation of the approach. While pitch dimensions are a factor in GBA, the pedagogical underpinnings and principles underpinning implementation were absent from discussion. To be clear, while the use of SSG is not inherently problematic, the conflation of

SSG with GBA and the promotion of a naïve interpretation of GBA, contradicts the principles of GBA (Pill 2021).

This notion of GBA being devoid of pedagogical considerations was echoed by NGBS2 who stated: ‘players that are able to make the decisions at the right time, comfortable off both feet or either side, they're good under pressure. You'll get that regardless, probably no matter what sort of coaching going on’. This comment reflects a perspective that skill development would occur regardless of approach, intentionality or quality of coaching, so long as games were being played. This suggests a fundamental misconception about the coach’s role (O’Connor et al., 2020) and reflective of previous GBA misinterpretations (Harvey et al., 2015). In contrast, TDC3 offered a more nuanced interpretation by suggesting:

> If you see something wrong, that's when you freeze your game…and then you do a little bit of skill development work. Then you go back into your game. It's the ability of the coaches to do that and not just think that games-based, is just playing games and not doing any correction or feedback.

This excerpt highlights a more sophisticated and nuanced application of GBA, with consideration of some pedagogical underpinnings. However, it also seems to suggest that player-coach interactions should primarily be fault correction rather than using more generative strategies such as questioning (Harvey & Light, 2015). Some coaches expressed the view that players required training form activities (see glossary), exemplified as isolated skill development, in order to progress: ‘I wouldn't have went 100% games-based by any stretch. I would have went maybe 25% just pure skills-based’ [PC5]. This comment was almost considered dissident and deviating from what others would consider to be acceptable practice, highlighting a perceived pressure to confirm to interpretations of GBA that exclude isolated drills or training form practice entirely a conceptual dilemma associated with GBA (Cushion, 2013). This however contradicts some GBA literature, which point to the use of modification of activities or the inclusion of training form activities as appropriate through the use of a whole-part-whole method (Pill, 2018). This method focus on introducing the player to the full

complexity of the game before using modified or simplified tasks to focus attention on specific game aspects before returning to full complexity.

3.3.1.2. Who says?

Participants identified three primary sources promoting GBA, which can be understood through the lens of mediated and unmediated sources (Werthner & Trudel, 2006). The GAA itself was seen as a strong advocate for GBA, particularly through formal coach education pathways. TDC8, reflected on the impact and influence of coach education: 'GAA have changed their "foundation course" to "introduction to coaching Gaelic games"… it did speak about GBA so that the new coaches were aware'. This mandatory introductory step in formal coach education meant that all coaches were being introduced to the notion of GBA early in their coaching journey. Central promotion was also evident beyond introductory coach education, as noted by PC13: 'I did the Award one [education programme] and there was a big emphasis on GBA'.

Ongoing unmediated promotion came from professional GAA staff who were employed for the purpose of game development. These staff members were often perceived as strong advocates for GBA in their day-to-day interactions: 'it was being pushed by the game development officers, if they come out to your club, they were kind of advocating clubs to train in GBA rather than doing your old style, linear drills' [TDC11]. Notably, and whether it was intentional or not, this promotion of GBA by professional staff was noted to be in contrast to the use of task simplification or decomposition. This preference for GBA appeared to be subject to the same straw person critique identified in recent literature (R. Taylor et al., 2023) where alternative approaches were dismissed without due consideration. This perception of GAA staff as promotors was supported by reflections from NGBS: 'we have to advocate for it. It's what we would be pushing out all the time…anywhere we go' [NBGS7].

Beyond mediated channels, participants also highlighted the promotion of GBA by high profile coaches. For example: 'I think [prominent coach] has really brought it [GBA] into the discussion' [PC3]. This reflection illustrates how the influence of high profile coaches and how the practice of elite coaches can act of a role model at other levels of the game, leading to the adoption of methods like GBA without a clear understanding of the underpinning principles. This highlights the importance of encouraging coaches to evaluate evidence, think critically when presented with information, and consider its relevance and applicability to their own context (Stoszkowski et al., 2020). Interestingly, while some perceived high level coaches as being responsible for the introduced GBA to Gaelic games, long serving NGBS offered a different perspective: 'it was first introduced to the organisation 10 years ago, but it was GBA in and drills were gone and everything else was gone' [NGBS10]. This account suggesting a somewhat dogmatic introduction of GBA in the GAA that influenced its application and understanding, reflecting previous commentary on the comparative approach applied to GBA entailing a focus on 'which method is best' rather than an appreciation of the intentions of the coach or any contextual factors (Harvey et al., 2010).

Rather than criticism of any of these sources, I emphasise that coaches reflected on a somewhat confused landscape and it would seem that we turn to the problem of our age in considering the extent to which coaches can be equipped with the requisite knowledge and attitudes to make sense of novel information (Stoszkowski et al., 2020).

3.3.2. Impact on player development

Participants across all cohorts perceived that the promotion of GBA had a significant impact on player development. Two sub themes, 'it's changed how the game is played' and 'create thinking players' explore their perceptions of the impact on player development in terms of both technical and tactical changes, as well as fundamental changes in how the sports themselves are played.

3.3.2.1. Its changed how the game is played

Across all focus groups, there seemed to be a belief that the increasing use of game form practice had altered how Gaelic sports are played. For example, coaches noted that players in general have become more skilful: 'you've now got cornerbacks capable of taking scores where that wouldn't have always been the case. It's no coincidence… skills have improved that much because of SSG… we wouldn't have seen it in the past' [TDC5]. This coach suggesting that skill levels of all positions in contemporary Gaelic games are higher, something which historically was not the case. This contrasts with the literature, where support for skill development in GBAs is limited (see Kinnerk et al., 2018). Also of note here is the language used by this coach referring to SSG rather than GBA, supporting earlier findings on the misinterpretation of GBA and that in this case, coaches merely considered the use of GBA to be playing games (Kinnerk et al., 2018). Whilst this change was attributed to increasing use of game form practice, participants seemed to overlook broader developments across sports. As one example, the introduction of a modified competition for children promoting equitable playing time and playing multiple positions (Gavin et al., 2024).

Despite views that individual technical ability had positively changed in Gaelic games, this was not universally accepted. Other participants actually suggested that there had been a narrowing of skills: 'I wouldn't say they're less skilful, but they're not using the long kick as much… there's a lot of short play; build up, recycle the ball…it's a lot slower' [NGBS1]. While this commentary is not new, having been discussed ad nauseum in Irish national media outlets in recent years (RTE, 2024), it presents a novel explanation within the context of GBA. There was a suggestion that increased time spent in game form activities, might lead to players refining and transferring a narrower set of skills. This was associated with the common use of small pitch dimensions in practice, either due to activity designs not reflecting the full game or logistical constraints:

> We were playing in boxes in the middle of the field, and I was thinking: 'kick it in long'. Then I was kind of saying to myself, 'Well, why would they when we haven't done a whole lot a that?' (TDC16)

Some participants also highlighted how smaller pitch dimensions had an impact on the apparent emergence of this style of play, simultaneously perceived as more skilful, yet also more risk-averse:

> There's loads of middle third players, they can stick pass 30 yards, they can tackle, they can get on breaking ball, but like the flair player isn't really in the SSG where you're in a box and passing the ball around and getting turnovers. [TDC8]

Crucially though, these smaller pitch dimensions were not always by design but seen as a consequence of practical constraints such as growing participation numbers (GAA, 2017) and restricted access to full-sized pitches, particularly for those in densely populated areas, where a lack pitch space is common. This illustrates the dynamic context in which Gaelic games is currently positioned. As such, these discussions should clearly be considered in light of the limitations of the study itself. For example, at the time of data collection, the GAA was voting on changes to the rules to improve the spectacle Gaelic football. As such, potentially reflecting an attribution bias, ignoring the tactical evolution of Gaelic games over decades. Similarly, the explicit anchoring of participants on the impact of GBA may have influenced responses, shaping perceptions to fit with perceived researcher expectations.

3.3.2.2. Creating thinking players

The notion of transfer to performance is proposed to be a core benefit of GBA (Mitchell et al., 2020), with game form activities in practice seen as more effective for long term retention and learning when compared with training form activities (Williams & Hodges, 2005). This notion of transfer was captured by PC9:

> If you're doing a drill and you're trying to apply that to a game you're learning in one context you're trying to apply to a different context. I think when you're learning in a game you're learning in a context that's closer to a real match.

Additional time spent in game form practice was deemed to help game understanding. This was contrasted with previous generations who spent more time in training form activity:

> We have a group of girls… the vast majority of them think about the game…about where they're kicking the ball, about what they're doing with the ball. The game I played 30 years ago, it was very much a non-thinking game. [PC8]

This generational shift seemed to be attributed to GBA: 'you get to gauge for real deep understanding through a GBA, which you can't do in [training form activity]' [PC4]. This deeper understanding was often framed as players becoming more tactically aware: 'the GBA should make them more tactically astute'. [NGBS6]

Notably, however, coaches seemed to attribute these changes to game form practice, rather than the nuanced pedagogical application of the GBA (Bunker & Thorpe, 1982): 'I think players are making way better decisions and you know, the better decision is keeping possession, we're not going to play that 50/50 ball' [TDC7]. This improved understanding of the game was perceived to simply be a function of time spent in game form activities. Others understood this to be risk aversion:

> You're seeing an awful lot more hand passing (short passes) in both hurling and football compared to 10 years ago and that has to be as a result of SSG. By their very nature, will lead to shorter passing as opposed to a big long high ball that you might have seen 10/15 years ago. [TDC6]

In contrast, some participants argued that this change of style was attributed to tactical changes in Gaelic games as a whole: 'they're making good decisions within the confines of a system. I suppose it depends on the philosophy of the coach. So if he's very risk averse …"Don't give it away. Don't kick it." F*cking let them make the mistake' [NGBS10]. Despite some coaches' attributing these changes to GBA, it is difficult to disentangle the impact of the promotion of GBA from concurrent changes in how different Gaelic games sports are played and coached.

3.3.3. Set it up and stand back

Returning to the objectives of Chapter 3, as highlighted in Chapter 1, the widespread promotion of GBA in contemporary Gaelic games coaching was perceived to have impacted coaching attitudes, particularly in relation to the role of the coach. There were perceptions across focus groups that promoted forms of GBA implied that simply playing the game was in itself enough

to enhance competence. Two sub-themes ‘the game is the teacher’ and the dangers of a ‘copy and paste’ coaching approach captured concerns about the application of GBA, especially when implemented without critical understanding or pedagogical intention.

3.3.3.1. The game is the teacher?

Although contested in the literature (Nash & Taylor, 2021), the belief that simply playing the game will improve performance, without coaching input, has become a prominent feature of the lay coaching discourse. The same notion was evident across all focus groups, where participants seemed to believe that minimal intervention from coaches was better for players: ‘you're standing back and letting them come to the conclusion themselves… from being exposed to the game-based element’ (PC3). This view was shared by TDC9: ‘most learning occurs when they're left to themselves for a little while and they're trying to figure out the solutions themselves without you always telling them the answer’. Both of these accounts reflect common misinterpretations of GBA, with the assumption better learning results from individual discovery along with the aforementioned pedagogical dilemma of practice (Cushion, 2013).

Less experienced coaches were perceived in the focus groups as seeing the use of games as an overall solution to coaching, rather than a flexible approach to be tailored to specific contexts. This seems to indicate a shift in coaching attitudes when compared with previous literature (see Harvey et al., 2014). In this sense training form activity appears to have been replaced by game form activity as the predominant culturally preferred method. This shallow understanding and oversimplification of GBA has the potential to have a negative impact, particularly for less able players:

> The problem I might see in the club scenario, if you're playing GBA stuff, that's going to be one ball between 10 or 12 or 15 kids, depending on how you're setting up your game right, six aside or five aside, whatever it is. And the issue with that can be that the weaker kids won't get that much time on the ball to develop, right?... So GBA is great, but it might not be what you want. (TDC2)

The coaches noted concerns that inequitable use of GBA meant more advanced players might dominate practices, while less advanced players may lack the confidence or ability to apply their skills. In essence, providing inappropriate challenge for all players (Guadagnoli & Lee, 2004). Notably absent from these reflections were any references to scaling or simplification. That is the modification of activities through various means (e.g., numbers of players, rules of the game) to provide a more appropriate challenge, a common feature of GBA literature (e.g., 'exaggeration' in TGfU). In essence, the naïve application of GBA seems to be a prevalent issue where the design of game form activities is equated with a GBA, regardless of the inclusion pedagogical considerations. This bears resemblance to the previously made point in regards to the interchangeable use of SSG and GBA. This represents a clear misunderstanding of GBA and is especially pertinent in this context when considering the use of game form activities with inexperienced players who have yet to develop the skills of the game:

> If you haven't got the skill developed and you're going straight into games and they can't execute the skills… there's an assumption that certain skills are inherent and they mightn't be. So that can be a negative sometimes, you're neglecting the development of the skill. [NGBS12]

The effect of this deployment of game form activity, prior to appropriate skill acquisition, may lead to inefficient learning (Sweller, 1988) but also to reduced perceived competence, a predictor of opting out of sport (Crane & Temple, 2015).

3.3.3.2. Copy and paste

Each of the participant groups highlighted a number of concerns based on the current understandings of GBA. More experienced coaches held the view that some coaches implemented GBA incoherently:

> If they're going home from work, rushing up to training, they're just doing it for the kids' benefit. They may have done courses in the club and you know "these are the five six games we'll do". They're doing it maybe by default, without realising they're doing it, but maybe not expanding on it. [TDC2]

The implication being that without the appropriate declarative knowledge, novice coaches may just reproduce the games acquired from mediated learning situations as opposed to basing

design on player needs. This account pointing to a tension in participation sport that is the reliance on novice volunteer coaches. Furthermore, other participants suggested that less experienced coaches picked up ideas from unmediated sources such as social media and simply incorporated into their own practice, unaware of the original intentions and context (Stoszkowski & Collins, 2016). For example: 'because of the conversation about games-based coaching and the exposure on social media we cannot get lost in it that we're not copying our games from other people, they have to be principle based' [TDC4]. This is reflective of social media outlets being a prominent source of knowledge amongst coaches (Stoszkowski et al., 2020). Moreover, it also points to how more experienced coaches emphasised the importance of using principles and specific intentions to guide practice design. This was mirrored by some PC: 'it's easy to train a team. You could turn up and train a team, but are you coaching?' [PC9]. This important distinction between games for development and letting the game be the teacher was deemed particularly important for coaches in participatory club environments (Gavin et al., 2024):

> Unless you have a really good understanding and you can observe and identify this player is struggling here, it's not that you need to pull them out, it's not like that at all, but you need to be creative in your GBA that every player has been developed and not just the stronger players are getting stronger. [NGBS6]

Some of the participants perceived the consequences of 'copy and paste' coaching to have significant consequences:

> It's quite dangerous. Stuff that I do in the club… I see (other coaches) doing it and he's doing that but he doesn't know why he's doing it. Is he mastering the drill? The skill is in knowing what you're doing and how to advance it and why you're doing it. [TDC10]

Here, the perception was that the copy and paste mentality was detrimental to development across the club. The issue being that coaches focus on the procedure of an activity, successfully implementing something they have seen elsewhere, but without understanding why they are using it.

3.4. Discussion

In relation to the objectives outlined in Chapter 1, this study explored the perceptions and experiences of parent coaches, talent development coaches, and NGB staff within Gaelic games regarding the impact of the promotion of GBA on player development and coaching attitudes. Aligned to previous findings, participants held misconceptions of GBA (Reid & Harvey, 2014), such as the interchangeable use of SSG and GBA, despite fundamental conceptual differences, and the belief that GBA excludes using training form activity. This supports previous findings with Gaelic games coaches and their awareness of GBA pedagogy (Gavin et al., 2025). Participants also reflected the constructivist shift in sport coaching discourse that downgrades the role of the coach (Cope & Cushion, 2020). In some cases, this translated to a belief that the coach had little more to do than set up the game and step back (Nash & Taylor, 2021).

The promotion of GBA was perceived to emanate from multiple information sources, both mediated coach education content from the GAA and from unmediated sources including social media and the influence of prominent coaches and answers the research question concerned with how GBA is advocated for in Gaelic games contexts. Rather than a critique of any of these sources, the findings point to a broader issue in that a somewhat confused and fragmented landscape exists. This highlights a key challenge; how can coaches be equipped with the requisite knowledge, pedagogical literacy, and attitudes to meaningfully interpret and apply emerging ideas in practice (Stoszkowski et al., 2020).

While unmediated learning is often the preferred source of learning for coaches (Stoszkowski & Collins, 2016), it may not always be the most beneficial and these results suggest that it has led to a culture of copy and paste coaching in Gaelic games. The results suggest that a lack of declarative understanding led to a superficial application of GBA, often reducing it to ‘playing games’. This oversimplification was perceived to lead to inequitable

learning experiences where more advanced players benefit the most while less advanced players may lack the confidence or ability to apply their skills in a game.

Participants also perceived that the popularity of GBA had changed how Gaelic games are played with views that the promotion of GBA had led to players having a deeper understanding of games and enhanced skillsets. On the other hand, some participants also noted that GBA led to players being more risk averse and favouring short, safer passing rather than the longer, more direct passing prominent in previous generations. Yet, these discussions should clearly be considered in light of the limitations of the study itself. For example, at the time of data collection, the GAA was voting on changes to the rules to improve the spectacle Gaelic football. This introduces the possibility of an attribution bias where participants attributed changes to GBA without fully acknowledging the other contributing factors. Similarly, the explicit anchoring of participants on the impact of GBA may have influenced responses, shaping perceptions to fit with perceived researcher expectations.

While participants reflected on both adaptive and maladaptive impacts of GBA on player development and coaching, it was notable that nobody questioned its suitability across all coaching contexts. In this sense GBA seems to be seen as a solution to coaching rather than one of many pedagogical approaches (see glossary) available to coaches. This uncritical acceptance runs counter to, for example, educational literature, that cautions against relying on a single method as universally effective (Rink, 2001). Against the pragmatic underpinnings of this thesis, these findings suggest a need for NGBs to reflect on their role in promoting pedagogical approaches. Rather than advocating a single method, such as GBA, it may be more appropriate to support coaches in developing the capacity to critically evaluate and apply a range of approaches based on participant needs and coaching context. Finally, in light of these findings it is worth considering how the use of game form activities varies across other team

sporting domains and if the copy and paste nature of coaching described in this study is replicated in higher levels of coaches.

3.5. Conclusion

In this study I explored the perceptions and experiences of parent coaches, talent development coaches and NGBs in Gaelic games in relation to the long term impact of the promotion of GBA on player development and coaching attitudes. Through participant reflections, this work has highlighted some misunderstandings of GBA and its impact in Gaelic games contexts. Aligned to previous findings, participants held misconceptions of GBA (Reid and Harvey 2014), such as the interchangeable use of SSG and GBA, despite fundamental conceptual differences, and the belief that GBA prohibit using training form activity. Participants also reflected the shift towards constructivist-informed approaches, which seem to diminish the coach's contribution (Cope & Cushion, 2020). In some cases believing that the coach had little more to do than set up the game and observe (Nash & Taylor 2021). Clearly this presents a misalignment with GBA literature and one which potentially maladaptively impacts player development. Given the unique nature of Gaelic games, we suggest a need for the reader to consider the transferability of these findings across contexts (Burchett et al., 2013). Finally, a notable limitation is the absence of direct observation of coaching practice. Thus, relying on exclusively on the self-report makes it difficult to assess how coaches perspectives align with their actual coaching practice. As such future research incorporating observation of coaching practice may be warranted to further understand the impact of GBA in Gaelic games.

Chapter 4: Understanding the pedagogic underpinning and knowledge sources of game form coaching in high level team sport coaches

4.1. Introduction

As highlighted in Chapter 2, practice activities have previously been categorised as either training form or game form (see glossary). This has led to a number of false dichotomies; for example, the need to abandon 'traditional' methods in favour of those considered 'contemporary'. These dichotomies have tended to focus on dimensions of both a coach's practice (i.e., their use of coaching styles) and their learning design (Cushion et al., 2006) and have been critiqued from a variety of positions (e.g., Cope & Cushion, 2020; R. Taylor et al., 2023; Herrebrøden et al., 2024), with the suggestion that there is "no single theory of learning that explains learning or the lack of it in all situations, and therefore, there can be no single approach to instruction" (Rink, 2001, p.123). This is supported by recent work by Ranganathan and Driska (2023) who suggest that based on the current body of empirical work, choosing a single theory of skill acquisition may be detrimental; however, within the right context, activities that may seem suboptimal at one level (e.g. blocked practice which is often critiqued as lacking context for the learner) may be preferred at a different level of analysis (e.g., blocked practice allows the coach to view multiple players simultaneously). Although Button et al (2020) propose that coaches should be guided by a single theoretical framework, others suggest how a multi-theoretical perspective and greater conditional knowledge can support coach decision making (J. Taylor et al., 2023). Conditional knowledge being an understanding of when and why different knowledge forms are useful (Schunk, 2012), which in turn, proffers that some methods may work better than others in some conditions (Collins et al., 2022; Mosston & Ashworth, 2002; Pill et al., 2021; SueSee et al., 2021). Despite this emphasis on knowledge bases, coach education approaches have often fallen foul of oversimplification in

an attempt to impact coach learners (Cushion et al., 2022; Stodter & Cushion, 2014). This leaves the coaching world with challenging questions, regarding both the extent to which coaching research reflects practice and how coaches use theory. As regards the latter, several studies have found a misalignment between some coaches' intentions for practice, awareness of methods used, and what they did during practice (Ashford et al., 2022; Hewitt, 2015). A particular issue reflective of concerns about how to impact coaching practice has been naïve interpretations of the games-based and game form literature. This was evidenced in the investigation of the impact of GBA (see glossary) on player development and coaching attitudes reported in Chapter 3. These findings indicate a significant lack of coherence regarding the definition and conceptual understanding of what a GBA actually entails. Additionally, there appeared to be a disparity evident between the use of GBA between parent coaches and talent development coaches, the latter typically representing more informed and experienced coaches. This inconsistency suggests that more robust mediated coach education is required to bridge the gap between the literature and naïve interpretations. In practice, one result of these naïve interpretations of GBA has been the devaluation of the role of the coach and the proliferation of memes such as 'game is the teacher' and 'just let them play' (Nash & Taylor, 2021). A consequence of this apparent oversimplification has been the sub-optimal interpretation of the nuances involved in the planning, design, and application of games in training and a 'hands-off' approaches that is seen as being beneficial for players and adopted by some coaches (Cope & Cushion, 2020). Further, this had led to "copy and paste" coaching (see Chapter 3). This, despite multi-theoretical agreement that the coach should play a highly active role in shaping the learning experience of the player (Cope & Cushion, 2020; Chow et al., 2023).

Thus, to better inform coach development and practice, and to answer the aims of this research as outlined in Chapter 1, there is a need to know more about the knowledge that

coaches use and the pedagogic underpinning of that knowledge (Stoszkowski & Collins, 2016). Addressing a call for further investigations into the use of game form practice by high level coaches (Kinnerk et al., 2018), there is an opportunity to move beyond procedural understanding what coaches did and instead seeking to understand *why* they did what they did (Crandall et al., 2006). In this sense, I wanted to explore the use of game form activities with a high level cohort of coaches, in part to investigate if this higher level of coach would display similar 'copy and paste' tendencies that were identified by some coaches in Chapter 3. In addition, I was interested in examining the extent to which the hands-off approach discussed by participants in Chapter 3, manifested as letting 'the game be the teacher', was a broader trend observable across sports beyond Gaelic games (see glossary), or if this particular finding was more culturally embedded in the context of Gaelic games coaching. In essence, to better understand how coaches utilise game form activity, this study had two specific research aims. Firstly, to explore the underpinning pedagogic knowledge of coaches games-based practice and secondly, to examine the sources coaches used to acquire this knowledge. Both of these aims forming part of the overarching aim of this thesis, to explore how coaching practices can influence the player experience.

4.2. Methodology

4.2.1. Research approach

The design of this study was aligned with the pragmatic research philosophy as outlined in Chapter 1. Thus, with this pragmatic approach and epistemological positioning, and given the need for a deep interpretative investigation, the application of qualitative methods to generate in-depth, rich descriptions of participants' professional practice was deemed most suitable for this study (Patton, 2002). While there are advantages and disadvantages associated with all modes and forms of interviewing, I chose to conduct individual, semi-structured interviews

(Markula & Silk, 2011) as they were most likely to produce nuanced, contextualized and specific knowledge.

4.2.2. Participants

Following ethical clearance from the DCU ethics committee (REC/2022/057) (see Appendix M), and based on the need to include coaches in this sample who would be able to provide informed accounts of their coaching process, the sampling criteria (see section 1.4.2.) was designed to ensure that coaches could be justifiably considered to hold a level of expertise. Each participant provided written consent prior to any interviews (see Appendix E). As interviews progressed, sampling was also guided by the notion of information power with the recruitment of additional participants ceasing when I was satisfied that the contribution of new knowledge in the analysis had ceased (Malterud et al., 2016). This led to a total of N=17 team sport coaches being recruited as participants. These coaches had an average age of 41 (SD = 5.9), included 13 male coaches and 4 female coaches and represented a total of 5 sports: Gaelic football (n = 2), Hurling (n = 2), Soccer (n = 4), Rugby Union (n = 3), Hockey (n = 3), Netball (n=3). To illustrate the relative 'eliteness' of players being coached (McAuley et al., 2022), Swann and colleagues' descriptors (2015) were used to demonstrate their player's standard of performance (see table 4.1.).

Table 4.1. Participants

	Sport coached	**Sex of the coach**	**Level of player coached (based on Swann et al., (2016)**	**Years of experience**
Coach 1	Hockey (M)	Male	International Olympic level	26
Coach 2	Soccer (M)	Male	Top tier professional league	24
Coach 3	Netball (F)	Female	International level	20

Coach 4	Gaelic Football (M)	Male	Top tier league[1]	20
Coach 5	Soccer (M)	Female	Talent Development	18
Coach 6	Rugby Union (M)	Male	Top tier professional league	20
Coach 7	Gaelic Football (M)	Male	Top tier league	31
Coach 8	Hockey (F)	Male	International Olympic level	11
Coach 9	Soccer (M)	Male	Talent Development	14
Coach 10	Netball (F)	Female	International level	10
Coach 11	Hockey (M)	Male	High performance	21
Coach 12	Soccer (M)	Male	Talent Development	16
Coach 13	Hurling (M)	Male	Top tier league	17
Coach 14	Rugby Union (M)	Male	Top tier professional league	10
Coach 15	Netball (F)	Female	International level	11
Coach 16	Rugby Union (M)	Male	Talent Development	14
Coach 17	Hurling (M)	Male	Top tier league	16

4.2.3. Data generation

Pilot interviews were undertaken with two coaches in order to prepare for the challenges likely to be faced in the substantive study (Malmqvist et al., 2019). The pilot interviews were conducted with two high level coaches who met all inclusion criteria with the exception of 10

[1] Note that there are no professional leagues in Gaelic football or Hurling, however these coaches were involved in the highest levels of performance in the sport and consequently are categorised as 'top tier league'

years' experience. Following the pilot interviews and reflecting on my approach, questions were refined so that coaches could comment on their general use of games and provide specific examples. Initial contact was then made with the participants. This was followed up with a phone call to discuss the nature and purpose of the study and confirm the participant's perception that their mediated coach education journey had emphasised the use of game form training.

I conducted interviews with each coach individually, allowing them to relate their own experiences in a free and open manner. The semi-structured interviews consisted of questioning around the coaches' use of game form training, their underpinning pedagogic reasoning and where they perceived this knowledge to have been acquired. The interview guide included a series of open-ended questions and probes to clarify, expand, and deepen the coaches' responses and, thereby increase the richness of their responses (see Appendix F) (Arksey & Knight, 1999). This approach allowed me to gain an in-depth exploration of each participant's story, rather than a systematically structured account (Turner, 2014) and facilitated an appropriate balance between (a) allowing participants to share their experiences in a way that best reflected their reality and (b) achieving a necessary degree of focus and consistency across the entire interview set. The interviews were conducted using Zoom (Zoom Video Communications, San Jose, California, USA) and were transcribed verbatim, with interviews ranging in duration from 58-94 minutes (Mduration = 76 minutes).

Once interviews had been transcribed, data was analysed using Braun and Clarke's six-phased approach to RTA reflecting the approach detailed in Chapter 1 (Braun & Clarke, 2019, 2021). To facilitate deep immersion in the data, each transcript was re-read several times. At this point pseudonyms were assigned to de-identify each participant. In the second phase, both semantic and latent codes were generated through multiple sweeps of analysis. Semantic coding being driven by coaches' explicit reference to pedagogic theory, for example: "the

forgetting curve" (C1). Latent coding being the categorisation of implicit meaning behind text, for example "he's had too much information. He's now overloaded" (C2). Qualitative analysis software (QSR NVIVO-12) was used to assist in the structuring, organizing and analysis of raw data into their thematic hierarchies. Initial themes were generated from the codes as the third phase of analysis (Braun & Clarke, 2019). At the fourth step, these initial themes were reviewed and refined before the fifth stage which involved defining and naming themes based on shared meaning with my supervisors challenging theme generation. For example, an initial theme developed in step three was 'the how and when of feedback' which explored how coaches deliver feedback during practice. This was refined in step four and was renamed 'coaching styles' to better reflect the idea that coaches did not utilise one singular method of feedback but rather used a variety dependant on the context. The sixth and final phase consisted of writing the report.

As outlined in Chapter 1, the in-between positionality captured by Dwyer and Buckle's (2009) concept of the "space between," which challenges the simplistic binary of insider versus outsider in qualitative research, was once again relevant here. While I was broadly familiar with coaching practices, several of the sports were outside my direct experience. Additionally, challenges were presented by the fact that I have not coached at the same competitive level as many of the participants which led to some unfamiliarity in the examples shared by participants, despite my research and coaching backgrounds.

4.2.4. Reflexivity

In addition to the series of procedure highlighted in Chapter 1 (section 1.4.3.), member reflections were solicited by email after each stage (Smith & McGannon, 2018). A total of 11 coaches responded to the member reflections. Some participants simply acknowledged the themes presented while others discussed theme generation offering further reflections. These discussions were then integrated into the main body of analysis and labelled as such. Given the

interpretive and reflexive nature of RTA, analysis was conducted by myself with my supervisors acting as critical friends to audit the analytical process by sense-checking and exploring alternative interpretations (Faulkner & Sparkes, 1999). For example, my unfamiliarity with some of the context explored led to a superficial understanding of some of the participant reflections. This was particularly pertinent to any of the reflections from rugby coaches, given my lack of understanding of that particular sport. Following some critical conversation with one of the supervisory team who is more familiar with high level rugby, I was then able to analyse the data in a somewhat more sophisticated manner with the added context provided by my supervisor.

4.3. Analysis

The specific aims of this study were firstly, to explore the underpinning pedagogic knowledge of coaches games-based practice and secondly, to examine the sources coaches used to acquire this knowledge. Three themes were generated against the types of pedagogic knowledge used by coaches (learning design, coaching styles and desired player experience). Coaches also reflected on a range of different knowledge sources as being influential on their practice which also generated three themes (unmediated, internal and mediated). These themes and sub-themes are presented in table 4.2. and in detail in the next section with exemplar quotations.

Table 4.2. Thematic table

Broad theme	Theme	Sub-Theme	Raw data exemplar
Theories informing practice	Learning Design	Constrain to afford	Yeah, so we would use constraints where necessary…for example, I wouldn't say "you can't play backwards", because I think sometimes that takes the realism out of the game, it forces unnatural habits…. We might put constraints or restrictions, we might put rewards on that as well. So every time I receive and play forwards, I'll get a point whatever it might be. (C12)

		Perception-Action Coupling	If you define skill as both the binding of perception with action, so what you're perceiving and your ability to execute on what you're perceiving with action and for me, then the principle of specificity, so it's got to replicate the demands of the game. (C5)
		Fidelity and representative design	For me the best design of sessions are if your session can coach any topic or any player any particular skill (A) it's realistic to the game (B) it's got context and (C) it's challenging. So that's how I kind of judge success of a game as well is actually Can you and could you coach anything within that as well? If you can't, it might not be realistic. (C12)
		Layering of complexity	I'll try and connect the warm up with the fact that we're wanting everybody to defend. So like, the warm up game would generally be something to do with having to turn the ball over and score from it and in the session, as well, the technical skill part of the session will also be to do with their body position and that's where it'll be broken down a little bit, probably a little bit less games, but then the games probably would be reintroduced once we've gone through some of the technical skill. (C17)
	Coaching Styles	Appropriate feedback	I try not to do that (pull players out for feedback) because they want to play football and if you pull a player out of a game, I mean… I don't do a lot, I'll only do that if I feel it's burning, like I really need to tell you something, because you're not understanding it. Like, if I've tried to call it out a couple of times, like as they're playing, but you know, this needs to be addressed now. (C1)
		Questioning	You can't become a problem solver by just being told what to do all the time, so I'd ask a couple of questions. If we're not getting there well then I probably haven't asked the right questions. (C7)
		Explicit Instruction	Like we're going to be on the pitch for 77 minutes, they're going to do 41 minutes of work. So stopping a session or even in the break, to ask a question and develop an open conversation that like is just, it's just not happening. Those conversations need to happen before the session or after the session or in a meeting or at lunch when you're chatting or whatever. So a lot of the time it will be an instruction. (C6)
	Desired player experience	Shared mental models	At least feeling a bit more confident about what's the idea of these kinds of let me say "connected play"? How can we attack together? How can we defend together? How can we manage certain situations within these games, so that they are more, they are not always on one page but that their expectations and awareness become more aligned. (C11)

		Cognitive load	If you're just going into the gym to strength test, just literally turn up and zombie your way through it and just push out as big numbers as you can. And there's, there's no cognitive load with that. So actually, you know, is this a week where we can get them thinking lots on court, because we're going to be working physically hard in the gym. And so, the cognitive load can be high on court, but we don't need it to be super intense and always on the go. Or is it a week where we just want to, you know, you know, deload them cognitively or whatever. But trying to really think about that a little bit more, because I think previously we didn't so much. (C16)
		Challenge point	I think errors are crucial. Like, if errors aren't happening and an exercise is working too well in training then the exercise isn't appropriate for the group, it's too easy… I think errors have to be happening because they're just so valuable. (C15)
Knowledge sources	Unmediated sources	Observing other coaches	I spent a lot of time observing really, coaching schools' day to day where I'd coach but then I'll be as an observer on the academy and watching what the kids responded really well to and what the kids do. [C2]
		Social media	I'm always looking at, yes, I'm always looking online. For other sports from warm up drills to skills drills, that kind of stuff. Little snippets. [Sport] for [skill], anything that can give me an edge, I'll always chase down and I'm always seeking to learn. (C4)
	Internal sources	Reflection on personal practice	I remember my first coaching job at (Football club's) community department doing after-school clubs. Before I did an after-school club, they put me in a camp and I'd never worked with kids before and I've never coached. And then I had to. So basically my first experience of coaching was taking 15 kids on holiday camp for like five hours a day. So I was just like, "Oh, my God, what the hell do I do with these children?" And I remember learning in like, day one, that kids love games. So… all I was thinking, how am I going to entertain these kids, I used to come up with these games. (C1)
	Mediated sources	Mediated coach education programmes	It has but probably not in a traditional sense, you know? … The B license and the A license generally pushed phases of play... I suppose the game to a degree, but in a very directive and specific manner, it wasn't free play in the games that we're kind of discussing at the minute or it wasn't the sort of ebb and flow if you want, it was probably more directive to "you are trying to get this outcome explicitly". (C9)

		Academic qualification	I've done my masters in sports psychology that's helped with my coaching and my coach education, having that kind of background too. (C13)
		Mentoring	It came from a conversation with (coach) and so myself and (coach) would have phone conversations that would go on forever and stuff like that and he just started talking about you know using different balls and then throughout the course of the conversation anyway we came up with the idea… then you just start building on it, you start trying that and see how it goes. (C7)
		Coach Developer influence	I invited him to come in and observe some of our sessions way back in 2007 and he just observed some of our sessions, and just sort of asked a few questions about, you know, how valid is your environment? And by that he meant, you know, is what the players seeing, feeling, perceiving (is it) replicating (the game)? Ever since then, I've had a massive curiosity. (C5)

4.3.1. Theories Informing Practice

In investigating the underpinning knowledge of coaches game form pedagogy, as stated in Chapter 1, thematic labels were generated through a mixture of espoused theories, those that were specifically referenced by the coaches, and those that were actively generated through the process of interpretive analysis. In some ways this helped to understand the relationship between espoused theories and theories in use, although in the absence of observations of this cohort, this understanding remains limited. A wide variety of disciplines were used to inform coaches' practice ranging from educational psychology to motor learning. Coaches also demonstrated significant differences in theoretical underpinning with no coach in the sample holding a single theoretical position (R. Taylor et al., 2023).

4.3.1.1. Learning Design

This theme represents a range of theories that coaches used to inform activity design. A common tool was the manipulation of the conditions of games, or the use of constraints to adaptive player outcomes. Rather than being used as an entire approach to practice, constraints were used as a means of shaping the players' opportunities for action, akin to the notion of

constrain to afford (Renshaw et al., 2019). As an example, one coach outlines how constraints were used to generate affordances specifically for an individual player:

> I do a certain type of game, because one player needs to work on his awareness and receiving skills. So my game might be constrained so that they have to play through a midfield area where he is. [C4]

Constraints were also used as a medium of presenting affordances for groups:

> We did a lot of work on lateral movement… I designed a couple of games… the grid was very wide and in terms of depth, very narrow. The only way they could move to receive the ball was laterally, they had no space to move forward to receive the ball, which meant you have to create space by moving lateral. [C7]

Key to a CLA is the mutual relationship that emerges from interactions of each individual and the performance environment (Renshaw et al., 2016). In some cases, coaches seemed to use constraints in terms of reinforcement of learning in a behaviourist sense where the learner is characterised as being reactive to the conditions in the environment rather than taking an active role in exploring the environment (Ertmer & Newby, 2008). In other cases, coaches used constraints in a manner procedurally akin to the changing of conditions in practice (Wade, 1967):

> We had a constraint around if you could kick and pin the opposition and put it in their third of the pitch, that was your score as if you've scored a try. So that was a constraint, you didn't have to kick but if you did kick well and chased well, you would be rewarded for it. In-season our games would often try and link to something tactical that we're maybe going after that week. [C11]

The actions of this coach highlighted above could be interpreted with a variety of theoretical lenses, constraints were used to present players with opportunities for action that were closely linked to a specific game plan that players had generated a shared understanding of prior to practice. This finding may be a result of practitioners lacking understanding of the CLA (Renshaw et al., 2016), or as appeared to be the case for others, it was the blending of theoretical stances with affordances being seen under a theoretically, but perhaps not practically different lens (cf. Friston, 2022). This is supported by recent work done with swimming coaches which

established that coaches use variations of a CLA while possibly lacking an appropriate theoretical understanding of such an approach (Brackley et al., 2020).

Participants also discussed the use of learning design geared towards the provision of *perception-action coupling.* Using an Ecological Dynamics lens, the coupling of perception and action is used as a means through which players engage in skilful behaviour as a result of the properties of the player(s)-environment relationship (Tribolet et al., 2022). Here a coach describes how Ecological Dynamics informed their view of skill:

> I would quite often describe the difference between pushing a ball to a teammate is just an action of pushing the ball, that isn't practicing passing. As soon as you have an opponent and you've seen you've got limited space, and you understand whether the ball can get there or not, and then whether you can use it that now becomes a pass because there's a decision to be made about how, when, how fast, the angle you use. [C1]

Yet, the perceived outcome of the coupling of perception and action was a change in player understanding. A mixed theoretical view that appeared to characterise the work of coaches. This blending of theories was exemplified by C1 who simultaneously uses elements of an ecological dynamics approach in the form of perception-action coupling, alongside cognitive psychology with explicit references to frequency of recall and the forgetting curve: 'I felt very strongly around perception-action coupling and ensuring that you've got the right context in front of you. So, really using that theory, then using sort of theories of learning, so you know, frequency of recall and the forgetting curve'.

A central feature of a variety of motor learning literature is the importance of realistic practice to support transfer of learning (Tribolet et al., 2022). This theory suggests that practice environments should adequately replicate the performance environment to ensure the same degree of functionality exists between both domains (Gorman & Maloney, 2016; Pinder et al., 2011). This mirrors decades worth of recommendations in coaching pedagogy, with the suggestion that greater 'realism' of practice will support transfer (Worthington, 1974). Whilst conceptually different from an ecological dynamics perspective recent work indicates that

coaches believe practice should be representative (Brackley et al., 2020). Yet in practice, achieving consistently high levels of realism was a prominent challenge for coaches:

> Ideally, it's as close to the game as possible. It looks as close to the game as possible, it feels as close to the game... How can you get the game looking like the game and feeling like the game without the contact level being up to game standard? That's a challenge. [C11]

Indeed a number of coaches described the barriers to achieving fidelity in practice. Here a participant outlined barriers to true fidelity in training sessions:

> Because of knowing each other so well…everybody knows what the other one won't do, will do and is capable of doing…we cannot copy the way of behaving from umpires and opponents and pressured situation with having these consequences in mind about the results. We try to be as realistic as possible… then if you're always training with the same players, I know that this guy has a big reach, and I know I have to do this and I'm used to this. But if I'm playing someone who I haven't played against, and he's a tall guy, I'm assuming he's capable of doing this and that, but I might be surprised if he is fast, far more speedy, far more skilful or whatever. [C9]

The provision and extent of practice fidelity was informed by coaches using an approach best understood as the *layering of complexity*; how coaches planned and sequenced learning design over time, or over the course of a session. In the latter case, participants discussed the use of different sequencing of whole-part activities where part practice refers to breaking a practice activity into smaller, more manageable units and whole practice involves practicing an activity in its entirety (Fontana et al., 2009; Merriënboer & Kirschner, 2017):

> I'm gonna do a drill, based on a receiving skill and then I put that into an opposed setting to challenge the execution of that skill. So giving the player tools and a toolbox, and then within that competition of me against you, that then challenges my decision making skills to pick the right skill from my toolbox, depending on the context. [C4]

Yet, it was also apparent that regardless of the perceptual-cognitive complexity presented to players, that coaches were informed by the need to ensure that skills acquired in training are similar to those in performance, or the notion of action fidelity as originally suggested by Riccio (1995) and developed by Stoffregen et al. (2003). Coaches also used different sequences of whole-part activity to layer desired complexity. Here a participant reflects on the failure to appropriately layer complexity:

> The disadvantage is the game becomes the game… that might sound ridiculous because we are playing the game, so we should be teaching the game but I think if you are just playing the game, and there's no kind of idea behind it and you just keep doing that, can people lose clarity of direction? I was always for game based practice, themed game practice, teaching the game in that way. That was my bias. I would never use drills. As I've got a little bit older, I've started to use drills, but I'll only use them with multiple outcomes. I wouldn't put generic practice on because it's passing and receiving and I want to get loads of passing and receiving out. I want to get repetition of pass and receiving here…What are my tactical outcomes? Can I use eight minutes of drill based practice to get repetition to get a base layer understanding, to then evolve it into the themed game where you get three outcomes, but you also might find another outcome, your kids might discover something different. [C2]

This coach implying that the inadequate layering of complexity may lead to the idea that 'the game is the teacher' with coaches using game form activities, with little underpinning reasoning, as discussed in Chapter 3.

4.3.1.2. Coaching Styles

Additional to coaches' manipulating learning design, they also reflected on their coaching styles and the deliberate intent behind their approach (Pill et al, 2021). Finding an appropriate balance between coaching input and time on task created a tension between the need to create game-like conditions and *appropriate feedback*: 'I think you lose a lot of opportunities to teach and coach because it's become more, let the game flow. Let the game be the teacher kind of attitude' [C4]. As a result of the need to balance coaching input and time on task, coaches reflected on the need for a bandwidth of feedback (Patterson & Lee, 2013) to ensure that neither the game became the teacher, nor did they overwhelm players with a large volume of interventions:

> We don't want to overload them… what are the key take-homes I want to get out of this session and make sure then that I'm not throwing too much at them. So I think two key outcomes coming out of a session is plenty. I would never go for more. [C5]

Theoretically, ensuring that players engage in problem solving processes themselves, rather than becoming reliant on coaching input is a key concern in the literature. In addition to knowing when to give feedback, the type of feedback used by a coach is a core feature of support required by players (Mason et al., 2020). Much of the GBA literature promotes

questioning as a vital mechanism in player learning (Forrest, 2013; Light & Harvey, 2017). This participant reflected on their use of questioning to better understand decisions made by players, to inform their coaching approach:

> That player just thought he saw something and the question for me 'What did you see?' I think it's just as powerful as me telling him what I saw because I know now I need to change something around his kind of perception around what he's looking for and knowing where to look and how to look. [C6]

Despite questioning being an integral part of the implementation of a GBA (Harvey & Light, 2015), coaches frequently deployed the use of e*xplicit instruction* in conjunction with their use of games. Here a coach reflects on the use of explicit instruction to ensure clarity:

> In an actual session direct instruction I think is really helpful. Personally, for myself, and our group, I feel like it helps. We need to be clear what we want from them… we have to sometimes just tell them what we're trying to do. [C10]

Interestingly, the criteria for selection of explicit instruction or questioning by coaches seemed to be individualised with some using explicit instruction due to procedural concerns, such as time limitations on pitch with their players. Others reflecting on the needs of the player, described how the level of player affects coaching style:

> I'm definitely trying to ask better questions, as opposed to give more (direct) feedback because (current team) have high game IQ. They understand the game a lot, whereas my time with (previous team) it was a very novice team so I gave a lot of (direct) feedback... Now I'm trying to ask more questions or ask better questions because of the group I'm working with. They're at a level where their understanding of the game is quite high… they've also played to a higher level so they just have that experience. [C7]

This approach to the provision of feedback is supported by the work of Kirschner et al. (2006) who note that minimally guided instruction is likely to be ineffective when dealing with novice or intermediate learners.

4.3.1.3. Desired Player Experience

The final overarching theme, desired player experience, related to the theories that the coaches used as a means of underpinning their pedagogic choices and how these theories impacted the desired learning experience of the player. One of these approaches was the leveraging of game form training to enhance shared knowledge and *shared mental models* (SMMs) to enhance

coordinated behaviour (Richards et al., 2017, Ashford et al., 2023). SMMs have been defined as the 'knowledge structure(s) held by each member of a team that enables them to form accurate explanations and expectations… coordinate their actions and adapt their behaviour to demands of the task and other team members' (Cannon-Bowers et al., 1993, p.228). For example a participant explains how game form training was integrated with off-field learning design, to facilitate a shared understanding:

> We wanted to design a game that would help them make good decisions and be able to execute effective kicks… help them work on their kick strategy. So that started with… looking at clips with them around situations and games and how might you create a kick here? You know, what sort of kick might you use?...Video review with them and then go into our (training) game. [C11]

Game form practice was used to develop SMMs; for example, games were used with players to provide opportunities to play in different positions with the aim being to better effect a shared understanding:

> We'll allow everybody a go at it. So when we're doing the build-up stuff…, he's in that position (atypical team role) for a little period of time to get an understanding of what we're doing as a team. So all the players within that game design, were able to get some kind of exposure to things that they will work on regularly, things that they won't work on that regularly. But everybody's got a shared understanding. [C13]

A key concern for many participants was managing *cognitive load* in training sessions (Sweller, 1988) as game form practice could lead to high extrinsic load that could impact learning. This meant that coaches were concerned with how their learning design and coaching approach might add to extrinsic load:

> If I can see that they don't understand the game…it's too complicated, then for me, that's a worry because I've overcomplicated the game design, they're too worried about understanding how this game design works, rather than just playing. [C10]

In addition to the need to manage pedagogic strategies, CLT would also suggest that learners can only retain new information effectively provided it has been processed sufficiently to pass into long-term memory. Thus, a key concern was the extent to which learning was truly embedded. This theory was even used by coaches with a more ecological lens. For example, C1 using testing to check for embedding:

> I have my particular biases of particular models or skill acquisition theory. I felt very strongly around perception-action coupling and ensuring that you've got the right context in front of you. So, using that theory, then using theories of learning: frequency of recall, the forgetting curve, and then test. So the (testing event) would allow me to understand what's gone in, what you learn and what's falling off.

Whilst not fully reflective of concepts emanating from cognitive psychology, this suggests an appreciation of learning as a process rather than an event (Kirschner et al., 2006). Another key concept of CLT is the notion of expert-novice differences (Kirschner & Hendrick, 2020) and the need to consider different approaches depending on the level of the learner (Sweller, 1988). Therefore, the relative *challenge point* of the learner was a key consideration for coaches:

> [when] a player comes [to academy], technically, tactically not at the level of his peers, the group that he comes into. He might be that early physical maturer, very quick, let's say. By putting them into games without the toolbox of skills and options of an understanding of decisions to be able to cope with the demands of a game against those particular peers, could be detrimental. [C4]

In this sense, coaches were aware of the need to manage the challenge levels experienced in game form training (Guadagnoli & Lee, 2004). Coaches reflected on the need to challenge players and awareness of this mediating their pedagogic decisions. Here the influence and importance of challenge point in game design is explained in the context of the development of knowledge:

> If there's errors at the start of practice, but I'm happy with the way in which the game is designed, the errors that showed to me that the boys are thinking and trying to overcome these problems, then I think that's sort of like the perfect place to be. [C10]

The coaches also reflected on what they perceived an appropriate number of mistakes in a training activity to be, a matter that is of debate in the wider literature (Wilson et al., 2019). Coaches reflected on this, explicitly referencing the challenge point framework (Guadagnoli & Lee, 2004):

> We're trying to get to that optimal challenge point where there is a level of error or else the challenge isn't right. You know you're looking for a 70% success rate and 30% failure. [C14]
> I'd always hope the players achieve five out of 10. So it's kind of 50/50, there's some level of success, and there's a good level of challenge there as well but if that was one

> of the 10, like, it just becomes very disheartening from the players point of view and very frustrating. It's trying to get the balance. [C7]

Notably absent from the reflections of the coaches were a series of highly evidenced concepts from the motor learning and broader literature such as desirable difficulties and contextual interference (Bjork, 2018). Thus, whilst coaches appreciated the importance of appropriate task difficulty, embedding variability and contextual interference did not appear to be prominent features of their practice.

4.3.2. Knowledge Sources

The second research question aimed to examine the sources of knowledge used by coaches with generated themes including mediated, unmediated, and internal sources. Seven sources of knowledge were identified as being impactful among this cohort of participants. Although atypical for RTA research, the number of coaches identifying a particular knowledge source as being impactful for their practice is added to help the reader make sense of the relative weighting (see table 4.2.).

4.3.2.1. Unmediated Sources

The most widely referenced and impactful source of knowledge was coaches' observation of other coaches. This supports previous work which suggests that coaches preferred informal learning sources (Stoszkowski & Collins, 2016):

> There would have been like a genuine curiosity, just chatting to other coaches and watching them coach and how they use games… the biggest influence would have been watching other coaches use them and use them well. [C17]

The observational learning described here is associated with the acquisition of attitudes and values and can lead to more creative coaching (Bandura, 2008). These observations were not limited to within their own sport and indeed many coaches displayed a hunger to learn from other sports:

> I can go and watch the rugby guys coach and rob an invasion game and then change it to (coaches own sport)... So yeah, I mean, I would use rugby games, basketball games. Definitely football, I would use all of those things in order to stimulate thoughts and to draw pictures and then copy them. [C3]

This example highlights observation as an inductive process of reflection and action (Marsick & Volpe, 1999; Schön, 1983). Further to the point of informal, unmediated learning, nine coaches pointed to *social media* as a source of knowledge:

> I was forever ripping stuff off Twitter and Instagram…just started as you do going into the deep dark hole and you find some awesome people and some awesome stuff. [C11]

While informal learning was a preferred source of learning, unmediated learning may not be without its limitations: 'there's a lot of people designing and sharing a lot of stuff with probably not a lot of context and understanding behind it' [C4]. This poses two issues; firstly, with such an abundance of content available online, coaches may simply consume bad coaching practice on social media and look to replicate it (Stoszkowski et al., 2022). Secondly where coaches are exposed to higher quality knowledge sources, this might be used sub optimally, focusing on the 'how?' or procedural knowledge rather than the declarative and why this might be appropriate in a given setting (Stoszkowski & Collins, 2016).

4.3.2.2. Internal sources

Internal learning was also discussed with coaches' *reflection on personal practice* identified as a source of knowledge. This is in line with the idea that reflective practice is a critical aspect of coach learning (Knowles et al., 2005). This coach discussing how his previous career in teaching was as an influence on the use of games within his coaching:

> I suppose coming from a teaching background. I found out pretty quickly with teenage boys that if they didn't get a game, they lost interest. And so I guess through years of teaching, basketball, badminton, whatever it was, I got the most focus and attention and effort and best sessions, where there was some competitiveness in session. So I guess, that just evolved in my teaching, and then into my coaching that I could see, just lifted everything. [C11]

A coach's experience of playing their sport has been shown to have an impact on their coaching (Cushion et al., 2003; Lemyre et al., 2007). Reflecting this, C15 explained how their experiences as a player, specifically their enjoyment of games within a session, helped shape their coaching approach and use of games: 'all the sessions that I enjoyed had competition in them, they all had games in them, or game related activities'. In contrast, C3 reflects on their

experience and specifically the lack of games within a session as an influence on their subsequent coaching approach:

> So I had a couple of (international) coaches who came over and worked with me with as an athlete, who were only drill based coaches, you know, (repeating isolated technical skill) a million times and running from cone to cone and stuff like that and for me, as an individual, it completely turned me off.

4.2.3.3. Mediated Sources

Formal sources of learning were also strongly influential on coaches' use of games in their coaching practice. *Mediated coach education programmes* were referenced by the majority of coaches as a source of knowledge as this coach explains:

> The (advanced coaching certificate) has taught a variety of ways to manipulate games and informed coaches of different ways to adapt the area size for particular needs or adapt the constraints or the duration, or the time or the shape or the design of the session, the design of the game. [C4]

This, however, differed between individuals and sports. Some participants perceived a total lack of impact of mediated coach education programmes on their practice and understanding. This lack of impact was supported in member reflections with a view that game form training, whilst being strongly promoted, was too simple to influence practice: 'coach education does not exist on a high level of quality within our sport, so it does not influence the high performance area' [C9]. It was instead the more social and unmediated elements (Stoszkowski & Collins, 2014) that were perceived as more influential: 'The only thing I did enjoy about them was the interaction with the people there, I actually learned more from the people doing it rather than the course itself' [C7].

Six coaches described how their *academic qualifications* influenced their coaching approach: 'What's influenced my understanding of games is my PhD… and I've then tried to apply that to my coaching in terms of game design' [C10]. This finding was interesting in that it highlights the potential for coaches to build a more evidence informed approach to their practice and challenge the oversimplifications that the coaches themselves reflected upon.

Mentoring also proved to be an important source of knowledge (Leeder & Sawiuk, 2021). Coaches described the influence of mentors as more experienced others, mediating what would otherwise be unmediated or internal learning processes. This reflects the idea that rather than being a formal education process where learning is imparted on learners, mentoring allows knowledge to be co-constructed and requires expert practice to be effective (Olsson et al., 2017). The mentoring process impacted how participants viewed learning design:

> I invited [mentor] to come in and observe some of our sessions way back in 2007 and he just observed some of our sessions, and asked a few questions about how valid is your environment? And by that he meant, you know, is what the players are seeing, feeling, perceiving, replicating (the game)? Ever since then, I've had a massive curiosity. [C1]

In addition to mentors, coaches also drew on the different role of coach developers (Taylor & Nash, 2023) as practitioners who work across the spectrum of mediated and unmediated deliberately shaping the learning experiences of coaches (Brackley et al., 2020):

> We [sport] have some really good coach developers who, in my opinion, allow us to coach in this way, but get us to think more about the constraints and thoughts and how we might create and innovate around those games in order to get better outcomes. [C3]

Coach developers have the potential to strongly influence a coach's pedagogic choices and understanding (Stodter & Cushion, 2019). Although these experiences were consistently perceived as impactful, it is important to recognise that this data does not suggest that coach mentoring or development is the way that coaches *should* be developed, or inherently superior to other approaches.

4.4. Discussion

The aim of this chapter was to construct an understanding of the pedagogic knowledge informing the game form training activities of team sport coaches and the sources of this knowledge by moving beyond a procedural approach to understanding what coaches did and towards an understanding why they did what they did (Crandall et al., 2006). The high level team sport coaches in this study reflected on a range of different theoretical positions as

influencing their practice some of which might appear incongruent, yet seemed to offer significant pragmatic value (Raab & Araújo, 2019; Stodter & Cushion, 2017). These findings seem coherent with a similarly high level sample of swim coaches who used a variety of approaches to practice without holding a single theoretical underpinning (Brackley et al., 2020). In addition, none of the coaches in this study reflected on a single approach to their game form practice (Harvey et al., 2010; Light & Harvey, 2017; Light & Robert, 2010) or the perceived need to marry learning design and coaching style (Light et al., 2014). Thus, the findings seem to suggest that in a sample of the highest level of team sport coaches, no coach utilised a single pedagogic or theoretical orientation (Rink, 2001). Instead game form learning design was used in a highly individual and contextual manner (Collins et al., 2022). This was evidenced by the number of coaches who adopted a range of different practices, apparently conflicting with each other. An example being a participant discussing the importance of maintaining the coupling of perception and action, whilst managing cognitive load. This seemed in contrast to some of the literature presented in Chapter 2, which seems to point to the prevalence of constructivism and GBA as the dominant learning theory and pedagogical approaches respectively. Furthermore, when compared with the findings in Chapter 3 these findings also highlight an apparent inconsistency with how coaches utilise game form activities, apparently driven by the level of coach.

Importantly, these findings are not suggesting that coaches *should* be using multiple theoretical stances, or would have been better using a single approach in their practice. This study simply provides evidence that this set of coaches, all of whom could justifiably be classified as having a high level of expertise, used multiple models to understand their practice (R. Taylor et al., 2023). Indeed, the critical reader might suggest that the variety of knowledge sources that the coaches were exposed to led to the mixed model views that they espoused. Rather than this being emblematic of poor coaching this could instead be interpreted as coaches

finding pragmatic value in mixing theoretical positions based on a variety of knowledge sources, something more recently seen in the literature (Ramos et al., 2021). If anything, coaches were critical of coach education that promoted the universal use of game form activity design as being too simple. Consequently, coaches made critical comments regarding the naïve and prescriptive promotion of GBA, in a manner contrasting with some GBA literature (Pill, 2020) and mirroring findings from Chapter 3, albeit with a different classification of coach.

At risk of following the well-trodden path of criticising formal coach education as discussed in Chapter 2, here the critique is more subtle, noting that it is not possible (or appropriate) for coach education to provide knowledge of every pedagogic theory. Instead the suggestion is for mediated coach education to provide a platform for the growth of expertise (Nash & Sproule, 2012). Thus, the results presented in this chapter highlight a need for coach education to move beyond a procedural focus on the use of game form training to a more nuanced and deeper pedagogic understanding that does not rely on a single theoretical orientation. Furthermore, with the suggestion that game form activities are being used in an individual and contextual manner, whilst being informed by multiple theoretical stances, these findings point to a need for coaches to be highly intentional in their practice. As such, there is a need to explore how coaches form intentions for impact and how these intentions influence the planning of game form activities.

4.5 Conclusion

This work sought to explore the use of game form practice with high level coaches as stated in section 1.2 of this thesis. This chapter was specifically concerned with understanding the pedagogic underpinning of their game form activities and source of this pedagogy. Findings suggest that this cohort of coaches utilise a range of different theoretical stances in their practice, resulting in a highly individualised and contextualised use of game form activities. Additionally, coaches reflected on a range of sources of their knowledge, with an apparent

preference for unmediated sources, in line with previous work (Stoszkowski & Collins, 2016). Similar to Chapter 3, and perhaps more so in this case, the absence of direct observation of coaching practice is a notable limitation here. These coaches espoused a range of theories, however previous literature has pointed to clear misalignments between coaches espoused theories and theories in action (Ashford et al., 2022). Thus, relying exclusively on the self-reported reflections offered here by these coaches makes it difficult to assess how coaches perspectives align with their actual coaching practice. This presents a possible avenue for future investigation.

Chapter 5: Examining intentions for impact: Understanding what influences the planning of high level team sport coaches

5.1. Introduction

Aligned to the notion that coaching is both dynamic and not fully controllable, the concept of professional judgement and decision making (PJDM) has been developed as an approach to practice that supports decision making in the complex social circumstances of coaching (L. Collins & Collins, 2015). As outlined in Chapter 2, PJDM does not seek to conceptualise the totality of sport coaching as a decision making process, instead it is an approach to professional practice that promotes informed decision making based on contextual factors (Collins et al., 2022). Drawing on relative consensus in the social sciences, PJDM distinguishes between more intuitive decisions (often during practice) and more deliberative decisions. This suggests a process of ongoing planning and re-planning based on ever changing situational demands, weighting of different agendas, and progression towards desired intentions (Collins et al., 2022; Klein, 2007).

Planning itself has long been recognised as central to the coaching process (Jones et al., 1995; Lyle & Cushion, 2010) and evidenced as a core feature of sport coaching (Mallett & Lara-Bercial, 2016). To this end, Abraham and Collins (Abraham & Collins, 2011) proposed the concept of nested planning to enhance a coach's deliberate thinking. The approach entails a coach deliberatively crafting a plan with a defined intention for impact to represent the desired impact that coaching will have for participant or context (Martindale & Collins, 2005) and can be contrasted with planning for content, or predetermined concrete learning objectives. Coaches instead using mental projection to consider the potential steps needed for this impact (Martindale & Collins, 2005). Abraham and Collins (Abraham & Collins, 2011) suggest that coaches consider the socio-political and strategic intentions over the long term (macro), before

deliberately planning the sub-phases (meso). Once these phases of planning are accounted for, session-to-session level activities (micro) are nested within these broader structures. A suggestion being that, on the micro level, coaches use planning to leverage the two core elements of their practice in the form of their activity design (what players do) and coaching style (how coaches interact with their players) (cf. Stafford, 2011). As a consequence, recognising the need for more intuitive action by the sport coach based on player need, nested within a bigger picture (Taylor & Ashford, 2022; Wallace, 2006). Yet, without clearly defined intentions, coaches may struggle to adapt their methods to meet the dynamic demands of practice, and lack benchmarks for reflecting on effectiveness (Collins & Collins, 2021).

PJDM offers an alternative perspective on practice, challenging the notion that a specific set of methods should be prescribed. Introduced earlier in this thesis, one such trend in coaching practice has been the recent shift towards the promotion of constructivist informed pedagogies (Paquette & Trudel, 2018) and the knock on effect this is having on coaching practice. As discussed in Chapter 2, some of the coaching literature is straying into vigorous debate regarding the use of game as part of a coach's activity design (Collins et al., 2022). Indeed, much of the recent literature seems to point to the idea of activity design being a simple prescription of game form activity, despite coaches finding utility in alternative methods (see Gearing & Bridge, 2024). Indeed, findings from Chapter 4 indicate that high level team sport coaches' practice was influenced by a range of different theoretical positions which although on the face of it may appear ontologically incongruent, ultimately seemed to offer significant pragmatic value. These findings suggest that game form activity design is used in a highly individual and contextual manner in contrast to some recent literature. These findings from Chapter 4 also appear to contrast to some of the findings in Chapter 3, where some coaches appeared to subscribe to the idea of a certain way of doing things, that is the perception of training form activities as an outcast method. This seemingly influenced by mediated coach

education and unmediated sources of learning, both of which in turn being influenced by some of the aforementioned dogmatic literature. As such, coaches are presented with a challenge in developing an appropriate knowledge base to formulate intentions for impact from which to direct their game form activities. Reflecting this, there have been a number of calls for coach education to move away from 'just playing games' to using a more nuanced pedagogical approach with deliberate outcomes and explicit use of tactical concepts (Kinnerk et al., 2018; Mitchell et al., 2020; Pill, 2013). In short, a greater focus on the intentions of coaches as a means of shaping adaptive outcomes for players.

The popularity and effectiveness of game form training in sport may in part be explained by the empirical support for high fidelity, or representative practice to aid the transfer of learning to performance (Davids et al., 2013; Jones, 2021). Fidelity is a multi-dimensional concept corresponding to the degree of realism created, not only in terms of visual perception, but also participant affective, physiological, and behavioural responses (Adamson, 2015; Choi & Wong, 2019; Cook et al., 2013; Harris et al., 2020). Fidelity is a well-established concept in fields such as aviation and healthcare and different 'types' of fidelity developed as a means of delineating the impact on the participant (Noble, 2002; Solnick & Weiss, 2007). More recently, fidelity being applied to sports coaching (R. Taylor et al., 2023). Here, sport coaches might consider how their activity design might provide affective fidelity (the psycho-emotional similarity to competition), conceptual fidelity (the similarity of perceptual cognitive and problem solving requirements), action fidelity (the similarity of the skills used in practice and skills used in performance) and physiological fidelity (the extent to which training activity represents the physiological demands of competition) (Adamson, 2015; Dieckmann et al., 2007; Hochmitz & Yuviler-Gavish, 2011; Riccio, 1995) (see table 5.1.). It has previously been suggested that these 'types' of fidelity can complement or interfere with each other (Norman et al., 2012). This framing provides a scaffold for coaches to consider how different types of

fidelity might be used to elicit different impacts on players. As broad examples, a training form exercise such as an unopposed drill will likely offer very limited affective, conceptual and perhaps action fidelity. This is due to the activity lacking the emotional and problem solving characteristics associated with competition, in addition to the lack of perception-action coupling which might yield a low level of action fidelity (Adamson, 2015). Yet, depending on the nature of the sport and activity, it may be possible to initiate greater physiological fidelity dependent on the intensity and design of this activity (i.e. manipulation of distance covered and recovery times). As another example, a small sided, 3 v 3 game with one side attacking continuously throughout, would likely have higher levels of affective fidelity than the previous example. However conceptual fidelity in this example may be limited due to the continuous nature of the game while the coupling of perception and action would likely produce high action fidelity.

In the absence of overall guidance that might inform a coach's intentions for impact, there is a need to better understand current practice and the planning which underpins the use of game form training by coaches in team sport. Thus, the specific aims of this study are to consider how do team sport coaches plan for game form activities and how do they form their intentions for impact, coherent with the objectives for this chapter as stated in Chapter 1.

Table 5.1. Forms of Fidelity

Forms of Fidelity	**Description**
Physiological fidelity	The extent to which the physiological demands of the practice replicate those of competition
Action fidelity	The extent to which skills acquired in practice are similar to those used in performance
Conceptual fidelity	The extent to which the perceptual–cognitive demands, or types of problems faced in performance, are represented in practice
Affective fidelity	The extent to which similar emotional responses are elicited by practice activity (e.g., stress, fear, enjoyment) as those in performance

5.2. Methodology

5.2.1. Research approach

Research methods were selected based on a pragmatic research philosophy as outlined in Chapter 1. Consequently, with the research seeking to explore individual coaching experiences, an interpretivist stance was considered appropriate. The use of qualitative methods was judged most appropriate for this study, given the necessity for an in-depth interpretative examination of the professional practice of team sport coaches (Patton, 2002). Furthermore, it has been noted that Pragmatism offers a view of knowledge is generated after reflection on action (Hammond, 2013). As such, I conducted individual, semi-structured interviews with this sample of coaches as this was likely to produce rich, nuanced, contextualized and specific knowledge about how coaches form intentions and determine success (Markula & Silk, 2011).

5.2.2. Participants

The criteria for inclusion in this study and the recruitment steps are outlined in Chapter 1 (section 1.4.3.2.) and Chapter 4 (section 4.2.2.) and shown in table 4.1.

5.2.3. Data generation

A complete account of the data generation for this chapter can be found in Chapter 4 (section 4.2.3.). Following verbatim transcription, the interviews were analysed using RTA, as outlined in Chapter 1. To facilitate deep immersion in the data, each transcript was re-read several times, with notes taken to ensure familiarity and understanding of the data. In the second phase, both semantic and latent codes were generated through multiple sweeps of analysis. Semantic coding being driven by coaches' explicit reference to intentions or success criteria, for example: 'so within eight balls, I was looking at how many times they were successful in actually reaching inside of 21 (metre line) and then how well the movement was inside' (C13). Latent coding being the categorisation of implicit meaning behind text, for example: 'are you coming up with something because it's original, or is it doing what you want it to do? I'm very

much on the mindset of "is this doing what I needed to do for the players?"'. Here Coach 9 implies that the main priority of their activity design is the needs of the players rather than simply constructing an original practice simply for the sake of creativity. Qualitative analysis software (QSR NVIVO-12) was used to assist in the structuring, organizing and analysis of raw data into their thematic hierarchies. Initial themes were generated from the codes as the third phase of analysis and then reviewed and refined as the fourth step. The fifth stage which involved defining and naming themes based on shared meaning with the supervisory team acting as critical friends, challenging theme generation. An example of this was the theme 'affective fidelity'. This involved numerous debates on both the labelling of the theme and the content of the theme to best represent the interpretations of the participants responses. Writing the report was the sixth and last phase, which, based on the reflexive and recursive nature of because RTA is reflexive, report writing was recursive and integrated into the analysis process as a whole (Braun & Clarke, 2019, 2021).

Similar to previous chapters, I do not consider myself to be an 'outsider' in this research context given my experience of team sport coaching. In this context, while familiar with coaching, many of the sports, like field hockey, were unfamiliar to me. Further, I have not coached at the level of many of these participants. This was a challenge as despite my background in applied coaching and research pertaining to coaching, some examples offered by participants were novel to me. An example being one coach reflecting on the challenges associated with coaching at weeklong training camps, a situation I have yet to experience.

5.2.4. Reflexivity

Member reflections were solicited by email after the initial themes were generated (Smith & McGannon, 2018) as part of a number of procedures which were adopted during data collection and analysis to optimise quality. A total of 11 coaches responded to the member reflections with responses ranging from acknowledgment of themes, to in-depth discussions that ranged

from general to specific. These reflections were integrated into the process of theme generation as a recursive step. An example of this being further refinement of the physiological fidelity theme following reflections from Coach 11 on the relationship between physical loading and the phase of the season.

5.3. Analysis

The specific aims of this study are to consider: how do team sport coaches plan for game form activities and how do they form their intentions for impact? Against the coaches' intentions for impact, four themes were generated (Physiological Fidelity, Affective Fidelity, Conceptual Fidelity and Action Fidelity) while their planning of game form training, generated four themes (macro planning, meso planning, micro planning and success criteria).

5.3.1. Intentions for impact

The coaches reflected on a variety of intentions for impact which accompanied their use of game form training. Thematically, these intentions can be described in terms of the various 'types' of fidelity (see table 5.2.). Achieving fidelity, or one of the subcomponents, was the overarching intention for coaches when discussing their practice.

Table 5.2. Intentions for impact

Theme	Sub-theme	Raw Data Exemplar
Intentions for impact	Physical fidelity	We work with our S&C department to plan sessions that replicate our game… we are always monitoring load so we can pull people out when they're reaching the limit (C1)
	Psychological fidelity	So, you know, that's like the big reason that we want competition in there, because as soon as you start competing, when there's winners and losers, players automatically engage in that. Because, you know, in an ideal world, they'd come bouncing into training but like middle of winter, on late Monday night, sometimes it's just like, right guys, like, let's, let's get going. Let's go. So I think, yeah, I think I think they're realistic in terms of the scenarios that they face on court, and the situations they're in in terms of know, whether it's scoreboard, pressure, or time pressure or whatever. But the more

		realistic we can make them the more intensity they can get. (C16)
	Conceptual Fidelity	We'll build it up to some scenario… stuff. So if we're looking at play in specific teams, you know, we've got a fixture at the weekend against an opposition, we know that they do a specific way of defence, or we know that they do a specific style in their attack, we'll try and build that into that session, or into that part of the session, something that we feel that will work against that. (C17)
	Action Fidelity	It becomes almost the whole game all of the time, rather than enough repetition of the aspects of the game you want it to be. So I'll say that again, in designing it sometimes, for whatever reason, the athletes are just clever and (it) ends up becoming just the whole game of hockey, rather than many repetitions of the aspects of the game that you want it to be. That's when you got to, you know, on the fly, "okay, okay. we need to change this". (C5)

5.3.1.1. Physiological Fidelity

It seemed that the most prominent consideration of coaches was designing activities based on associated physiological adaptation. That is, the primary focus seemed to be the manipulation of physiological fidelity. The most impactful feature of design was the guidance offered by sport science staff and specifically Global Positioning System (GPS) data to monitor workloads (Ravé et al., 2020). Desired metrics were consistently used by coaches when planning for sessions and used to inform the design of game form training:

> We use GPS units around session intensity... So I will work closely to outline what we want from the session intensity wise, so that we know that they're robust enough and that they can physically sustain the amount that we need from them to be able to do exactly what we're asking of them in the game. (S&C coach) will work together with me to build games and practices that will really help us reach that. [C17]

The multidisciplinary approach evident in the design of sessions also transferred onto the pitch as the physical loading of players was again deemed to be the one of the clearest markers of intention for game form activity as illustrated by Coach 4: 'we will be controlled by loads… it comes down to time management for us and the load factors on the players. We were very controlled on the load factors to make sure that the players are fresh'. The impact of these

collective intentions meant that coaches were frequently guided by feedback from GPS units and other monitoring technology. Reflecting other coaches' comments about having specific targets which players had to achieve during practice activities, Coach 4 described how: 'the S&C coach would be over to me "You know, they're going over their load" and in fairness, it's an important factor'. For nearly all coaches, these metrics were monitored in real time with coaches framing their session design around the perceived desirable metrics for players. Typically, when players did not meet these targets, they performed supplemental running:

> These are the total numbers in sprint distance, this is the individual target. This is the size of games we can play if we want to reach this target and while training, always monitoring everything to be able to say afterwards, "she didn't hit the target. So, she has to run some meters". So just from monitoring, it's perfect way of doing it. [C11]

Interestingly, some coaches also spoke about the limitations of focusing on physiological fidelity as the core moderator of training. Coach 3 exemplified this perspective: 'people hear the word game and expect it's like conditioning. That's what they become, they're just there to make players fit and not there to make them think or to drive a certain part of your model'. The downsides of intentions for impact being driven by physical demands, such as greater density or extensive running, was evident in the reflections of Coach 10 when describing how this led to the inability to stop and coach players during game form practice:

> They're all (players) trying to get that physical load and that's not the be all and end all but it's a massive part of the session. We're not going to stop the session in the middle of a three-minute block… you got to let the session flow.

Some coaches reflected on the necessity to maintain certain loads in session and the pitfalls of failing to achieve this in the planned activities. Coach 2 spoke about the anticlimactic nature of prescribing extra running to players who had missed physical targets in game form activities:

> I don't want to get to that point where I'm not designing practices that are giving you what you need. Great practice, but they gotta go run, because your numbers are down… I need to trust the science side of it, but if I can get that from a game, we all get buy-in because the last thing anyone wants to do at the end of the game when you're up here from an emotional level of play, then like 'ok go and sprint 15 seconds over there… cheers like could have done that in the game'.

Other participants were concerned that the focus on physiological fidelity could hinder the development of players and was overly restrictive of the coaching process:

> I think there's a danger that we don't quite know what players are capable of. We kind of hide behind the data and say he can't do that... Well, can he? How do we know?...My boundaries will be different to yours and I might be able to do that a little bit more and then I might become a little bit more physically robust…'you can only do three minutes of that and then we've got to pull him out'. Rather than actually, what can you do? [C12]

5.3.1.2. Affective Fidelity

Another factor that coaches reflected on was the emotional responses elicited by practice activities. That is the simulation of a players affective states, or the affective fidelity (Harris et al., 2020). For example, they discussed the necessity of a level of pressure, combined with other forms of fidelity, to enable transfer to performance. As such, they explicitly used affective fidelity as a means of supporting players to perform in high pressure moments of the game:

> Everything can be contested in the game scenario. So, you know they get the contest, they get the feeling of what it's going to feel like in a competitive much. I think it's hard to recreate that in a traditional drill whereas that's never the case in a game. So, I think it's just that element of chaos and pressure that they get. [C16]

Yet, despite an implicit perspective that affective fidelity seemed to encourage transfer, coaches seemed to lack a language or clarity of intention to develop an understanding of why this was used. As a result, coaches tended to reflect procedurally on tools such as scenario-based training:

> So, you've got a 2-0 head start, or they've got a man down and the game only lasts for three minutes. That's it. It's not next goal wins on that one. So, there's a purpose to that. You can never recreate that feeling of a game, but you know the reaction around a massive momentum. [C2]

Others reflected on the value and necessity of player 'buy in' for high affective fidelity to yield adaptive outcomes. As a result, scenarios needed to be designed to be as emotionally 'real' as possible: 'I'm reminding them of the realities of our game…They create their own scenarios, which are just real life, real training situations, which they take really seriously anyway. So, you always want to win' [C1]. This seemed to fit a pattern of perspective whereby the affective

nature of games seemed to be what focused attention and the affective response being the source of greater player motivation when engaged in game form activity (Evans et al., 2008).

5.3.1.3. Conceptual Fidelity

A realistic recreation of the problem-solving requirements faced by players in competition was considered by coaches when forming their intentions for impact. Conceptual clarity was considered with coaches perceiving game form training as offering players perceptual, cognitive, tactical and strategic demands of the game, in other words conceptual fidelity. However, a lack of clarity of intention in framing these demands was evident. Here Coach 7 exposes players to a prescribed defensive tactic but plans for players to experience this from both attacking and defensive side to enhance understanding:

> If you were putting the team up against a blanket defence, you might let that run. But you know, you have seven minutes, that you want to let it run to see do they figure it out? And you might have no involvement in that at all. You just watch, just observe, we'll see; do the leaders call a tactical timeout? And when they come back in after the seven minutes, you just say, 'Okay, let's take a water break and then swap the roles' and might not even question just send them off (to repeat the game).

In addition to utilising game form training to develop their team's own tactical style, coaches also used game form training to prepare for upcoming competitive games with a focus on opponents and attempting to replicate their opponent's specific style of play:

> So, let's say we were playing (upcoming opponent), we would pick our team and the players that looked more like (upcoming opponent's) players. I would set them up as realistic as possible the way that they're going to set up (in the competitive game) and that actually was a benefit to the lads. You're trying to create… what they're likely to see the next week. [C4]

As a feature of this conceptual fidelity, coaches used game form training to embed tactical concepts, such as formations, shapes or structures both in and out of possession. For example, Coach 8 described the use of a game form activity instead of a training form activity to work on some of the team's tactical concepts in an environment which is in a constant state of flux and thus requires players to adapt to conceptual demands:

> So, this game is really good for that, the pitch is long, because you have to defend a really big space. Everything being taken quickly, forces people to set up early, run fast

> to position, defend, to get into defensive position really quickly, being able to face forward, make sure that actually you're always looking for the most dangerous pass to play forward and then it also puts people under pressure to play when they're tired, which is something we're really going to have to do. [C8]

Conceptual fidelity was not limited to on-pitch actions but also included off-pitch actions. One coach used game form practice to prepare players for their off-field actions by replicating the same protocols used in competitive fixtures in game form training:

> It's the same flow of substituting the players within the game.… getting information on the bench, and go and play again, and execute. So, it's more about them getting used to the way we manage to address information during a competitive game, and that's always coming off the pitch, drinking something, listening, discussing and going (back into the game). [C11]

5.3.1.4. Action Fidelity

Despite being less prominent a feature of coaches' reflections, they also intended for games to display a correspondence between the skills utilised in training and those in performance. Coaches sought to expose players to high levels of action fidelity in the desire for motor patterns that were developed during training to transfer to performance. In essence, aiming for the coupling of perception and action (Ashford et al., 2021; Friston, 2022). An example of this is provided by Coach 5 who reflects on their intention to use of game form training as an opportunity for players to utilise a wide variety of shot types based on the context of a game which may include a limited range to shoot and pressure from defenders from multiple angles:

> Receiving the ball from lots of different areas, but always with the defender there. So, I've got to set the ball to the backspace to generate my shot and then as they become more proficient you can then add a much greater degree of variability. So, you might create an overload number in that small space. Now, when you do that, in a small scoring space, they're having to use a wider range of shots, depending on where the defenders coming at them from, and that you increase the degree of variability.

Action fidelity was also evident in the practice of Coach 3 who used game form training to expose players to the chaotic nature of competitive games:

> Very often we're trying to create something that will expose the players' skill sets and their habits holding up, maybe making them aware of the skill sets and the habits that they need to have to perform at the (elite domestic league) level and above.

This coach recognised that skilful action was the application of technical actions in a particular context (Bennett & Fransen, 2023). Perhaps based on the tactical and performance lens through which some of the coaches were focused, the notion of action fidelity seemed less of a focus for coaching intentions.

5.3.2. Planning

The second research question aimed to examine how coaches planned for the use of game form training with generated themes including macro planning, meso planning, micro planning, and success criteria. Each of these themes are presented in detail with exemplar quotations.

5.3.2.1. Macro planning

Coaches viewed planning as fundamental to their practice and was explicitly referred to at various levels, from long term plans to the minute detail of coaching style used in practice activities. In this sense, it appeared that coaches wanted to ensure that their session-by-session coaching reflected the bigger picture aims of their team and organization:

> The bigger picture is the way we want to play, and this is where you've got to be careful about being too reactive in individual games and isolated scenarios. You want to stick to your principles and make sure your games are all tied into your principles, your philosophy about how you want to play. [C10]

This longer-term view of performance development was also taken by Coach 5, who discussed how intentions were formed at the macro scale and planned over years:

> You look at gold medal level of performance, what it took to win prior. You break that down through some data analytics, the key phrase for me was "what it takes us to win". Rather than just copy (top ranked team)…we would come up with some of our own key things that we would look to chase, we try and use the data to understand some targets.

This contrasted with macro planning for talent development coaches, for whom long-term planning accounted for multiple developmental stages and progression towards a longer-term aim. As a result, their planning reflected the cumulative work of an entire talent system:

> We work off a yearly age group plan. So, the staff got together and came up with some kind of framework from 9's to 21's. At each developmental stage, what should you be learning and what should you be focusing on? And that learning will either be introduced or will be consolidated. What is introduced at under 12 will be consolidated under 13s. [C9]

Furthermore, at the talent development level coaches described planning for the individual's development in conjunction with team goals. This was not reflected by the coaches interviewed who are involved in senior programmes and perhaps pointed to the differential weighting of priority used by coaches at the developmental level:

> I think certainly within (talent development level of sport) and from my own perspective, it would be a vast majority, I would say upwards of 90% would be based around long term needs and the development pathway for that particular individual. [C12]

5.3.2.2. Meso planning

At the meso level, coaches reflected on using a bandwidth of focus across a defined period of time to allow for an appropriate focus within games-based practice and to shape player learning. Specifically, one talent development coach discussed the use of elite level teams to shape the player curriculum:

> The theming model is basically picking a theme that you're going to follow for 10 weeks. You're gonna use that theme as a vehicle to teach both team and individual ideas and concepts. So, I could be theming on (elite team), I could be theming on (elite player). (The player) could be looking at one v one attacking dribbling, putting clips in their folder of him doing that, and of (the player) doing that…I'll also be looking at how (elite team) build the attack and modelling our work on that. [C9]

Coach 3 discussed how training sessions were linked together to form a coherent meso plan. Here this coach describes strategies for continuity between training sessions but also ensuring intra-session continuity:

> When I've done it best, I know the continuity I'm trying to get over six to eight weeks. The physical demands and then maybe the area that we're trying to expose them to. It probably takes a bit of reflection and a bit of thought on what those are. I then obviously got the bigger picture, then what it looks like on the level below that and then what it might look like at the micro. Then within that priming. So, we would sometimes then do almost like a layer. So, we might have like a defensive segment down to like its most basic component, expose the players to that, then we might then go from that into what it might look like slightly bigger, slightly blocked, and then throw it into what it might look like in a game scenario. [C3]

This continuity was clearly an important factor for many coaches in this cohort and while many coaches looked to achieve this through a series of on-field activities, some coaches looked beyond on-field activities as part of their meso planning. Here Coach 15 describes the use of a

tactics board and video clips to support the on-field activities done within game form activity in training and friendly matches:

> The two things we're going to try in the match tonight, we done them in a friendly match on Tuesday and we've done them in the training session on Sunday morning. Lads would have got that using the tactics board, the training session and then after them doing it in the match on Tuesday they would have gotten it on a video. So, there's three different methods of seeing that and that learning environment being there.

5.2.3.3. Micro planning

At the micro level coaches spoke about maintaining continuity across the week but finding different ways to expose the players to the same ideas or concepts. Reflecting my earlier findings, coaches seemed to privilege the coherence of physical adaptations, based on having the concepts and language to frame physical intentions. Coach 12 discusses the concepts used to frame physiological fidelity over the course of a week, but tends toward content, rather than adaptation when referring to other forms of fidelity:

> Last night was the extensive day, so bigger areas, more opportunity to press and defend over bigger distances, but also to receive and pass over bigger distances as well. So, the actual block of coaching was defending the box against creating and finishing…tonight we'll be at the same topics, but it will be different area size…now it will be passes to create over shorter distances, quicker decisions, quicker awareness, more intensive accelerations and decelerations, shorter intervention blocks.

Perhaps given this framing, coaches tended to plan their coaching around a specific theme, judging progress based on player performance within the session, a marker of progress doubted by a variety of literature (Cahill et al., 2001; Schmidt & Bjork, 1992). This framing seemed to lead coaches towards the use of part-progressive practice and a gradual layering of complexity, rather than alternative designs:

> If we're working on defence, I'll try and connect the warmup with the fact that we're wanting everybody to defend. The warmup game would generally be something to do with having to turn the ball over and score from it. In the session, the technical skill part of the session will also be to do with their body position and that's where it'll be broken down a little bit, probably a little bit less games, but then the games probably would be reintroduced once we've gone through some of the technical skill... Then build that up, so if we know that we want the girls defending one v one, start introducing that really quickly. [C17]

Key to the planning of day-to-day activities was the multidisciplinary effort that goes into each weekly plan and the level of input required to achieve coherence:

> We have to have a rationale. So, what ends up happening is, we have a meeting at the start of the week, that's when the technical staff, the medical physio, analyst, psychologist, S&C, head of coaching and head of operations we all get together and talk about the players, the group, the individuals. The head coach leads this meeting. It allows each person to have what they would like to add in and then that shapes our planning for the week. [C1]

This multidisciplinary approach followed through into the session itself and coaches were tightly bound by the limitations agreed at the planning meeting: 'within those sessions we'd have each block broke down. So, we'd have 10 minutes warm up, 10 minutes skills, 10 minutes defence, 10 minutes offense. So, your time was precise' [C4]. Notably, again, these limitations tended to follow boundaries of physiological fidelity, perhaps a result of the disciplinary background of most input and as such, could not be characterised as interdisciplinary (Burns et al., 2024).

5.2.3.4. Success criteria

Overall, coaches found it hard to articulate the success factors for the use of game form practice at the individual level. For some, success criteria were clearly outlined and measurable, while others were less clear on what might determine success or progression towards their intentions. As one example, coach 3 designed a game with intention of trying to replicate a specific element of their sport with as much repetition as possible:

> In the space of three minutes, you can probably get 20 to 30 breakdowns and you'd probably get an average in a game… you might get 120 breakdowns over an 80-minute period. So, you can create 20 to 30 breakdowns in three or four minutes. [C3]

Taking a different view, Coach 1 discussed success criteria based on players navigating specific game problems that their design afforded (c.f. Renshaw et al., 2019): 'I'll set the game up in terms of problems, I create the problem and have an idea of different ways we might overcome that problem, different tactics or whatever, but I try and remain really open minded with it'. The successful navigation of game-based problems contrasted with a broader coaching focus

on the process rather than the outcome. Coaches perceived the outcome as being desirable but not the main focus and instead scrutinised the process through which the team or the individual engaged:

> Rather than 'has he scored a goal?', actually has he undertook the process to be able to do that? And does he know why he's done it? But then what if the picture changes? What if the defender is a bit bigger, or a bit quicker next time? Is he able to adapt based upon that and generate success and know why he's generated success? [C12]

Similar to Coach 12, rather than specific outcomes such as scoring or tackling, other coaches defined success as the team's ability to transfer performance in game form practice activity to competition. This could be viewed as a testing effect or retrieval practice employed by the coach:

> For me, it's like, do you see them doing this stuff in match play? If you just see them self-organizing really, really quickly and in match play, you know, it's transferred, which is always my measure of how good the session designs. [C5]

Perhaps notably, the success criteria used by coaches seemed to subtly contrast with the intentions that they generated. Whilst many coaches focused on content to be delivered when focused on success criteria, others reflected on desirable process markers. The challenge being that in nearly all cases, coaches lacked a conceptual framing for these intentions and the impact that was desirable beyond the physical metrics developed by disciplinary support staff. This would suggest a need for coaches to better align intentions and success criteria.

5.4. Discussion

This study investigated how high level team sports coaches form intentions for impact and how these intentions influence planning for game form activities. Coaches' intentions were viewed through the various forms of fidelity, thus answering the second part of research question. By considering the types and relative fidelity of practice, we can consider how we are challenging players and what this might mean for their ability to transfer skill acquisition to performance (Deuker et al., 2023). The results show that coaches seemed organisationally bound by the need to manage physiological fidelity as a priority above other types of fidelity. The implication

being the development of players, in areas other than that of physical preparation, may be sub-optimally considered. In terms of planning, coaches displayed evidence of 'nestedness' in their plans with clear links between various levels of planning. One important distinction in these results was between coaches at the pathway level and those working at the elite level of sport. Those coaching developmental players based much of their planning around the individual needs of their players while coaches at the elite level seemed to base a majority of their planning for team performance.

This weighted focus on physiological fidelity reported by the coaches seemed to be at the expense of conceptual, action and affective fidelity meaning that coaches may be missing out on a more nuanced and intricate activity design. This poses an issue when considering the impact on transfer to performance. An example being that one reason for the implementation of high conceptual fidelity practice is to allow players to expand their knowledge from procedural to a deeper meta-cognitive level of thinking (Arwood & Kaakinen, 2009; Paris & Jacobs, 1984). Given that the types of fidelity may represent the types of challenge presented to the player, an approach which prioritises physiological is likely unable to cater to the breadth of player development. An alternative approach could involve greater recognition of the different challenge markers we can offer players in the form of types of fidelity. This may give the coach the opportunity to frame their activity design by emphasising or deemphasising respective types of fidelity across a session. As a consequence, aiming for appropriate fidelity based on intention within a single session *and* across a block of time, much as is standard practice in physical performance (McGahan et al., 2020). An example might mean that 'activity A' is designed with 'above game' physiological fidelity in mind and may result in low levels of other types of fidelity while the next activity may be designed with high conceptual fidelity in mind, deliberately manipulating lower physiological fidelity to allow time for greater reflection.

This focus on physical preparation could in part be explained by the complex nature of sports coaching referred to throughout this thesis (Cassidy et al., 2023; Cushion et al., 2003; Greif, 2007; Stober & Grant, 2006). This cohort of coaches were responsible for a breadth of tasks and were required to operate in a multi-faceted role and fulfil a varied selection of purposes supported by either a sports science department or S&C coach whose sole responsibility was the physical preparation of players. In an environment where one coach is responsible for multiple aspects of performance, while another coach is exclusively responsible one particular aspect, it is easy to see how the focus could shift to a singular aspect. In addition, given that much of the cohort were working at the highest levels of team sport, players being available to perform is of extreme importance given the nature of elite team sport (Calleja-González et al., 2023). This may be deemed a greater priority than enhancing performance over the long term. Furthermore, in addition to having dedicated professionals for the planning and implementation of physical performance, it is also objectively measurable through the use of GPS and various other monitoring tools. In contrast, coaches currently lack the means by which to measure conceptual, affective and action fidelity.

As many of these participants displayed success criteria and intentions for impact in subtle conflict to each other, there is the potential to utilise the fidelity framework to better assist coaches in defining success criteria and aligning it with their intentions. This may be beneficial to coaches to move beyond outcome-based intentions and success criteria to a focus on player experience. Similarly, the fidelity framework proposed in this chapter may also help coaches progress from such a strong focus on physical metrics and allow for a more rounded development of players and teams by taking into account the affective, problem solving and skill transfer experiences of the player in a more purposeful manner than currently seems to be the case, at least among this cohort. While framing practice activities in terms of fidelity may be of use conceptually to coaches, a future research challenge should be the design of tools to

help the coach consider and measure these types of fidelity (e.g., Bam et al., 2023). These tools would help coaches navigate the challenges of understanding short term observations and move beyond performance measures in the evaluation of training activity. Currently similar measures exist within sporting contexts (Krause et al., 2018) and have been used more extensively in fields such as nursing education (Song et al., 2010) where researchers report that the use of fidelity tools may enhance the systematic evaluation of training.

When engaging with planning process, this cohort of coaches clearly reflected a 'nestedness' to their plans (Abraham & Collins, 2011), thus achieving the objectives for this chapter as laid out in Chapter 1. The term continuity was frequently referenced and could be seen both inter session and intra session as each component of the session was linked together. The planning process was based on a clear vision of the future (Macquet, 2010), and dependent on the main priority for the coach, typically either development or performance outcome in competition. This provided clear evidence of deliberate thinking as part of a coach's PJDM where coaches reverse engineered from a desired end in mind (Taylor & Ashford, 2022) and identified what their intentions for impact were, which in turn dictated the subsequent use of game form training. One interesting finding was the level of planning which coaches engaged in being dependent on the level of player they were working with. Individual development seemed to be the main focus of planning for those coaches who were coaching in a talent development environment as they adhered to some form of individual development plan for each player. This contrasted with coaches working with elite players whose main driver of planning, aside from a focus on physiological fidelity, was team based with little consideration given to the individual development of players.

Missing from this planning process was evidence of pedagogical considerations aimed at enhancing player learning, or a consideration of how difficulty is scheduled with reference to skill acquisition over time (Farrow & Robertson, 2017). Notably, coaches' planning did not

seem to be directly informed by well evidenced considerations such as desirable difficulties, retrieval practice, interleaving, spacing, variability and the dialing up and down of contextual interference (Bjork & Bjork, 2020; Magill & Hall, 1990; Shea et al., 2000; Stokes et al., 2008; Taylor & Rohrer, 2010). This body of work makes an important distinction between performance and learning and is supported by overwhelming empirical evidence showing that considerable learning can occur without observable short term performance enhancement, or adaptation to session demands (Kantak & Winstein, 2012; Soderstrom & Bjork, 2015).

One limitation often associated with qualitative research is the risk of recall bias due to the retrospective nature of this enquiry. Thus, whilst coaches may not have used these intentions in practice, it may be the result of retrospective meaning making. Furthermore, it is important to recognise that the findings of this study should not be used to generalise across coaching populations. The sample of coaches in this study is in no way representative of the broader coaching workforce, coaches were sampled based on their level of expertise and track record of high-quality outcomes. As a result, it is important to consider the transferability of findings and implications rather than broader generalisability (Polit & Beck, 2010). Finally, these interviews were not triangulated with any other form of data and while this is not necessarily a weakness given my positionality as an interpretive researcher, triangulation could potentially present another lens of analysis as in Chapters 3 and 4.

5.5. Conclusion

This purpose of this chapter was to understand how high level coaches plan for game form activities and how they form their intentions for impact. Findings suggest that these coaches were very deliberate in their planning, while displaying a clear nestedness to their planning. This provides an interesting contrast to the findings of Chapter 3, where coaches appeared to be slightly less intentional in their intentions, noted by the prevalence of copy and paste coaching. Furthermore, these intentions for impact could be understood through the lens of

fidelity of practice, with fidelity referring to the realism created. In this regard, coaches seem to highly value practice which could be described as high fidelity. Crucially though this realism could be understood through four distinct forms of fidelity (affective, action, physiological and conceptual), though at least in this present work, coaches seemed to be bound by physiological fidelity.

Chapter 6: Where we all belong, but…: Coaching complexity in youth Gaelic games

6.1 Introduction

Upon beginning this research journey, I was interested in the playing experience which was elicited through the activity design utilised by a coach. This is reflected in the overarching aim of this thesis: exploring how coaching practices can influence player experience. Thus, in Chapter 3, the first study in this thesis, I investigated the impact of GBA on player experience in Gaelic games with findings suggesting a culture of copy and paste coaching in Gaelic games, driven by some misunderstandings of what a GBA is perhaps as a result of the oversimplified promotion of GBA in mediated coach education. The implication of this finding, certainly in the context of Chapter 3, was the potential for inequitable playing experiences of players. Following on from this investigation embedded in Gaelic games contexts, I was keen to understand if these findings were unique to Gaelic games and the volunteer nature of coaching associated. With this in mind, Chapter 4 was an investigation into how high level team sport coaches, from a variety of sports, utilise game form activities within their practice with the suggestion that coaches utilise a range of different theoretical positions in a highly pragmatic manner, leading to game form activities designed in a highly individual and intentional manner. Thus, it seems likely that these contrasting approaches to the use of game form activities would lead to significantly different playing experiences, largely shaped by the intentions of the coach. In Chapter 5 of this thesis, I examined coaches' use of intentions for impact when planning for game form activities. These findings could be clearly understood by coaches desire to replicate the game within their training sessions – a desire for activities deemed to be high fidelity. Participants suggesting that the overwhelming focus on physiological fidelity reported by coaches may be at the expense of conceptual, action and affective fidelity. Thus, coaches may be missing out on a more nuanced and intricate activity design. By considering

activity design through the lens of fidelity, specifically the four forms suggested in Chapter 5 (physiological, affective, conceptual and action), we can consider how players are being challenged. The findings from these three chapters suggest that coaches may find benefit in shaping their intentions for impact in relation to player experience rather than content-based intentions, to better shape the playing experience. It is this shift of focus from methods to playing experience that has prompted an interest in understanding the wider player experience.

Following these investigations, and upon reflection on the findings, I developed a significant interest in the broader playing experience. That is to say, while I began this journey wanting to further understand playing experience through the scope of activity design, the desire to broaden this scope became of great interest to me. In part this was driven by the natural evolution of the research, my own intrinsic curiosity and in part driven by some novel Gaelic games research and my employment as a research assistant, both of which occurred in a short space of time following my investigations in Chapters 4 and 5. In terms of my own curiosity, at this time my daughter had moved from playing in her clubs 'A' team to the 'B' team and while she clearly demonstrated a love for her sport, her experience no longer seemed to be determined by results at the weekend or the intensity of a training session. Also around this time, a paper on children's experience of Gaelic games, piqued my interest in playing experience understood through the various levels of curriculum (Gavin et al., 2024). Subsequently, when I began my employment as a research assistant, working with the GAA, I was keen to replicate this study and understand the youth sport experience. What follows in this current chapter is the result of this slight shift in research interest with a view to capturing a broader playing experience, beyond that which is explained by activity design and encapsulated within the research objectives as described in Chapter 1 - to explore the perceptions and experiences of players, parents, and coaches involved in youth level Gaelic

games, with a particular focus on the experiences of the transition through youth Gaelic games and the various factors influencing participation at this level.

With participation reaching its peak through childhood and into adolescence (McKay et al., 2019), sport provides a unique platform for youth development (Fraser-Thomas & Côté, 2009). Yet, from a coaching perspective, the youth sport context is complex and involves the facilitation of often competing individual motivations (Gavin et al., 2023). This complexity is compounded by biopsychosocial changes during the transition into youth sport, a period that includes adolescence, shifts in the structure and emphasis of sport, and motivational changes (Vella et al., 2011). During this time, young players undergo a wide array of physiological, psychological, and social developments that can influence their engagement with sport (Engel, 1977). Physiologically, puberty brings about changes in strength, coordination, and endurance, all of which affect athletic performance (Goswami et al., 2014). Psychologically, adolescents experience shifts in identity, self-esteem, and cognitive maturity, that shape how they perceive success, failure, and personal development in sport (McKay et al., 2019). Socially, peer relationships become increasingly influential, and the support (or pressure) from parents, coaches, and teammates can have a significant impact on motivation and participation (Vazou et al., 2005). The structure and emphasis of sport also shifts during this phase moving from largely participation and inclusive to more competitive structures. These transitions can create challenges for young players, especially when expectations are misaligned with individual developmental trajectories. As such, understanding motivation during this phase is crucial for effective coaching.

To explain motivational change, the ‘Three Worlds’ framework has been suggested (Collins et al., 2012), as outlined in Chapter 2. Importantly, these classifications offer an understanding of the spectrum of needs and motivations associated with youth sport (Gill et al., 1983) with each world representing a different set of values, goals, and motivations that

can fluctuate over time or co-exist in varying degrees. Regardless of classification, it has been suggested that a key feature of youth sport is an increased emphasis on performance (the execution of skills) and competition (the structure that allows for players to test their skill against opposition), in contrast to the participation and non-competitive structures that typically characterises children's sport (Jørgensen, 2024). This change, sometimes described as increased seriousness, has led to concerns in relation to participation, retention, and inclusion (Meân & Vynalek, 2024; Torres & Hager, 2007). As an example of increased seriousness in youth sport, individuals and teams are often grouped based on their current ability (Jørgensen, 2024). While there is little evidence in support of streaming in the education setting (Johnston & Wildy, 2016), its use in sporting contexts may be better understood as appropriate challenge for players being the intended outcome rather than explicit learning, albeit minimal research on its implementation in sport currently exists.

Moreover, considerable attention has been paid in both the literature (Back et al., 2022) and popular discourse (Irish Examiner, 2024) to opting out of sport, highlighting the importance of youth sport experience on participation. Further impacting participation in youth sport is the seemingly pervasive maladaptive coaching practices exhibited in some youth sport contexts (Breuner, 2012). This is presented in the form of name calling and extensive shouting in conjunction with perceived favouritism of higher performing players (Merkel, 2013). In some cases, this maladaptive coaching may be explained by the increase in seriousness associated with youth sport (Persson et al., 2020). By its very nature, competition acts as a process of judgement against an objective, external standard; something that will, of course, shape coach and player experience (Camiré, 2015).

As discussed in depth in Chapter 2, participant experience has increasingly been conceptualised through the lens of curriculum, encompassing all aspects of the participant's journey and interactions (Coakley, 1994). In the context of participatory youth sport,

curriculum can be understood at four levels; intended, enacted, experienced and hidden. The intended curriculum involving multi-layered intentions shaped from NGB policies through to the micro level planning of coaches (Bauersfeld, 1979). The enacted curriculum represents the ongoing process of replanning during practice, somewhat crudely referred to as how coaches' 'deliver' these intentions. Enactment may differ from the intended curriculum, given differences between coaches' intentions and actions (Ashford et al., 2022), or due to contextual issues such as availability of resources (Bauersfeld, 1979). This reflects similar findings in relation to coaching ideology, where it has been suggested that coaches essentially deliver a top down ideology in line with their own personal preferences (Hall et al., 2022). The experienced curriculum can be understood as the totality of participant experience and is reflective of how players interact with the enacted curriculum (Bauersfeld, 1979). Finally, the hidden curriculum refers to aspects of the experienced curriculum which are not overtly planned for at the level of intended or enacted curriculum and include cultural expectations and social norms (Cushion & Jones, 2014).

Gaelic games provide an example of distinctly different intended curricula for children and youth. For children aged 6 – 11, the intended curriculum is shaped by the Go Games model, a modified programme with scaled rules, equipment, number of players and playing area. Equal playing time for all players and no formal competitions are key features of this curriculum (GAA, 2024). Yet, beyond 11 years of age, there is no top-down direction for the intended curriculum except defined competition structures. The transition from children's sport is typically marked by a transition to full adult rules, full size equipment, pitches, and 15-a-side games, although individual counties can exercise the ability to modify rules up until under-15. This decentralised governance, with variation in structures, regulations and rules across different Gaelic games codes and between regions, reduces the consistency of the enacted and therefore experienced curricula (Schut & Collinet, 2016). Considering this unique context, the

transition from Go Games to youth Gaelic games offers an opportunity to better understand the transition from scaled children's sport to a more formal competition structure in youth. The aim of this study was to explore the perceptions and experiences of players, parents, and coaches involved in youth level Gaelic games, with a particular focus on the experiences of the transition through youth Gaelic games and the various factors influencing participation at this level.

6.2. Methodology

6.2.1. Research Approach

As outlined in Chapter 1, this study was guided by a pragmatic research philosophy and sought to generate practical and impactful knowledge that can contribute to real-world outcomes and contribute to enhanced practice (Giacobbi et al., 2005). Based on this pragmatic orientation and the desire to better understand individual experience, a more interpretivist stance was adopted (Goldkuhl, 2012), thus allowing me to understand participants' subjective experiences and interpret their meanings (Markula & Silk, 2011). To reflect both the pragmatic epistemological positioning, along with the research objectives of this thesis, a qualitative methodological approach, involving rapid, one-to-one semi-structured interviews, was employed. This approach facilitated an exploration of the perceptions and experiences held by players, parents, and coaches in youth Gaelic games.

6.2.2. Participants

Most communities across Ireland have a GAA club, often transcending sporting purposes and providing a platform for the development of a rich social tapestry (Roberts, 2015). Membership of clubs is dictated by where you live, this parochialism reinforcing pride in one's community (Cronin, 1999). The notion that the GAA is socially inclusive, providing a place for everybody is a feature of the GAA's branding campaign titled "where we all belong" (GAA, 2019). This contrasts with other international youth sport contexts where participation can often be linked

to socio-economic status and ability (e.g., Knoester & Bjork, 2024). In order to capture the experiences of a breadth of stakeholders, 140 participants (see table 6.1.) , representing players, parents and coaches, were purposefully sampled from 10 GAA clubs (see section 1.4.3.3.).

Table 6.1. Participants

Players (n=72)			
	Under 13	Under 15	Under 18
Male	13	16	8
Female	14	10	11
Parents (n=42)			
	Under 13	Under 15	Under 18
Male	5	10	5
Female	9	7	6
Coaches (n=26)			
	Under 13	Under 15	Under 18
Male	5	4	4
Female	5	5	3

6.2.3. Data Generation

Following ethical clearance from DCU institutional ethics committee (REC/2023/135) (see Appendices K and L), I visited each participant club in person to meet with coaches and share study information with parents. Informed consent and where appropriate assent was obtained from interested parents and coaches (see Appendices H and I). Based on the exploratory nature of the study, three distinct semi-structured interview guides, tailored specifically for players, parents, and coaches were developed. These concise interview guides (see Appendix J) each consisted of six open-ended questions that revolved around various broad perceptions of youth Gaelic games. Follow-up probes were created for elaboration on key points (Patton, 2002). This, along with the rapid interview approach helped to facilitate a large-scale exploration of experiences (Vindrola-Padros et al., 2020).

All interviews were conducted in-situ with players being interviewed immediately after the conclusion of games with their parents present. Parents were interviewed during the game, while coach participants completed the short semi-structured interviews, either directly before, or after the game. These timings were deliberately selected following recent calls for qualitative researchers to critically examine the location of interviews, given that locations can influence the production of knowledge (Bjørvik et al., 2023). To promote openness, all interviews with parents and coaches took place away from other spectators. All the interviews were recorded using a digital voice recorder (Phillips VoiceTracer, Philips Electronics UK Ltd, Guildford, England).

6.2.4. Data Analysis Procedures

Following data generation, all interviews were transcribed verbatim, pseudonyms were assigned to each participant before transcripts were checked against recordings. A reflexive thematic analysis (RTA) (Braun & Clarke, 2019) was conducted to analyse interview data, as described in Chapter 1. The analysis was led by myself, with my supervisors acting as critical friends. Using Braun and Clarke's six-phased approach as a guide rather than prescription, each transcript was re-read several times for familiarity and immersion. At this point I grouped transcripts by participant group (player, parent, coaches) and by age group (under-13, under-15 and under-18). Analysis software (NVivo 12, QSR International Pty Ltd., Doncaster, VIC, Australia) was used as a tool, solely for the manual structuring and organising of the raw data. In the second phase, coding of data was focused on generating semantic (changes from Go Games-"the goals are bigger and so is the length of the pitch") and latent (challenges posed by transition to youth sport- "not for him, but I think that possibly there could have been for another type of kid") codes through multiple sweeps of the transcripts by the first and last author. Coding used an inductive to deductive approach. This being reflective of my experience in team sport coaching and specifically Gaelic games. That is to say, that during the first two

phases of analysis, I did not start by applying theory, instead I tried to immerse myself in the data and code without trying to fit into pre-existing theories. However given my positioning and research background, it was not possible to be completely atheoretical as at a certain point I had to decide what was relevant to code and what theories, frameworks or concepts those codes aligned with. In phase three initial themes were generated from the codes, though importantly, this process of coding and theme development was organic and evolved through the analytical process (Braun & Clarke, 2019). In this sense, I returned to the coding process throughout data analysis searching for new meaning as themes were developed and the narrative evolved. The fourth phase involved the refinement of initial themes prior to the fifth phase of defining and naming themes. As an example, 'moving on up' was an initial theme developed in the third phase which captured the differences in under-13 to under-15 and under-15 to under-18. This was subsequently redefined with some sub themes subsumed into other main themes as the narrative of the research developed. The sixth and final phase consisted of writing the report although in line with the reflexive nature of RTA, report writing was recursive and part of the entire process (Braun & Clarke, 2019, 2021).

6.2.5. Reflexivity

In terms of reflexivity, an inherent aspect of qualitative research, while I am both embedded in any of the coaching environments of the participants, I have a background in Gaelic games coaching. As noted in previous chapters, this experience does not extend to the environments of the participants in this study. As such my positionality can be framed as being neither insider nor outsider (Dwyer & Buckle, 2009). Here I draw on this inherent subjectivity and acknowledge that my experience will act as a deductive frame. As such, my familiarity with youth Gaelic games acted as a resource to support the analysis (Braun & Clarke, 2021).

With this in mind, procedures were adopted during generation and analysis of data to enhance trustworthiness. An example being the use of constant comparison throughout the

analysis to provide a rich understanding of the data (Tuckett, 2005). Furthermore, the use of reflexive journaling was utilised to document the researcher's thoughts about the developing analysis and critically engage with their own biases and assumptions. These thoughts were shared with my supervisors to encourage reflexivity by challenging interpretations of the data with a collaborative focus on rich interpretations of meaning (Braun & Clarke, 2019; Byrne, 2021). This process was vital given that I am currently a coach, coach developer and parent-coach in youth Gaelic games. As such it was important that I did not allow my own opinions and experiences to dominate the analysis. The reflexive journaling and subsequent challenging by supervisors helped me utilise my positioning in the analysis as opposed to applying a rigid, top-down framing on issues I was currently navigating in the aforementioned roles.

6.3. Analysis

The purpose of this study was to explore the perceptions and experiences of players (P), parents (PT), and coaches (C) involved in youth level Gaelic games, with a particular focus on the experiences of the transition from a modified programme to competitive games and the various factors influencing participation at this level. Two overarching themes were generated from the data: 'it's the perceived seriousness' and 'it means a lot to us' (see table 6.2.). These themes and their respective sub-themes are presented in detail with exemplar quotations with both reference to the participant group (P, PT or C) and the associated age grade and gender of the player (U15F, U18M etc.). For example [PT12-U13M] referring to Parent 12, a parent of an under-13 male player.

Table 6.2. Thematic table

Theme	Sub-theme	Raw Data Exemplar
It's the perceived seriousness	Perceptions of the complex role of the coach	They're more like a leader in the sense where it's like, you're asking them questions and being like, 'Where can I improve?'. Like a teacher [P8-U15M]

	Who are our coaches?	A coach who is the other version (parent coach), you can kind of start to get left behind a little bit at this level and I think that's kind of a disappointment, it'd be good to keep them more involved longer [PT2-U13F]
	Competition focus the coach	There is a difference yeah because obviously, as it gets more competitive then they have to field teams (due to introduction of regulations) and some players don't get games [PT29-U13M]
	Coaches aiming to manage complexity	Big change in terms of how the girls are improving and perceiving the game when they're streamed. Before it was streamed there was a lot of impressions that only the A players pass to A players but since we're streamed the girls are getting a lot more time [C13-U13F]
	Why are we playing this fixture?	There's not a lot of thought given to camogie, so that football is week 1,2,3,4,5,6. There's no split and it causes fixture congestion and a bit of (friction) between coaching groups [C23-U15F]
It means a lot to us	Community- a sense of belonging	He identifies himself with his club he plays with, that's part of his identity, I suppose [PT33-U18M]
	Appreciation for the coach	I think we have so many people that are dedicated and put so much time and effort into the teams, a huge amount of interest in the girls, both at a group and individual level. And I think there's kind of a number of quite technically experienced coaches. And we're lucky to have them [PT1-U13M]
	A social endeavour	Camaraderie, I suppose. I feel like you're closer to your peers [P20-U18F]

6.3.1. It's the perceived seriousness

This theme, it's the perceived seriousness, represents participants' perceptions of coaching in Gaelic games. Reflecting both the idea of coaching being at the heart of adolescent experience in sport (Cushion, 2010) and that coaching itself is an inherently complex endeavour (Nash & Taylor, 2021), this theme included players' and parents' reflections on coaches and coaching in general. In addition, the coaches discussed the challenges they experienced related to how they navigated the competitive game structure and the subsequent increase in seriousness over time.

6.3.1.1. Perceptions of the complex role of the coach

In keeping with previous work on the complexity of youth sport coaching (Nash & Taylor, 2021), parents and players presented a list of roles they believed to be performed by the coach. These included enhancing performance and enjoyment, whilst acting as a role model. This highlights the scope of the role of a youth sport coach and indeed the expectations placed on coaches. Coaches were also viewed as educators, a notion explored in the literature (Jones, 2006), with players reflecting on the developmental nature of their coach's role: 'helping us develop in ourselves…expanding our skills rather than starting from scratch. They're not breaking us down… they're helping us develop' [P14-U18F]. This developmental approach also involving a focus on enjoyment: 'make sure everyone is enjoying it and not putting too much pressure on themselves' [P10-U18M]. Crucially, the players' explicitly referenced that coaching should not involve a focus on winning, but rather on helping players enhance their performance:

> To help players, to support players, to reward them for their skills and work on things that they're not so good at. They're not there to just shout at people. Coaches are more about playing a good game, not always about winning. [P50-U13F]

Furthermore, this perception of support extended to suggestions of parental-like roles of coaches. One such example comes from a player who suggested: '(coaches are) a role model I suppose… shows you what to do, like a father figure… teach you' [P61-U15M]. While both males and females appeared to view their coaches as educators and figures of authority, this notion of coaches fulfilling a parental-like role was more prevalent with female players and coaches than with male participants. Female coaches seemed more likely to perceive themselves, and be perceived by players, as being a parental figure than male coaches:

> They all consider me the mummy of the group…I'm the one they come to when they're not feeling well, or whenever they have a pain in their leg, or when they want to ask a question and they don't feel confident talking to some of the newer coaches… I'm the one that they'll come and chat to. [C10-U13F]

While previous work has highlighted the challenges presented by gender stereotypes for female coaches (Burton & Newton, 2021), this coach describes with pride what this role entails with an under-13 female playing group, further highlighting the challenging and complex nature of youth sport coaching. This presents a tension between existing literature and the current discourse around women in sport. On one hand, well evidenced gender stereotypes (see Burton & Newton, 2021) are perceived to be detrimental to female coaches in general, while on the other hand, the female-dominated, parental-role fulfilled by this coach above seemed to be genuinely valued by players. Perhaps then, the issue is less with the sex of the coach and more with the inherent hierarchy in which coaching roles seem to be perceived. In this sense, higher level coaches are expected to hold more task-orientated qualities (Burton & LaVoi, 2016), in contrast to the more relational-orientated qualities described above.

6.3.1.2. Who are our coaches?

Perhaps reflecting the changing motivations associated with the transition from a modified programme to competitive games and the various factors influencing participation in youth sport (Vella et al., 2011), participants, discussed their perceptions of who should coach:

> One thing I have to be conscious of is parents who are coaches. Some parents as coaches can be hard on their child. I even think sometimes their child suffers because when they're picked people say 'it's only because their parent is a coach' and you know, sometimes I think it'd be better to have someone who's not a parent as a coach but that'd be very difficult because they're having to give up free time and I understand that. [PT31-U15M]

While parents appreciated the commitment of parent-coaches, they deemed the transition to youth competition as a critical point where coaching required something more. This was reflective of increased seriousness (Jørgensen, 2024) and a desire from participants for this to be the case. Some shared a less positive view on non-parent coaches, recounting being pushed out of a coaching role as youth games began: 'people come in at under-12, and suddenly, it's like, "I'm here. I'm gonna start taking all the coaching"' [PT2-U13F]. The introduction of the external coach, made this parent redundant in their coaching role, contrasting with the notion

of ‘where we all belong’. This represented a tension between the inclusivity of players and coaches with the desire for enhanced coaching, the inherently competitive nature of sport and the motivation of players to increase their competence and to win. Players also reflected on the importance of a coach having played the sport themselves. The ability of a coach to meet player’s needs seemed to be doubted by players if not: ‘I find it difficult if our coach hasn’t played GAA before and doesn't really know the rules and when we're on the pitch, it's quite difficult if they don't understand what we're trying to do’ [P2-U15F].

As players transitioned to a more competitive format in youth sport, they perceived that coaches should have the required knowledge bases to affect further development. In this manner, the transition can be seen as a move from participatory based coaching to that which better allows teams to be competitive and fulfilling the needs of those who considered excellence in the form of winning or personal performance (Collins et al., 2012).

6.3.1.3. Competition focuses the coach

For many parents and players, maladaptive coaching practices seemed to be a feature of the youth Gaelic games experience. It seemed that the introduction of formal competition at 12 years of age was the predominant factor in changing the focus of coaches. Reflecting this, a parent discussed a challenge presented by the intended curriculum with formal leagues and the opportunities for representative selection:

> I think when there's a medal or a trophy are something physical at the end that's identifiable as the award, it adds that extra level and also you move up to this age group, and they believe they’re being scouted for county teams. [P33-U15M]

It seemed to be the case that this external validation and shift in the hidden curriculum became an increasingly prominent focus for all. Winning and losing impacted significantly on coaches: ‘you try to encourage them and not to get sucked in but you do get sucked in when you see the girls wanting it, and then when they have challenging matches, you do get sucked in’ [C8-U15F]. Whilst coaches were aware of this as being undesirable, they were pulled towards a

style of coaching that they considered maladaptive. As a result, parents and players experienced subsequent changes to the enacted curriculum coinciding with the introduction and increasing intensity of competition as players progressed towards adult games:

> In some situations coaches are very frustrated…spilling over into training and the girls seem to get shouted out and (it's) very hard to go back then the next time. So it's that combination of getting the balance right and helping them to improve but encouraging them rather than being disappointed with them. [PT5-U15F]

While the players discussed how these behaviours negatively influenced their experience, they were also offered as examples of signs that a coach 'cared' in spite of what was described as aggressive coaching behaviours, as one player suggested:

> (Coaches are) more aggressive like, they're intense. Last year, we were all positive, no shouting but you know like, I don't know how to say it. They're getting more involved. And it shows…it looks like they care about it more…more training and everything. [P21-U15M]

This perception of greater seriousness year on year as competition intensified (see table 6.3.) was described by a shift in coaching focus towards enhancing performance, something that seemed influenced by the desire to win. This appeared evident from the start of youth sport at under-13: 'some of them have gotten stricter and they're working us a lot harder at training, they expect more of us' [P4-U13M], continuing through under-15: 'the way they train us… no chatting…the drills are more intense and more physical' [P49-U15M]; and at under-18: 'it's a lot more strict…more desire to win… it's just it's 100% effort and it's not less fun, but it's just more tense' [P53-U18M]. This increase in seriousness was further highlighted by a player when referencing their coach's attitude to mistakes:

> (Coaches are) lot harsher… In a good way, if you make a mistake at under-13 it is okay but under-15 is proper football and full pitch and if you make a mistake, it can cost you the game. [P47-U15M]

These examples seem to support the notion of a powerful, socially constructed and accepted connection between aggressive communication and sport (Kassing & Sanderson, 2010). However, absent from these reflections were any examples of overt derogatory communication.

This presents a complex picture. Whilst it seemed, and was supported by these results, that the increased seriousness, tied to the intensity of competition, has been identified elsewhere as being a risk factor for participation (Persson et al., 2020), it was also what players wanted from their coaches. In this sense there seemed to be a clear distinction between coaches having high expectations (being 'harsher', 'more strict' and 'intense') and the presence of maladaptive coaching.

The language used by many participants did however suggest an emphasis on the binary outcome of winning or losing. There seemed some dissonance between the role of the coach as someone who was there to develop the capacities of individuals as opposed to seeing winning as an end in itself. This apparent lack of focus on the developmental opportunity to learn from mistakes being previously linked to opting out (Merkel, 2013). A focus on winning also led to lower ability players receiving little or no competitive playing time in favour of higher ability players: 'last year, I didn't really get too much playing time, because I was still getting better' [P53-U18M]. Parents lamented this overly competitive focus. In contrast to the idea that coaches were being 'sucked in', this parent discussed their belief that the coach's focus had shifted away from appropriate development, to their own desire to win: 'sometimes I think it might be a little bit more about the lads on the sideline than it is about the girls.' [P34-U15F]. This was also experienced by another parent who reflected on differences between their children:

> My youngest [daughter], has had a particularly tough experience with a coach, quite a negative coach... a lot of giving out to the kids and not positive encouragement, more negative than anything. My son's experience has been very good, all the way up. [P27-U18M]

This variability of experience of children from the same family, within the same club, highlights the pivotal role of the individual coach (Agnew & Pill, 2022). In this regard, it appears that regardless of any deliberately shaped intended curriculum at the national level, ultimately what seemed to have the greatest impact were the micro level interactions between

players and coaches and the enacted curriculum. In this regard, there was a broad perception amongst the coaches that they didn't feel like they were prepared to work in the complexity of the youth coach role with one coach suggesting a gap in the extent to which coaches were able to meet the needs of players at all stages: 'coaches a lot of the time aren't educated enough to bring them up through the years...we have like a pathway printed off, but I think it's forgotten about to be quite honest with you' [C7-U18F]. The idea that coaches lack necessary knowledge to develop players as they progress through the pathway, while simultaneously referring to existing coaching resources, subtly suggests that coach development requires more than the creation of resources. Parents also shared the view that coaches lacked support from clubs and governing bodies: 'coaching probably needs to be, I won't say regulated, because people have volunteered their free time, but I'd say there needs to be probably a little bit more structure' [PT21-U13M]. Coaches' interactions with parents presented issues at all ages, a concern not limited to Gaelic games (Ross et al., 2015).

Table 6.3. Increase in seriousness over time

Age grade	Player	Raw Data Exemplar
Under 13	P65	Go games was all practice matches, here we've a chance to win league finals and championship finals
	P18	(It is) way more competitive. Pitches are bigger, you need to be fitter for the season, training is way more serious
Under 15	P36	More intense, and the games are a bit faster. It's getting more physical too
	P48	Last year, like they were strict but sure, you know, that's still under 13s. Like last year you can have a bit of craic (fun) with it, you know, like messing around a bit but then under 15 definitely gets stricter. Definitely gets a lot tighter.

Under 18 (minor)	P14	Yeah, like, for under 16 I knew the girls for years and years and so you knew what they'd be like. Whereas with minor…you'd be looking to like really fit into the team and earn your spot. Whereas with under 16 everyone always knew their spot already but for minor you really have to push yourself and earn your spot on the team
	P10	It's more physical, more competitive. It's like closer to adult football…your turning into more men instead of boys.

6.3.1.4. Coaches aiming to manage complexity

As previously described, each season from under-13 onwards featured a perceived increase in seriousness associated with participation. This was felt by all (see table 6.3.) however, to some extent it seemed to be moderated with streaming, where players were grouped accordingly to ability level. This separation of players into ability-based groups was a contentious issue with highly variable views amongst participants, a complexity reflected in educational settings (Mansor et al., 2016). Interestingly though, streaming was presented by participants during data collection in the absence of any question regarding its use, suggesting it to be a pertinent topic in youth Gaelic games. For some participants streaming was demotivating, for others it seemed to allow for the coach to better meet individual motivational needs. Here a coach describes the friction associated with the introduction of competition and streaming of players into ability-based groups:

> When we started moving them to a, b, c, and d…their parents found that harsh, so we find that we had a lot of explaining to do but they found it hard to trust us. I think they definitely had to get their heads around that idea of now being very competitive. [C10-U13F]

Despite this initial friction, positive perceptions followed, centered around the potential for the formation of new friendships as teams were less fluid from week to week: 'it's really good that we've been streamed and we're with our teams, and we can bond with our teams' [P2-U15F]. Others also saw the adaptive side of a more appropriate challenge for both high and lower ability level players: 'she's touching the ball more, her skills are improving, she's happier' (PT30-U13F). However, this was not experienced by all participants. This was exemplified by

another parent who, reflecting the social aspects of team sport participation (Bruner et al., 2017), noted issues such as separation from friends and the disappointment associated with being streamed at a lower ability level: ‘it's hard for them when they're all put into groups of A, B, and C, because her friends were in some of the other groups and so that was really hard’ [PT26-U13F]. These examples perfectly exemplifying the variety of motivations in line with the three worlds model (Collins et al., 2012). In this regard, streaming was perceived positively for those players prioritising sport performance and development while perhaps less so by those whose priority was social.

6.3.1.5. Why are we playing this fixture?

Despite an abundance of positivity in relation to involvement in youth Gaelic games, many participants were concerned with the scheduling and regulations of competition that represented an example of top-down structuring of the intended curriculum. While not reflective of *all* games programmes, participants were often frustrated by uncontrollable administrational factors including avoidable fixture congestion, the timing of fixtures, and the structure of programmes: ‘there could be games on Saturday, Sunday, both codes [sports], or Saturday, Sunday and Monday and with back games you could have Friday, Sunday and Monday as we have this week’ [C12-U18F]. The implication being limited time for appropriate development and a significant impact on the experienced curriculum with players in a constant state of either recovery from, and preparation, for games. Indeed, participants described a frustration with a games programme that seemed to be either focused on short windows of fixture fulfilment before long periods of no competition, or poor scheduling. For example, competition windows coincided with school exams:

> I’m going home now to study for my (state exam). A lot of girls have exams tomorrow morning... five of us won't come back after this match because we're going to take June off for our (state exam). We've all been waiting a year to play minor (under-18) and then to have your matches fall in with your exams. [P67-U18F]

This player's frustration not being that the games programme coincided with state exams but the games programme beginning at the same time as state exams. Other scheduling issues such as split seasons, whereby teams compete in two short seasons each calendar year also acted to diminish the player's experience. In line with findings from other domains (Hume & Coll, 2010), these resolvable issues with the intended curriculum had significant impacts on the experienced curriculum. Here a coach explains the difficulty:

> They have a team for the first half of the year so they get used to that team and learn how to play with that team, then come July, they have a new team. So you're changing age group, so your team changes, your coach changes, your training time changes…It's hard for the players to gel, it's hard for the coach. [C7-U15F]

Evidently, and despite overwhelmingly positive reflections on the experience of Gaelic games, participants from all cohorts were unhappy with the convoluted structuring of fixtures. In this sense, this element of the intended curriculum seemed to add to an already complex coaching dynamic (Nash & Taylor, 2021). These were typically presented in the form of regulations and guidelines from a variety of sources such as individual club or directives from governing bodies. In this sense, a coach highlighted the constraints around introducing formal squad registration, the number of permitted substitutions, and the impact it had on their playing numbers and game time for players:

> We have eight subs… it's three too many…the kids want to play. We don't have the capability of playing everyone... We tried our best to hang on to three teams, but this year we had to name our panellists, whereas last year we might have got a couple of from the year below and we would have played three games, we would have got away with it. Unfortunately, had to get rid of the third (team). [C5-U15M]

These organisational regulations aimed at ensuring competitive games, acted as unnecessary barriers to locally effective coaching. The strict rules concerning the matchday squads meant inequitable experiences for players. Clearly I am not suggesting the removal of these well intentioned rules, nor am I suggesting that these can be fixed overnight. However, there appears to be a need for NGB to take a more pragmatic approach to some of these regulations to provide a better experience to participants. Taking the excerpt above, these regulations meant that for

this team, three players were unable to play each week due to limitations on the number of permissible substitutions, a wholly undesirable situation. However, without this rule, teams with bigger squads could use a significant amount of substitutes, potentially gaining an unfair advantage over opposition with a smaller squad. This highlights the balancing act between the application of rules aimed at equality which might be better conceived around the notion of equity.

6.3.2. It means a lot to us

Reflecting the notion that Gaelic games are at the heart of Irish society and contemporary life (Orejan, 2006), the theme 'it means a lot to us' [P50-U13F] reflects the meaning which participants attached to their involvement with Gaelic games. These reflections included aspects related to the involvement in the sport itself, but also aspects beyond the pitch, most prominently the wider community and social elements of participation.

6.3.2.1. Community- a sense of belonging

A sense of belonging, community and the local nature of participation, was central to participant's experience, exemplified by a female player: 'get to know people in our community, people in your locality' [P13-U15F]. This seemed to be a difference between Gaelic games and other sports: 'he did play soccer…it's not nearly the same…. the sense of team, the sense of community' [PT16-U15M]. This seems to be consistent with the cultural centrality of Gaelic games in Irish society (Roberts, 2015) and further reflected by a coach: 'I hope they get a sense of the cultural aspect of it…the sense of community' [C24-U15F]. Players also reflected how a sense of community had an impact on their interactions:

> A sense of community. Like, it's a great way to get to know people. It makes me close to people I would have never talked to… even like the whole club, and people from other clubs. [P66-U18F]

While not unique to Gaelic games, this sense of community was the strongest aspect of participant's experience regardless of role, age or ability. Here this coach reflecting on their

purpose: ‘it's building bonds or friendships for life, it's trying to keep them in the club…a future in sports is really what I would see it as’ [C17-U15M].

6.3.2.2. Appreciation for the coach

Coaches were the beneficiaries of widespread praise from players and parents. Given the volunteer nature of youth coaching positions in Gaelic games, parents and players were appreciative of the efforts of coaches:

> The one thing I will say is they show up giving them (the players) the time, it's absolutely incredible the physical presence of the coaches and the way that they're able to dedicate their time regularly every week, three times a week, so it's really admirable. [PT3-U13M]

This sentiment was shared by players: ‘our coaching is unbelievable, I couldn't thank them anymore, they are absolutely amazing, always there for training’ [P60-U15M]. These reflections seem to directly contrast to some of the earlier themes, specifically those around maladaptive practices. While participants clearly feel strongly about some of these maladaptive practices, within the wider context of Gaelic games they seem to be endured to a certain degree. In this regard, it seemed that all participants highly valued the community dimensions of participation (Baxter & Misener, 2022). This was exemplified by one player perceiving that following the move from under-13 to under-15, coaches had become ‘a lot more aggressive’ [P42-U15M]. This player did not play at all during the league game which I attended, while believing that this allowed the team ‘to get the win’. When asked was this fair, the player simply replied ‘yes’. Clearly this presents a complexity where despite having no involvement in the game, this young player did not appear to be aggrieved. Thus, the strong sense of belonging and community in Gaelic games seem to lead to the belief that certain practices, while having a negative impact on the individual, are necessary for the betterment of the team or club (often at the expense of the individual), perhaps an indication of the impact of the hidden curriculum of Gaelic games (Cushion & Jones, 2014).

6.3.2.3. A social endeavour

The importance of social endeavour, a theme that captures the idea that social connection to peers was an important participant motivation (Ullrich-French & Smith, 2009), was also prominent across the participant cohorts. This sentiment was held across players, parents and coaches at youth level and exemplified by a player referring to the purpose of youth Gaelic games: 'have fun mainly, but also trying to get out with kids your age, and enjoy yourself" [P37-U13F]. Parents saw the changing format of the game and increasing competitiveness as secondary to the social dimensions of participation. This perspective seemed especially prominent for participants who were more socially motivated (Collins et al., 2012). As an example, this parent reflected that: 'I think he's essentially a very sociable child and he likes people, getting to know people. I don't think he's a terribly good player, but he really enjoys playing with the other boys' [PT4-U13M]. Participation afforded the opportunity for social interaction and enhanced wellbeing regardless of ability level.

While the importance of inclusivity of participation was not limited to those that were more socially motivated, it did seem differentially perceived across ability levels, especially following streaming. For example, one of the coaches of the highest ability group at under-18 suggested: 'I'm sure there is a considerable social element still involved to it, but I don't know whether the social element in and of itself would keep lads involved' [C2-U18M]. The implication here being that although the social element was central to all participants' experiences, it was insufficient in itself to maintain involvement across all ages and ability levels. In this sense, the use of streaming by ability level seemed to allow for coaches to better cater to different types of motivation.

6.4. Discussion

In this chapter I explored the perceptions and experiences of players, parents and coaches involved in youth level Gaelic games focusing on the experiences of the transition through

youth Gaelic games and the various factors influencing participation at this level. In terms of coaching, participants reflected on a wide range of roles fulfilled by coaches and were clearly very appreciative of the commitment from coaches. The transition to youth competition was deemed as a critical point where coaching required more than an 'eager' parent, reflecting the increase in seriousness which typically characterises youth sport (Jørgensen et al., 2024). This increased seriousness, understood as the enacted curriculum, seemed to meet some participant needs, particularly those concerned with personal or elite performance (Collins et al., 2012). Furthermore, coaches seemed to be faced with overwhelming complexity in their practice, in line with previous research (Nash & Taylor, 2021). In this regard, one meso level intervention potentially aiding coaches in the navigation of this complexity was the introduction of streaming (Jørgensen et al., 2024). Whilst streaming players appeared to support coaches to better meet the motivational needs of players, future research is required to explore the enactment and impact of streaming on player experience and coaching practice.

The administration of games, described here as the intended curriculum, was one area where considerable frustration was experienced by all participants across contexts. Participants reflected on the idea of games for the sake of games, instead of a games programme focused on development. It is clear that the intentions for impact and rationale for the games programme requires both attention and articulation by the governing bodies of Gaelic games in order to provide meaningful games for all players, thus improving the experienced curriculum (Clemmons et al., 2022). The findings also reflected the parochial nature of Gaelic games and the pride in one's local club which exists across Ireland with community at the heart of the experience for participants regardless of ability level or location. In addition, participants reflected an incredible meaning within their games perhaps explained by the unique nature and cultural importance of Gaelic games (Roberts, 2015). This sense of meaning espoused by participants seemed to lead to the belief that certain coaching practices, even when

acknowledged as having a detrimental impact on the individual, are somewhat necessary for the betterment of the team or club. This contrasted with the notion of 'where we all belong' and thus created a dynamic whereby inclusivity was in tension with the competitive nature of sport and the motivation of players to increase their competence and to win. This important finding highlights some dissonance which exists in youth Gaelic games where community and social connection are dominating factors but the transition to youth sport is also characterised by both a change in the demands of the sports and a perception of what is needed to support development. In this manner, youth sport can be seen as a move from participatory based coaching to that which better allows teams to be competitive and fulfil the needs of those who consider excellence in the form of winning or personal performance. The apparent justification for maladaptive practices may not necessarily be the case for other sports which lack the same social importance as that of Gaelic games in Irish society and suggests a significant impact of the hidden curriculum associated with Gaelic games (Cushion & Jones, 2014).

In terms of practical implications there is a need to consider how different pedagogical interventions at a system wide level, a club level, and in coaching practice can enhance the experienced curriculum. The question is whether efforts to shape the intended curriculum at the national level would impact on individual experience of players given that greatest impact seemed to be the micro level interactions between players and coaches. In practice though careful consideration to changes in policy is required. For example, there are calls to dilute the competitive nature of youth sport (Sullivan, 2022), yet in this study it was the competitive nature of the sport that underpinned many of the players' meaning of their participation. Given this complexity, these findings would seem to suggest that coaches require more support to manage the complexity faced in their roles.

6.5. Conclusion

In summary, Chapter 6 was a curriculum investigation exploring the perceptions and experiences of players, parents and coaches in youth Gaelic games. Findings highlight the complexity associated with the role of the coach, who is both deeply appreciated and a critical influence on playing experience. While participants admired the commitment of coaches, the introduction of formal competition structures seemed to lead to maladaptive coaching behaviours. This enacted curriculum consisted of intense training, increased emphasis on winning and inconsistent playing opportunities for players. Whilst participants expressed a sense of belonging and community within their clubs, reflected in the intended curriculum of the GAA, this also seemed to lead to a tolerance of maladaptive coaching behaviours potentially detrimental to individuals but seen as necessary for team success. Considerable frustration was aimed at the intended curriculum, specifically at games programmes orientated towards fulfilment of fixtures rather than development. Ultimately though, the biggest impact on playing experience was the enacted curriculum, through coaching interactions, clearly highlighting a need for coaches to receive greater support in navigating the complexity which they face in their roles.

In terms of limitations, while 140 participants were recruited for interviews, this is clearly not representative of the entire youth Gaelic games landscape and as such this work cannot claim to account for every perspective held across the youth Gaelic games landscape. Furthermore, the rapid nature of these interviews may have acted as a barrier to more in-depth reflections from participants.

Chapter 7: Grouping by ability in youth sport: Understanding experiences of streaming in youth Gaelic games

7.1. Introduction

This thesis has developed from an initial interest in enhancing player experience through the activity design of coaches, with particular attention towards the use of game form activities. As my research progressed, my focus broadened beyond discrete coaching strategies to a more holistic concern: how the overall experience of participants could be shaped more deliberately and effectively as outlined in Chapter 1. This evolution in focus led to a deeper examination of athletes lived experience presented in Chapter 6. Thus, Chapters 3, 4, 5 and 6 collectively offer a series of empirical snapshots that illuminate the complex, dynamic and multi-layered nature of coaching and player experience, these findings supporting previous work identified in Chapter 2. Furthermore, these chapters demonstrate how coaching practice and wider structural influences, such as NGB policy, interact in a manner which shapes the player experience, sometimes in unintended ways. As supported by an extensive body of literature, coaching is not a linear, sequential process but rather an inherently complex social practice (Cushion et al., 2003; Dempsey et al., 2020), where contextual variables and interpersonal dynamics play a central role.

Coherent with the aims of a professional doctorate, which emphasises significant contributions to professional practice through research, the next phase of this thesis is directed towards offering tools which aim to help both coaches and NGBs navigate the complexity associated with coaching. That is to say, Chapters 7 and 8 shift from attempting to understand complexity to providing responses in the form of practical and theoretically informed tools designed to support coaches and NGBs to more appropriately consider the playing experience.

Specifically, the objective of Chapter 7 is to investigate perceptions of adaptive and maladaptive uses of streaming in youth level Gaelic games, while Chapter 8 proposes a framework for activity design concerned with creating realism in practice sessions. Both of these concepts, ability grouping of players (Chapter 7) and fidelity of practice as a means of considering activity design (Chapter 8), are grounded in the preceding empirical work and have the potential to allow a significantly more meaningful and appropriate shaping of player experience.

As highlighted in Chapters 2 and 6, youth sport is often organised through ability grouping where individuals are grouped for training and competition based on external perceptions of their current ability, while teams are typically organised in skill-based divisions (Jørgensen, 2024). The aim of this being the provision of appropriate challenge based on youth players' current competence. Borrowed from the educational literature, the concept of ability grouping is often referred to as streaming, a term which tends to evoke heated debate in educational settings (Johnston & Wildy, 2016). Interestingly, the vast majority of research in streaming shows no improvement in academic achievement across an educational system (Terrin & Triventi, 2023). Of course, focusing on outcome measures, such as winning or losing, does not provide sufficient information about the experiences of the implementation of streaming or how it is experienced by young people (Johnston & Wildy, 2016). The important contextual difference is that in sport, the 'content' to be learned is often measured against those that you play with or against. That is, the purpose of streaming is different in that it not only supports the pedagogical approach of the coach, but is also used as a tool to provide appropriate challenge for the player; something proposed to be essential for learning in the skill acquisition literature (Guadagnoli & Lee, 2004). As such, streaming may have the potential to both provide a level of challenge within or just beyond a player's current capability through the grouping of players of similar ability and assisting a coach's approach to practice. Taking a similar

perspective streaming may also support players' perceived competence (Kususanto & Fui, 2012), an important factor in sport participation. Yet, ability grouping has also been shown to maladaptively influence self-esteem (Odongo et al., 2021) and create self-fulfilling prophecies for those streamed into lower ability groups based on lower expectations (Rubie-Davies et al., 2010). In essence, while streaming can provide a practical means of accommodating varying ability levels, its implementation may also serve the purpose of player development by offering appropriately challenging experiences – though this requires careful consideration of its broader implications. Crucially though, there is currently a dearth of literature concerned with streaming in sporting contexts.

Crucially, it has long been posited that the developmental trajectory of youth sport players is shaped by their coaching and support network (Fraser-Thomas et al., 2008). However, given the aforementioned complexity, coaching cannot be reduced to reproduction of a 'best way' (Nash & Taylor, 2021). Instead, the suggestion being that coaches adopt a focus on longer term development (Jørgensen, 2024). Sitting at the nexus of several critical factors for long term participation, including appropriate challenge, building competence and self-esteem, it would appear that streaming could be a useful mechanism to support the player experience.

As such, reflecting both the current lack of evidence related to the implementation of streaming in youth sport and the importance of examining sport participation through the lens of multiple stakeholders, the purpose of this study was to explore players', parents', and coaches' experiences and perceptions of streaming in youth Gaelic games.

7.2. Methodology

7.2.1. Research Approach

This study was guided by a pragmatic research philosophy as discussed in Chapter 1. Given the inherently socially constructed nature of streaming, an interpretivist stance was deemed

appropriate to understand individual coaching, playing, or parental experiences (Goldkuhl, 2012). Aligned with both the pragmatic approach and epistemological positioning outlined in Chapter 1, a qualitative methodological approach, involving rapid, one-to-one semi-structured interviews, was adopted. This qualitative approach facilitated an exploration of the perceptions and experiences held by players, parents, and coaches, offering an understanding of their perspectives of streaming in youth Gaelic games.

7.2.2. Reflexivity

A series of procedures were adopted during data generation and analysis to optimise the trustworthiness of the data. My use of reflexive journaling throughout the data generation and analysis phases being an example of this. This allowed me to reflect upon my own lived experience of youth GAA as a player, coach and parent against participant reflections. This self-interrogation allowed me to question aspects which I had taken for granted. Furthermore, it fostered critical engagement as my reflections were frequently shared with my supervisors. This led to collaborative challenging of my interpretations by my supervision team, with a focus on meaning-making (Braun & Clarke, 2019). Consistent with the approach taken in other studies in this thesis, constant comparison was used across the different groups further developing concepts and connections while also developing coherent and contrasting perspectives across the dataset (Tuckett, 2005).

Additionally, given that I am an active Gaelic games coach, I cannot consider myself to be an outsider given my positioning, though as I am not insiders of any of the coaching environments of the participants, I cannot consider myself an insider either (Dwyer & Buckle, 2009). This positioning was viewed as a strength throughout the entire analytical process and aided in my construction of the research story (Braun et al., 2022).

7.2.3. Participants

At youth level, all Gaelic games introduce formal league structures, with intra club groupings for those clubs with sufficient players to create multiple teams per age grade. This consists of dividing teams into ability based divisions, usually assigned a numerical value (e.g. division 1, division 2), while players are divided into ability based teams within age groups (e.g. under 13 'A', under 13 'B').

Given the vast number of participants in youth Gaelic games, participant sampling was guided by the notion of information power (Malterud et al., 2016). As a result, a total of 85 participants (see table 7.1.), representing players, parents and coaches, were purposefully sampled using a cross-sectional approach (see section 1.4.4.4.). This triangulation of participants was used as a strategy to gain additional perspectives and increase the understanding of streaming, rather than as a validation strategy (Flick, 2010).

Table 7.1. Participants

Players (n=42)			
	Under 13	Under 15	Under 18
Male	7	6	5
Female	9	8	7
Parents (n=24)			
	Under 13	Under 15	Under 18
Parents of male players	4	3	2
Parents of female players	6	6	3
Coaches (n=19)			
	Under 13	Under 15	Under 18
Coaching male players	3	2	2
Coaching female players	4	5	3

7.2.4. Data Generation

Following ethical clearance from the DCU ethics committee (REC/2023/135) (see Appendices K and L), I visited each club to share study information with all stakeholders. Informed consent was obtained from interested parents and coaches, along with assent on behalf of any child participants (see Appendices H and I).

Reflecting the exploratory nature of the study, three different semi-structured interview guides were developed for players, parents, and coaches. Each guide consisted of open-ended questions concerned with various perceptions of streaming in youth Gaelic games. Additionally, follow-up probes were developed to allow for elaboration on key points and promote consistency across participants (Patton, 2002).

Players interviews were completed pitch side immediately after the conclusion of competitive games with their parents present. Parents were interviewed as they watched their children play. This 'in situ' interviewing was deliberately used to enhance participant reflection and also to allow me to experience the context of each interview, maximising the ecological validity of the research. To promote openness, player interviews took place away from their peers and coaches, while parent interviews took place away from other individuals. All coach participants completed the short semi-structured interviews before or after the game at their own discretion. All the interviews were recorded using a digital voice recorder (Phillips VoiceTracer, Philips Electronics UK Ltd, Guildford, England).

Upon completion of data collection, all interviews were transcribed verbatim and subsequently verified by comparison to the original recordings. Reflexive thematic analysis (RTA) (Braun & Clarke, 2019) was employed to analyse the data. The six-phased approach outlined by Braun and Clarke was used fluidly and recursively, beginning with each transcript being read numerous times to increase familiarity and understanding of textual data. Pseudonyms were then used to de-identify each participant and the full dataset

was then uploaded to NVivo 12 (QSR International Pty Ltd., Doncaster, VIC, Australia) to facilitate the structuring, organising and analysis of raw data into thematic hierarchies. In the second phase, coding of data took place, focused on deriving semantic (positive perceptions of streaming- 'generally I'm a fan of streaming') and latent codes (stigma of playing in lower ability group- 'outside of the team, the odd time around the club, she's aware that she's kind of within the C team') through multiple sweeps of the transcripts. Phase three involved the exploration of patterns across the dataset and the subsequent generation of initial themes from the codes. These initial themes were then refined as the fourth phase in an effort to tell a coherent story about the data, while the fifth phase consisted of defining and naming themes. As an example, a theme generated during phase three 'there's a right way and a wrong way' featured a sub theme named 'timing', relating to when streaming was introduced. As themes were refined, this sub theme was removed as it was deemed to have little relevance to the research question. In phase five, 'there's a right way and a wrong way' was subsequently renamed 'can we do it better?' to better reflect the highly contextualised and complex nature of streaming, where framing examples of 'right' and 'wrong' would be unhelpful. The final phase involved the write up although, again, in line with the reflexive nature of RTA, report writing was recursive and interwoven throughout the entire process (Braun & Clarke 2019, 2021).

7.3. Analysis

The purpose of this study was to explore players', parents', and coaches' experiences and perceptions of streaming in youth Gaelic games, as stated in Chapter 1. Reflexive thematic analysis led to three themes being generated: 'benefits of streaming', 'can we do it better?', and 'fight for the win' (see table 7.2.). These themes and their respective sub-themes are presented in detail with exemplar quotations.

Table 7.2. Thematic table

Theme	Sub-theme	Raw Data Exemplar
Benefits of streaming	Being part of a team	We have our team now… I like having our team all together. So like we know our team and it's easier to get closer to your team… get like better team work. [Player 7]
	Appropriate challenge	Maybe back to the go games, there was a lot of one sided games…what I think they love here is, all games are competitive. [Coach 2]
Can we do it better?	Allocation of resources	Maybe the focus is on the stronger team at times and it needs to be broadened a bit [Parent 21]
	A lack of dynamic change	If I was to do it again there might be a bit more fluidity because I think when it came to under 15, lads were taking growth spurts and others weren't, there were players who were maybe strong enough for A team when they were under 12 and 13 (but were not at under 15)… having the preset A/B/C teams probably gave some players a comfort blanket or an expectation that they were they were on that team whether they were at that level or not [Coach 18]
	Organisation and structure	I think there probably is enough games, I think they probably happened at the wrong time. Theres just too many games called off, and your training in muck. You're looking at pitches in the middle of summer and there's no one on it. [Coach 13]
Fighting for a win		For her, it's probably social interaction with her friends. I guess for myself it's that she's got some team sports, physical activity. But yeah, for her I'd say it's more the social side. [Parent 15]

7.3.1. Benefits of streaming

This theme, benefits of streaming, concerned with how participants perceived streaming to be an adaptive feature of the youth sport experience and spoke of the benefits associated with streaming. These benefits primarily related to being part of a team and the notion that streaming

provided an appropriate level of challenge for players at various ability levels. These sub-themes are explored below.

7.3.1.1.Being part of a team

One of the primary benefits experienced from the introduction of streaming in youth Gaelic games was the feeling of being part of a team with peers who were at a similar ability level to themselves. This is in contrast to players' previous experiences of Gaelic games at younger ages where the makeup of the team could vary week on week depending on the competition format, a process that players felt denied them a sense of continuity and belonging. The transition to formal competition structures is bound by formal registration systems which requires players to be grouped into squads with restrictions on movement between squads. This organisation, often by ability grouping, also meant that teams remained constant for longer periods of time, something that was seen as beneficial by the players:

> I find it better… before we would go out with like four different teams and you just get put in a team but now you go out with a set team. I'm getting to know the people more. [Player 30]

Beyond getting to know their teammates better, the introduction of streaming seemed to act as a critical point in the transition of participation being somewhat casual to being more meaningful for some players. This was described by one parent as enacted by the need to consistently attend both training and matches and learn how to be 'part of a team':

> She feels a responsibility to the team. She feels responsible to turn up and support her teammates, and when she's playing to do her best for herself and the other members of the team. So I think, from her perspective, it's kind of primarily being part of a team and then being a contributing member of it. [Parent 16]

It seemed that belonging and community was not only enhanced by a sense of team ship, but also by a sense that their peers were of a similar ability level. Interestingly, parents of youth players in lower ability groups noted that this had a significant impact on their child's experience with the sense that they now had a bigger part to play and could contribute more within their respective teams.

7.3.1.2. Appropriate challenge

In addition to feeling part of a team, streaming was perceived to offer an appropriate level of challenge to each participant, potentially increasing the level of fidelity irrespective of whether they were grouped into a higher or lower ability team. This contrasted with participants' accounts of mixed ability grouping in children's sport with participants' noting that the implementation of streaming was perceived to provide meaningful competition experiences for all ability levels:

> Go Games [children sport format] weren't streamed, they have some A's and B's, some Cs. The A's typically dominate the game, C's stand back and let them have it. Here you saw a really competitive game. So when you have two teams of a similar standard, the girls really enjoy it, they come off with smiles on their face. [Coach 8]

While detractors of streaming suggest that it can reinforce inequality with less resources focused on lower ability groups (Alam & Mohanty, 2023) and act as a self-fulfilling prophecy where lower ability players internalise low expectations (Rubie-Davies et al., 2010), participants in this study suggested that the level of challenge provided an opportunity for lower ability players who may previously have been less involved to actively contribute:

> He was a very reluctant participant since Go Games… he would be reluctant to attend training…so he's glad that he stuck with it and I'm glad because he's actually making a difference now in these games, I don't know why, maybe it's streaming. [Parent 1]

In turn, streaming presented a level of challenge that was experienced at the individual level across all ability groupings that seemed to motivate players. In this case streaming appearing to be a crucial factor in this players continuance in the sport:

> I did think about quitting… I didn't really have the encouragement to play…but then I started enjoying it more, because I was getting more of the ball and it was more my level of football. So I started to enjoy it more. [Player 10]

The introduction of streaming was also credited with allowing players to find a place within the player pathway. In line with the GAA's own motto of 'where we all belong', streaming provided an appropriate level for all abilities, not just those at the highest level of youth Gaelic games: 'it's great for those players who are not, you know, don't play with the intensity that

you need to be a division one player, you know that there is a game for them on a B team' [Coach 11].

7.3.2. Can we do it better?

This theme, can we do it better?, represents players', parents' and coaches' perceptions of how the implementation of streaming fell short of their expectations. The widespread perceived benefits experienced through the introduction of streaming were also accompanied by a range of maladaptive perceptions. It was perceived that the implementation of streaming and participant's experience were hindered by systemic challenges represented by the following subthemes: 'allocation of resources', 'a lack of dynamic change', and 'organisation and structure'.

7.3.2.1. Allocation of resources

The perceived allocation of resources across ability groups within the same age level was of significant concern for many participants. The literature in education, for example, suggests that inequalities in resource allocation, including more experienced teachers and greater resources for higher ability groupings perpetuates disparities (Betts & Shkolnik, 2000). As a result, lower-ability groups who perceived that they were allocated fewer resources, had lower expectations placed upon them (Rubie-Davies et al., 2010). This disparity in resource allocation likely has the potential to mitigate against the more adaptive elements of streaming, especially for those of lower ability. As one example, participants felt that higher ability groups were allocated more and better coaches: 'what happens usually is that the better coaches will go with the A's or B's' [Parent 13]. Parents were particularly aware that coaching standards were highly variable across the streamed groups and that higher ability teams were always allocated, what they perceived to be, higher ability coaches. In this case, the inequalities in resource distribution and their effects on participant experience were more acutely felt and reported by participants in lower ability than those in higher ability teams:

> The coaching that happens at the A/B/C is very different. The A's tend to be very technical coaches who've played, and by the time you get to C it's the Dads who do the best they can, not necessarily understanding coaching techniques and the technicalities of the game. [Parent 3]

Beyond differences in abilities of coaches, some participants perceived a sense of elitism in the attitude of coaches: 'you can see the difference in how the mindset is of the coaches there to there (A to C). They're all very good at coaching but there has been elements of a bit of 'eliteness' [Parent 10]. An example of this perceived 'eliteness' was offered by another parent discussing a training session where 'B' and 'C' players were segregated from and not allowed to train with the 'A' team:

> The A/B/C, I do have a big thing about that. I guess that's only the way they can kind of get their good players, but I don't think it should be a segregation, especially at the their age…I was up here one day… and there was only four [players] between B and C's and they wouldn't let them join the A team to train. [Parent 9]

Thus, whilst streaming seemed to build a sense of belonging within a group, when players were segregated from one another it led to division within a club, perhaps working against the overall ethos of Gaelic games.

Furthermore, the disparity in the allocation of resources was not limited to coaches. Participants lamented that higher ability teams were perceived to get "first choice" of nearly all opportunities within a club. Here a parent discusses the perception that their daughter's group were pushed into inconvenient training slots given the perceived low priority of this group of players in the club:

> There's so many teams here, this team can only get here on a Friday night, and they do back to back…my other daughter would be Wednesday, Friday…they've got to load up all that information on one night, then they're playing the next day on the Saturday and then they're done then till the following Friday...I think that has affected her progressing. [Parent 10]

Her experiences contrasting with higher ability groups whose training was more evenly and appropriately scheduled through the week. This perception of unequal allocation of resources left many of the lower ability players feeling underappreciated:

> The A team are playing brilliant games and so are the B team…obviously they are the priority but [the club] make that their top priority and sometimes, not from our coaches, but from just other people, our team is bottom of the to do list. I used to be very angry about it. I didn't mind I was put on the C team but I just felt, not sorry for us, I just felt like we were a bit forgotten about. [Player 17]

Regrettably, this lack of equality in the allocation of resources was deemed to accelerate the different rates of development: 'the distance between the A's, B's and C's gets much bigger over time rather than closing in' [Parent 2]. The implication here being that despite streaming potentially offering a more appropriate challenge point, allowing for more equal participation, in practice, differences in resourcing led to higher ability groups progressing at the expense of their lower ability peers.

7.3.2.2. A lack of dynamic change

The limitations of using current performance as an indication of future potential in youth sport are well documented (Güllich, 2014; Vaeyens et al., 2008). Despite this well-developed literature, and acknowledging the logistical challenges associated with the organisation of youth sport, youth players are often statically grouped according to perceptions of their current performance and ability level (Verbeek et al., 2023). This rigidity, when coupled with differential resource allocation, may act as a significant limiter for individuals since it fails to account for non-linear development. In some cases, participants described rigid approaches to grouping with little movement between higher and lower ability groups. In other clubs, all players trained together and shared a common approach across ability groups to facilitate wider belonging and movement between ability groups for competition. One coach offered a perspective having used two separate approaches:

> Even though we've streamed teams, we haven't broken into three individual teams within the year. I happened to [coach] a boy's A team, they were a completely separate team, they could have been a different club altogether. Same with the B team, same with the C team and you didn't get the benefits of multiple coaches…and it made it more difficult for the coaches…plus it just segregates the three teams, nobody wanted to go to another team… you're left with players who are like: "I am a B player I am not going down"….[with this team] we all coach the teams. The teams are in their groups for training, but it's managed by a core number of [coaches]. [Coach 5]

The movement of players across ability groups was facilitated when there was a shared approach to training across ability groups. In contrast, when ability groups were strictly divided, there was not the same opportunity for players to move: ‘my son was on the C team when it split into A/B/C’s …there was no movement then up until last year between A's, B's and C's, from under 8s until under 14s’ [Parent 8]. There are a number of considerations here. In the education literature, lower ability groups appear to experience a less sophisticated curricula (Smyth, 2016). While there is some support for streaming to help support lower ability students (Jerrim et al., 2024), it may also limit the potential development of individual competence (Huang, 2009) and therefore long-term participation. In turn, the psychosocial implications were also highlighted with this parent commenting that due to an inability to move between squads that their son: ‘felt that he was failing. No matter what he did he was still perceived as failing because he wasn't moved up’. In this case the rigid implementation of streaming had an impact on the motivational resources of a player streamed into a lower ability group. Reflecting the importance of actual and perceived competence, rigidity of streaming may influence motivation, self-esteem and perceptions of competence, ultimately influencing dropout (Crane & Temple, 2015).

7.3.2.3. Organisation and structure

From an organisational perspective, implementing streaming in youth sport introduces a range of logistical and structural complexities, not least associated with the size and structure of a club. A common practice influencing the use of streaming was the promotion of fairer competition by creating more balanced competitions between teams of more equal ability. Despite this, participants noted how they felt constrained by opposition coaches approach to fixtures and a lack of a shared approach to streaming across different clubs. As a result of league structures, there was not always parity in teams competing at the B or C grade meaning that some lower ability teams competed against smaller clubs and with mixed ability teams.

These games often became one-sided due to the competitive dominance of higher ability opposition players:

> Being on a C team, it's difficult…some weeks with other teams…there's a mix of B (standard) and A (standard) players. So not knocking any clubs, but it's trying to keep it as best they can a reasonable level. With some clubs, very quickly, 10 minutes into a game, the level of the other team are that bit higher. [Parent 18]

The impact of these unbalanced games on player motivation was also discussed: 'I find that "one team" clubs, they'd have been much stronger…because they'd have five or six really good players…So it's kind of hard to keep girls motivated' [Coach 4]. Rather than deliberate, this mismatch was a function of differences in the size of playing populations across different clubs. This was in stark contrast to coaches who were perceived to deliberately select higher ability players from their club's younger age grades to compete against lower ability teams:

> What I don't like personally is when we're playing teams, you can see they're bringing up younger players from a younger age and they will be a B or an A player, you can spot them in the team…some of the games turn on that, one or two handy players…I think it kind of ruins some games and destroys their confidence. [Coach 7]

The implication here being that some coaches appeared to use streaming as a vehicle to ensure their teams were winning matches, rather than fostering youth development (Fraser-Thomas & Côté, 2009). Whilst this notion of playing up has been explored in the literature, it has largely explored the perspective of the player who is playing up rather than the experience of the other players (e.g., Goldman et al., 2022). Furthermore, this body of work seems to be concerned with players playing up at a comparable skill level, albeit with chronologically older peers, whereas this current work is concerned with high ability players playing up at a chronologically older, but lower ability level and while some coaches adopted this approach to ensure they could field enough players, the practice that was widely derided by all participants:

> It just distorts the game and it doesn't give everyone a chance. So if the competition is all about giving every girl a chance to play at her level, then that's not happening… I think you can only sustain that for a certain amount of time and then the girls will start getting demotivated. [Coach 5]

That is, where streaming was used for other purposes than the benefit of all players, it was perceived as maladaptive. These manipulations potentially creating significant disparity in the nature of fidelity experienced within the same game.

7.3.3. Fighting for a win

There appeared to be a shared understanding of the competitive motivations of players from both coaches and parents, though this was less coherent in the case of female players in lower ability groups as represented in the theme 'fighting for a win'. Players and coaches of lower ability female players almost unanimously noted that these girls were less interested in competition than their higher ability peers:

> At this level (higher ability), I think winning becomes a bit more important as well, probably depends on what level they're playing at. I think, at the kind of weaker end, a lot of them perhaps are just there for friendships. [Coach 9]

In this regard, both coaches; 'some of them are happy just the turn up, kick ball and be social' [Coach 18] and parents: 'for fun and to make friends. I definitely don't think she sees it as a massive competitive thing' [Parent 14] held a shared perception about lower ability female players' motives for participation. These attitudes likely having an impact on the affective fidelity experienced by these players, in contrast to their higher ability counterparts:

> The girls in this team are naturally competitive, that's why obviously they're here, they've that ability as well but they are naturally competitive, they want they want to win they want to play….the C or D team may not be as competitive. [Coach 7]

In contrast, the girls in the lower ability groups presented a contrasting viewpoint that was more akin to the competitive motivations parents and coaches held for higher ability girls. For example, player 19 reflected that 'a win' was the objective of participation and many of the lower ability girls' reflections centred around the desire to win and enjoyment of competition: 'we did fight for a win. Even if we didn't get it we fought till the end' [Player 24]. As such, there seemed to be more of a congruence across participant groups despite a lack of this perception from coaches and parents:

> I was really hoping to win because we've great team bond, like our team is really friendly with one another and… we really wanted to win this together because it means a lot to us. Our camogie season hasn't gone brilliant this year, so we really wanted to do something good in football because nobody expected us to get anywhere near here. [Player 17]

Despite these competitive motivations, females streamed into lower ability groups appeared to recognise the attitudes of the coaches and parents around them: 'it's [training] not too hard, nobody expects much out of you' [Player 15]. Coaches' rationale for these attitudes was that they believed player retention and performance were distinct and contradictory aims; 'it's player retention… encouraging the girls to be part of a team, to play as part of a team. At this level there's less tactics, you know, we're not overly focused on winning' [Coach 8]. This was not the case for higher ability teams who seemed to have higher expectations placed on them by parents and coaches: 'get ready for championship, certainly for the A team anyway. For the B's, they're doing something similar, but I would say that the expectations aren't as high' [Coach 12].

Here, coaches and parents appeared to be creating a self-fulfilling prophecy (Rubie-Davies et al., 2010), whereby their stereotyping of the motivations of lower ability females and subsequent lower expectations acted to maladaptively influence their long term participation. This mismatch between adult expectations and player motivations did not exist with lower ability boys groups, despite a difference in perceived skill levels, where lower ability boys were deemed to be as competitive as their higher ability counterparts, this gender disparity seemingly supporting previous research in youth level Gaelic games (Lane, 2024).

7.4. Discussion

Coherent with the objectives stated in Chapter 1 of this thesis, this research attempted to gain an understanding of participants' experiences and perceptions of streaming in youth Gaelic games. It is important to acknowledge some limitations of the current study. For example, while the short interviews employed facilitated a large-scale and focused exploration of streaming,

their concise nature may have limited the depth of some of the responses. Similarly, given the lack of guidance in both individual clubs and organisationally, there is likely to be huge variation in how streaming is utilised. As such, the results may not be reflective of the entire streaming landscape in Gaelic games. However, it would appear that the adaptive use of streaming seems to offer a range of benefits for players both in the short and long term, contrasting with the educational literature. Primarily, these benefits seem to be associated with greater acceptance and participation based on competing with ability matched peers which was accepted as being a necessary part of the increased competitive focus associated with youth sport (Merkel, 2013). Yet, in current practice, there appeared to be a number of factors that seemed to mitigate against these potential benefits. Much like some of the educational literature (Betts & Shkolnik, 2000) the implementation of streaming was hindered by a series of systemic challenges most notably the intention underpinning its use, resource allocation, rigid grouping, and the organisation and structure of streaming and misunderstanding the motivations of lower ability female players. Furthermore, it seemed that lower ability groups were often considered to be less valued. This in itself reducing their perceived worth and further increasing disparities of ability.

These findings reflect an overwhelmingly positive perception to streaming, albeit conditional to appropriate implementation. When data collection began, based on my role as a game's promotion officer working with young players, novice coaches and parents as described, I expected to encounter parents who were opposed to the use of streaming in Gaelic games. Yet, to my surprise, very few parents and coaches lamented the introduction of streaming. Thus, I contemplated potential underlying reasons behind this almost universal acceptance of what still seemed to be a controversial practice. To gain further insight into this, I considered the Irish school system. At approximately age 5, Irish school children begin primary school, a system which does not employ streaming practices. Upon completion of

primary school, children move into the post-primary school system where the picture in regard to streaming is not so straightforward. Despite government calls for Irish post-primary schools to cease the practice of streaming, dating back over two decades (Irish Independent, 2004), it still seems to be a common practice in many post-primary school settings (McElvany et al., 2020). This also perhaps explains the lack of negative perceptions towards streaming as a concept from parents and coaches given its prevalence in education for these players, thus potentially normalising the process to some extent for parents and coaches. However, this presents a situation for players where they progress through primary school education without encountering streaming and then experience it in education and sporting contexts simultaneously. While parents and coaches seemed to view the introduction of streaming uncritically, of concern here would be the psychological consequences these players experience through its introduction, where after several years of mixed ability groupings they are abruptly ranked into homogenous ability groups, with a hierarchical structure, in education and sport. Furthermore, little is known about the mechanism underpinning the selection of players into these ability groupings. This is of particular concern given the well documented issues with using present performance as a predictor for future potential (Johnston et al., 2018). In this sense, largely absent from participant reflections were criticisms of clubs for the lack guidance or protocols for coaches. This might be due, in part at least, to the unique context of Gaelic games where players and parents may overlook maladaptive practice experiences due to the considerable attachment to one's club, and the parochial nature of Gaelic games as discussed in Chapter 6. In addition, whilst streaming would seem to be a highly appropriate tool for youth sport, it is just that, a tool and to fulfil its adaptive potential, it requires understanding and consideration about its implementation from coaches, parents and administrators. In the Gaelic games context, a significant degree of complexity is associated with the different contexts across Ireland. Consequently, it is my suggestion that NGBs offer explicit guidance to

maximise the adaptive and mitigate the maladaptive consequences of ability grouping. These should relate to the purpose of matching ability levels, movement between groups, equal access to coaching and facilities and consideration of localised factors. As such, careful consideration and planning is required when implementing streaming practices.

Lastly, recent years has seen a significant interest in alternative ways of grouping players. One such approach is bio-banding, based on attributes such as growth and maturation instead of chronological age (Cumming et al., 2017). Similar to streaming the purpose of bio-banding is to group players based on their current physical capacities, thus levelling the playing field. This increased attention has been reflected in Gaelic games discourse (GAA, 2023). However, concerns have been raised regarding this approach, including the reliability of reference data used to group players (Sweeney et al., 2024). As a consequence, significantly more research is required to understand how we can enhance the experience of players in youth sports and to support coaches in doing so. Most particularly how coaches can influence the type of challenge that players interact with, whether that be in competition or training.

7.5 Conclusion

This chapter explored the perceptions of players, parents and coaches in relation to streaming in youth Gaelic games. Generally perceived to offer benefits to players such as appropriate levels of challenge and a sense of belonging, adaptive implementation was hindered by several barriers. In particular, the allocation of resources across ability groups and rigid groupings seemed to undermine some of the perceived benefits. Furthermore, the motivations of lower ability female players seemed to be misunderstood by their parents and coaches.

Streaming, as highlighted in this work, is neither inherently beneficial or harmful. Instead streaming is a tool requiring intentional planning and ongoing reflection. Ultimately, just as with any tool, in the wrong hands it can be used inappropriately. For this reason, future

research should seek to better understand the underpinning reasoning for coaches' streaming decisions and related underpinning factors.

Chapter 8: Keeping it real: Exploring fidelity in team sports coaching

8.1. Introduction

As outlined in Chapter 4, findings suggesting that high level coaches were utilising game form activity in a manner highly individual and intentional, were clearly in contrast to some of the reflections from Chapter 3 where some coaches adopted attitudes such as 'let the game be the teacher' – the notion of minimal coaching interactions beyond design and facilitation of game form activity, and 'copy and paste' – the uncritical replication of activities without consideration for contextual factors. These polarised approaches would seem likely to lead to vastly different playing experience for players based on the coaches apparent intentions. Thus, I was keen to then understand how these coaches inform their intentions for impact - what is driving their activity design. In Chapter 5 of this thesis, I examined coaches' use of intentions for impact when planning for game form activities. These findings could be clearly understood by coaches desire to replicate the game within their training sessions. In other words, coaches heavily prioritised fidelity with their activity design.

While conducting the research described in Chapter 5, and seeking to understand the 'realness' of the coaches activity design based on their reflections, I began to contemplate a framework to make sense of this quest for 'realness'. By examining the simulation literature, a body of work concerned with the creating immersive 'real' experiences for learners, I began to understand the reflections of the coaches in Chapter 5 through various types of fidelity, rather than a singular meaning. That is to say, prior to this programme of research I considered the 'realness' of an activity in a reductionist, mono-dimensional manner. However, following an in-depth investigation into the simulation literature, I began to understand that 'realness' was a more complex issue and could be understood through different lenses. Throughout this iterative process, which took a considerable amount of time, I attempted to formulate a

framework for understand the ‘realness’ of activity design applicable to team sport. Built upon a solid body of literature, the aim of this framework is to aid coaches in their planning while also providing an opportunity to move beyond dogmatic debates surrounding activity design as outlined in Chapter 2. Furthermore, and consistent with the evolution of this thesis, this fidelity of practice framework proposed in this chapter also emphasises the player experience, allowing coaches to design more appropriate activities as part of their practice design.

The analysis in Chapter 4 suggests that a key consideration for coaches in terms of activity design is the relative challenge point of the learner and in turn, the subsequent player experience. In Chapter 5, the coach’s intentions could be understood through the lens of fidelity of practice, with a coach’s activity design being overwhelmingly driven by physiological fidelity. These findings warrant consideration for applied coaching practice. As discussed in Chapter 2, the shift towards constructivist approaches in team sport coaching has resulted in the promotion of GBA (Light & Curry, 2021) by a plethora of national governing bodies (e.g. Reid & Harvey, 2014; Roberts, 2010). Furthermore, and supported by findings in Chapter 3, the naive application of GBA having the potential to lead to inequitable use of game form activities in practice, potentially leading to differing rates of development in youth players. That is to say, the use of high fidelity activities designed to merely replicate the game, devoid of any further intentions or pedagogical interventions may benefit some players, while proving disadvantageous to others.

As discussed in Chapter 2, considerable previous research has investigated the inherent complexity in the application of pedagogical methods (e.g. Lindsay & Spittle, 2024). In this regard, sport coaching research has often prioritised methodological concerns over a more relational pedagogical perspective, one that recognises the dynamic interaction between coach and participant (e.g. Kirk, 2009). The prioritisation of methodological stances has manifested in the aforementioned debates between more repetitive training form activities and game form

activities (Ford et al., 2010). These debates have coincided with the rise in popularity of GBA, as outlined in Chapter 2 and supported by the findings in Chapters 3 and 4.

One factor underlying the popularity of GBAs is the emphasis on facilitating transfer to performance (see Harvey & Jarrett, 2014). The value of practice design that realistically mirrors the demands of competition has long been recognised across diverse theoretical perspectives, such as specificity of practice, supported by a body of research concerned with cognitive views of learning (Hodges & Lohse, 2022) and representative practice design, a principle of non-linear pedagogy (NLP) (Rudd et al., 2021).

8.1.1. Scaling Realism in Activity Design

NLP suggests that there is a need for tasks to be scaled or simplified, rather than decomposed whilst retaining perception-action coupling (Davids, 2012). Furthermore, GBA models suggest scaling in various forms. Two pertinent examples of this scaling can be found in TGfU through 'exaggeration' of specific tactical problems (Bunker & Thorpe, 1982), while in DVGA, 'levelling up' offers the coach an opportunity to break a broad to-be-solved problem into more manageable units progressing from simple to complex (Gee & Price, 2021). That is not to say that game form practice is to be avoided, rather coaches must weigh up a variety of considerations when deciding on the extent to which tasks should be decomposed or scaled (Smink et al., 2017). This involves careful consideration of contextual factors such as participant priors and intentions for impact (Fiorella & Mayer, 2016). Generally, it appears that low skill participants benefit from practices that isolate and clarify key elements before progressing to more integrated tasks while more advanced participants are likely able to handle more 'whole' activities without overloading working memory (Kalyuga, 2009). Building on this, recent work by Harvey and Cope (2025), provides a useful account of how CLT and TGfU can be aligned to support learning. Here the authors mapped TGfU stages and principles with

features and concepts related to CLT and suggests adaptable pedagogical strategies to aid learning.

For the coach seeking a fuller pedagogical positioning that appreciates the relational interaction between method and participant, the existing landscape is complex. Whilst the coach may choose to adopt a single methodological stance (e.g., GBAs, NLP), those aiming to intentionally sequence activity design (Collins et al., 2022) will find limited guidance on how to scale activity design based on participant wants or needs. In the absence of such guidance, there is a risk that a coach's default is for overly simplified prescriptions or becoming entrenched in dogmatic theoretical debates. Regardless, there appears a need to move beyond a focus on methodology and to a focus on player experience.

In contrast to sport coaching, the simulation learning literature offers a broad body of evidence pointing to the scaling of 'wholeness' in activity design. This literature tends to use the notion of fidelity as a lens to understand the scaling of activity and is used extensively in fields such as healthcare training (Solnick & Weiss, 2007) and aviation pilot training (Noble, 2002). In fact, simulation training dates back as far as 107 BC where the gladiatorial schools of Ancient Rome incorporated the use of the *palus* (a stationary post treated like an actual opponent) in contrast to live training (Owen, 2016). Similarly in healthcare, examples stretch back centuries, documented by an advertisement for a midwifery course in London in 1740 describing the use of an artificial womb to aid students learning (Owen, 2016). Perhaps as a significant advantage for the coach seeking to understand the dynamics of activity design, fidelity holds no single theoretical underpinning and has roots in both behaviourism and constructivism (Parker & Myrick, 2009). Within this framework, action fidelity, the degree to which activity design accurately replicates the behavioural and perceptual demands of the performance environment, has been extensively explored by the Ecological Dynamics community of practice (Davids et al., 2013). Fidelity of practice makes the player's experience

the focal point for activity design, referring to the degree of realism created (Choi & Wong, 2019). The main concern of fidelity of activity design is how accurately the training environment reflects the performance environment. Crucially, this degree of realism refers not only to the realism in terms of visual perception, but also the cognitive, physiological and affective responses elicited by an activity (Adamson, 2015; Choi & Wong, 2019; Harris et al., 2020). As such, different 'forms' of fidelity have been identified, as contributing to the 'whole', each with different labels based on pertinence to a domain. For example, in the field of aeronautics the forms of fidelity are delineated as physical, equipment, motion and psychological-cognitive fidelity (Liu et al., 2008). As a consequence, rather than being viewed at the player-environment system level, fidelity has been framed by the experience of the individual player within an environment.

8.2. Applying Fidelity as a Framework

To address this gap, I looked beyond sport pedagogy to the simulation training literature, which has built a broad body of evidence related to the scaling of 'wholeness' in activity design. One concept that emerges from this literature is fidelity as a lens to understand the scaling of activity and is used extensively in fields such as healthcare training (Astbury et al., 2021) and aviation (D. Harris & Harris, 2016). In the context of persistent theoretical debate within sport coaching, fidelity presents a pragmatic alternative. Unlike many pedagogical concepts, it is not confined to a single theoretical underpinning, having roots in both behaviourism and constructivism (Parker & Myrick, 2009). Importantly, fidelity of practice is unrelated to intervention fidelity used in fields such as Physical Education to describe the alignment of an intervention with a pre-defined protocol (see Johnson & Rudisill, 2023).

The main concern of fidelity being the degree of realism created by activity when compared with competition (Choi & Wong, 2019). This realism refers not only to visual perception, but also the cognitive, physiological and affective responses elicited by an activity

(Adamson, 2015; Choi & Wong, 2019; Harris et al., 2020). Rather than being viewed at the performer-environment system level, fidelity has been framed by the experience of the individual performer within an environment. As such, different 'forms' of fidelity have been identified as contributing to the 'whole', each with different labels based on pertinence to a domain. For example, in the field of aeronautics: physical, equipment, motion and psychological-cognitive fidelity (Liu et al., 2008).

Fidelity, therefore, offers a lens through which to understand the varied perceptual demands of an activity to guide scaling. This entails a focus, not only on the activities designed for participants, but also participant experience. This allows for the effective focusing of recommendations like that of Rushall (1985): "task repetitions should be physiologically, psychologically and biomechanically similar to the sport performance criteria as possible" (p.10).

8.2.1. Developing the Framework

Based on the findings from Chapter 5, where coaches' intentions could be understood through a desire for 'realism' in practice sessions, and given the relative novelty of fidelity as a framing for activity design in sport coaching, I propose the utility of affective, conceptual, action and physiological forms of fidelity. Guided by a pragmatic philosophy, these four forms of fidelity are proposed for their potential to add practical value, rather than to establish absolute truth. To develop the framework, I conducted a review of the simulation learning literature and through critical conversation, compared this body of literature to the sport pedagogy literature. This led to the formation of initial candidate types and definitions of fidelity. The forms of fidelity are built upon the foundations laid by Laucken (2003) who proposed three modes of thinking by which to understand 'reality'. Here the physical mode refers to that which can be measured (e.g., distance covered in training), semantical referring to concepts and their relationships (e.g., principles underpinning a team's attacking transitional play) and the

phenomenal modes referring to emotions and beliefs (e.g., the pressure induced by a practice activity compared with competition). These foundations have been utilised by researchers in a variety of domains to apply domain-specific frameworks best suited to the specificities of their contexts.

Given that the aim was to establish a framework with significance through practical application (Goldkuhl, 2012), I began testing the use of the framework in my own coaching practice. Following this period of testing and individual self-reflection based on practical significance, I met with my supervisory team to further refine the labelling of categories. In this case, 'physical' fidelity was relabelled 'physiological' to better represent the degree to which an activity reproduces the internal physiological demands of performance. A further pragmatic step involved the iterative testing of the framework through three cohorts of experienced coaches involved in a coach education programme. On each occasion, this involved the initial presentation of the framework followed by reflective dialogue and subsequent implementation in practice. Coaches used the framework to design activities with opportunities to provide feedback based on acceptability (Sekhon et al., 2017) through peer observation, questioning, and self-reflection. Importantly, this proposed framework is intended to evolve through ongoing practice and research, consistent with the pragmatic conception of knowledge as provisional and context-dependent (Kaushik & Walsh, 2019).

As an outcome of this process, I propose a multi-theoretical framework to guide sport coaches in scaling activity design, grounded in the practical utility of affective, conceptual, action, and physiological forms of fidelity. In doing so, the intention is to move beyond existing pedagogical debates (Taylor et al., 2023) by offering a framework that recognises pedagogy as fundamentally relational, rather than solely methodological. In plain terms, coaches need to not only consider the extent to which an activity resembles competition, but how the participant perceives and interacts with activity design.

As shown in table 5.1. physiological fidelity can be understood as the extent to which training activity represents the physiological demands of competition (Stecz et al., 2021), action fidelity refers to how closely the actions of players match those in competition (Luciani & Stoffregen, 2007), conceptual fidelity to the similarity of perceptual cognitive and problem solving requirements (Dieckmann et al., 2007), while finally, affective fidelity refers to the psycho-emotional similarity to competition (Harris et al., 2020).

8.2.2. Physiological fidelity

Physiological fidelity refers to the degree to which training activities mirror the physiological demands of performance. Indeed, as noted in Chapter 5, in high level team sport, given the range of sport science support available, physiological fidelity appears to have become a cornerstone of coach planning. This emphasis on physiological fidelity can be attributed to several factors, among them being the desire to replicate game-like scenarios as closely as possible during training sessions. Furthermore, a key driving force behind the prioritisation of physiological fidelity may the influence of sports science staff, who play an increasingly integral role in modern coaching setups, and in particular their reliance on technologies such as Global Positioning System (GPS) tracking which have revolutionised the manner in which coaches and sports scientists can monitor player workloads during a training session or block (Ravé et al., 2020). By leveraging GPS data, coaches can closely monitor individual loads, with the aim of striking a balance between pushing players to their physiological limits and avoiding overexertion (Aughey, 2011). A pertinent example of this may be evident in the adoption of the tactical periodisation model in recent years, across a number of team sports (Mangan et al., 2022; Tee et al., 2018). The model, first implemented in soccer, proposes that tactical, technical, physical and physiological components are integrated into game ‘moments’. However, the tactical periodisation model puts a significant emphasis on the development of physiological elements with little focus on the psychological, tactical, or technical components

(Mangan et al., 2022). Clearly, achieving high physiological fidelity is important for coaches to ensure players are able to transfer to competition and, at times, may need to be the leading consideration in planning. However, the question is can physiological fidelity be manipulated throughout a session or across a training block, to allow for other and perhaps less measurable forms of fidelity that are necessary for performance?

8.2.3. Action fidelity

Originally suggested by Riccio (1995) who drew a distinction between action and experiential fidelity, the notion of action fidelity was subsequently developed by Stoffregen et al., (2003). When action fidelity is high, there is correspondence between the skills acquired in training and those in performance. Action fidelity has been a significant feature of the work of the Ecological Dynamics community of practice based on a desire to ensure that movement solutions developed in practice are functional in competition (Araújo et al., 2006). Consider the example of an isolated, training form activity where a player performs skills in an unopposed setting. This activity may allow the player multiple repetitions of a skill but their actions are decoupled from the cues or affordances present in the performance environment (Gearing & Bridge, 2024). This would likely promote lower levels of action fidelity compared to the same activity performed in an opposed manner, where the player must select and adapt their actions based on the perception of their opponent (Manninen et al., 2024). Thus, high action fidelity should promote movement interactions which remain stable across both training and performance settings (Pinder et al., 2011). An example being the use of overhand-throw repetitions to simulate a tennis service, without actually striking the ball with a racket (Reid et al., 2010). It has been noted that this low action fidelity practice actually leads to significant kinematic changes to the player's serve when compared with a serve in competition, due to the de-coupling of perception and action (Krause et al., 2018).

8.2.4. Conceptual fidelity

Conceptual fidelity, proposed by Dieckmann et al. (2007), and subsequently labelled by Rudolph et al. (2007), is the category least explored in the fidelity literature (Paige & Morin, 2013). Critical for ensuring the authenticity and accuracy of a learning environment in representing the underlying concepts and principles of the performance domain, conceptual fidelity involves a realistic recreation of the problem-solving requirements faced by players in competition. Conceptual fidelity emphasises, not the precise representation of an environment but the design of learning experiences that support meaning making, understanding and concept (Dieckmann, 2007; Rudolph et al., 2007), in a parallel manner to 'slow off field' coaching to promote thinking (Price et al., 2023). Therefore, practitioners may look to utilise activities high in conceptual fidelity outside of practice, including the use of video analysis, tactics boards, or as technology advances virtual reality in a more reflective manner (Richards et al., 2017). Conceptual fidelity presents players with conceptually coherent problems in order to promote understanding and critical thinking (Lasater, 2007). Conceptual fidelity can also be present in training activities where players might be focused on working through specific strategic and tactical concepts, such as formations, shapes or structures both in and out of possession, as discussed presented in Chapter 5. A defining feature of the team sport environment is the presence of an opponent who is seeking to implement their own strategy. This creates a setting that is characterised by the presentation of complex tactical problems for both teams to solve (Price & Collins, 2024). Here, strategy refers to the plans or principles of play discussed in advance of performance while tactics are the adaptation to the opposition performed in real time (Gréhaigne et al., 1999). In this sense, high conceptual fidelity can enhance players' capacity to recognise, interpret and solve complex problems.

8.2.5. Affective fidelity

A large body of research points to the interconnectedness of emotions, cognition, learning and behaviour, indicating that emotion should be a fundamental consideration for all pedagogy (Morie et al., 2005). In a sporting context, it has been suggested that learning experiences should be designed to simulate performance which may provide players with the ability to respond emotionally and analyse how they thought and acted during the experience (Headrick et al., 2015). This notion of affective learning design has been neglected thus far in representative learning design (Headrick et al., 2015) resulting in a player's affective states not being sufficiently prompted by activity design. In this sense, representative practice design has tended to focus on environmental factors without considering the player's internal states. As a result of this omission, representative practice design might not be considered truly representative. This may be detrimental to both learning and transfer for the player who could benefit from practicing under the specific affective conditions that performance environments generate such as the competitive pressure and intensity evidence in specific competitive situations (Davids et al., 2013).

It is arguable that affective fidelity is the form of fidelity which may require the most consideration when planning intentions for impact. This is due to the complex interplay of interpersonal and intrapersonal variables that influence a player's emotional state in training (Denny & Steiner, 2009). Broadly speaking, game form activities are likely to increase the levels of affective fidelity with players reporting greater motivation and enjoyment than when undertaking isolated practice (Evans & Light, 2007). Beyond those personal emotional states, emotional contagion, the phenomenon where individuals unconsciously mimic or synchronise their emotions with those around them (Clarkson, 2019), can significantly shape the collective emotional experience within a training session. Emotional contagion plays a significant role in social interactions in sport, where group dynamics have been shown to influence performance

and cohesion within a social setting (Barsade, 2002). The implication here being that the overall performance of players can only be developed optimally when players are emotionally engaged (i.e., the presence of intensity and direction of effort) (Weiss & Ferrer, 2002). A pertinent example is a player 'going through the motions' at training, or at the other end of the scale, a player treating the training environment as an extension of the performance realm and competing with a competition-like intensity. In both of these instances, those tasked with being in direct opposition to the example players will likely experience significantly different levels of affective fidelity with their session.

A recent development in the literature relevant to affective fidelity is the theoretical conception of GBA practice scenarios built on existential-phenomenological foundations, focused toward an individual's way of being (Jones & Piggott, 2020). These authors argue that designing scenario-based activities requires the consideration of a number of factors such as the participant's lived experience, the meaning of games in their life, the problem-based nature of these games, their representativeness and the risk and reward associated with immersive game based coaching narratives (Jones & Piggott, 2020). Moreover, this work has been considered compatible with GBA, specifically TGfU (Jones & Piggott, 2023), thus suggesting that these considerations can support coaches in the challenge to better realise fidelity in activity design.

8.3. Fidelity and the player experience

Importantly, the delineation of different forms of fidelity in no way infers any cartesian separation but instead represents a pragmatic framework to consider the differential impacts of the environment on the individual. As a consequence, the framework assists the coach to shape their activity design and task constraints based on desired impact on the player. This is especially important to consider on the basis that there is evidence to suggest that the different forms of fidelity can complement or detract from one another (Norman et al., 2012).

In addition to complex interaction between various forms of fidelity, a coach must also be aware of the impact of the manipulation of the levels of fidelity. To help guide coaches, it has been proposed that the level of fidelity may correspond to the level of the player, with higher fidelity being more suitable to learning in more experienced players aiming to transfer learning to performance settings. Whereas, lower levels of fidelity potentially present learning opportunities to less experienced players by reducing cognitive load (Carey & Rossler, 2022).

As previously suggested, while effective transfer is supported by high levels of fidelity (Jones, 2021), higher fidelity may not always be optimal for learning. With this in mind, the term 'fidelity trap', a concept taken from the education literature referring to the assumption that students learn in direct proportion to the level of fidelity (Helyer & Dickens, 2016). However, guidance such as this might be a little simplistic as there is some evidence suggesting a complex interaction between the player's prior learning and the fidelity they experience. That is, the greater the capability of an individual, the more perceptual information they perceive which may be deleterious to specific learning outcomes (Endres et al., 2023). Thus, there is a fundamental need to consider how activity design influences the experience of the player, or in Ecological Dynamics terms, how we might 'constrain to afford' (Renshaw et al., 2019) based on different the different 'forms' of fidelity experienced by the player.

8.4. Fidelity and Challenge Point

One means of considering how fidelity impacts the experience of the player is through the challenge posed by an activity. As discussed in Chapter 2, the challenge point framework, proposed by Guadagnoli and Lee (2004), is a theoretical model in motor learning which posits that optimal learning occurs at a "challenge point" where the task difficulty is appropriately matched to the player's current capabilities, thus optimising effort and engagement (Guadagnoli & Lee, 2004). Broadly speaking, when challenge is low, performance should be relatively competent. However, as challenge increases performance will begin to decline, reflecting

increased demands (Hodges & Lohse, 2022). Thus by continually adjusting the levels of fidelity across the proposed forms, coaches can ensure players face optimal levels of challenge to aid transfer. This continuous adjustment and calibration of challenge point requires significant skill on the behalf of the coach. If the functional task difficulty is too high, it may bring about frustration or confusion and as a potential outcome demotivation (Hodges & Lohse, 2022). While lower levels of challenge may be desirable to improve perceptions of competence, under challenged players may suffer from boredom (Krannich et al., 2019). In this sense, PJDM becomes central for coaches seeking to adaptively manipulate levels of fidelity based on their intentions for impact. As explored in Chapter 2, PJDM offers an opportunity for coaches to deliberately adopt different approaches based on their intentions (Nash & Taylor, 2021). Contextually, coaches must make a distinction between impact and outcome with the former understood as the player experience and how they perceive and engage with that activity, while the latter refers to the improvement of some form of competency following the practice. By considering intentions for impact, in conjunction with the careful consideration of a multitude of factors, including the level of desired challenge, coaches can navigate between activities lower or higher in fidelity as necessary when planning activities. Thus, I suggest the potential for forms of fidelity to be used by the coach to consider not just the extent of functional task difficulty, but *how* players are challenged by a given activity design.

8.5. Forms of fidelity: practical applications

Building on this discussion, I will now propose a practical approach for the coach to consider how and why they might shape the experiences of their players through the framing of different forms of fidelity. This reflects an important shift from considerations of the total challenge experienced by the player to understanding what kind of challenge is being experienced and through which dimension of fidelity. Thus, the deliberate manipulation of activity design and task constraints can be directed towards desirable challenge level in each form of fidelity. In

this manner, the coach can consider how different forms of fidelity can challenge the player and be planned over time to promote desired learning.

In this practical framing I will represent a conceptual tool, the fidelity plot, which represents three constant points of reference for each form of fidelity: deficit, competition, and surplus (see Figure 8.1.). This suggests that each form of fidelity - action, conceptual, and physiological - can be calibrated not only to mirror or deviate from competitive performance. Fidelity can be scaled up to exceed the demands of competition, providing a greater challenge, or dialled down to create a deficit. This suggests the four proposed forms of fidelity can pragmatically be considered dependently. One activity may reflect a deficit in one form of fidelity while simultaneously reflecting a surplus in another, though there are clearly interacting effects. Figure 8.1. also references challenge point, through a hypothetical functional task difficulty level. Finally, throughout this section, I provide pertinent examples of activity design, supported by a general description in terms of fidelity and visually represented by a 'fidelity plot'. These examples are presented without a reference to challenge point in an effort to provide clarity with each example.

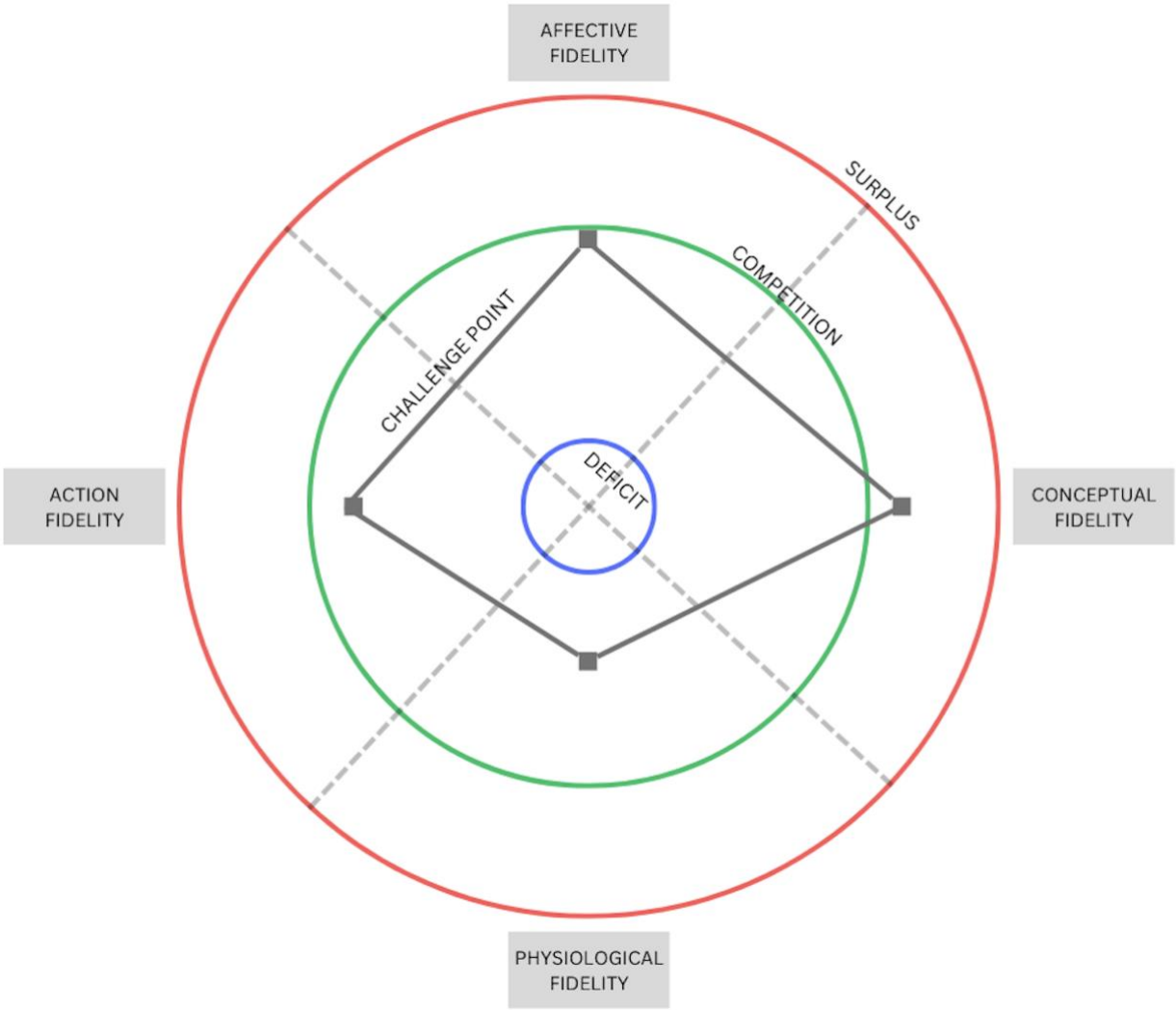

Figure 8.1. Visual representation of fidelity of practice and challenge point

Example 1: Training form activity

Consider a blocked and massed example from soccer where a player dribbles a ball from a starting point through a series of cones in predetermined pattern, before returning to the starting point, passing to another player and resting while the other player is active. These players alternate between resting and performing the activity. This is likely to reduce the conceptual and affective fidelity as the player is performing predetermined skill in a predetermined direction (see figure 8.2.). The lack of perceptual cues from an opponent to shape actions (Araújo et al., 2006) will mean a significantly below competition level of action fidelity, unless the player has the ability to contextualise the activity. As the player is essentially utilising a 1:1 work to rest ratio, the physiological fidelity of this practice would also be low as the player

will not have the ability to perform any sustained efforts typical of the sport (Krause et al., 2018). Thus, based on the low level of challenge across all forms of fidelity, we are unlikely to see significant transfer of learning to competition from this practice. As such, we might consider the function of this activity to be that of 'maintenance' given that this activity involves the repeated practice of already an already well-learned skill (Williams & Hodges, 2023).

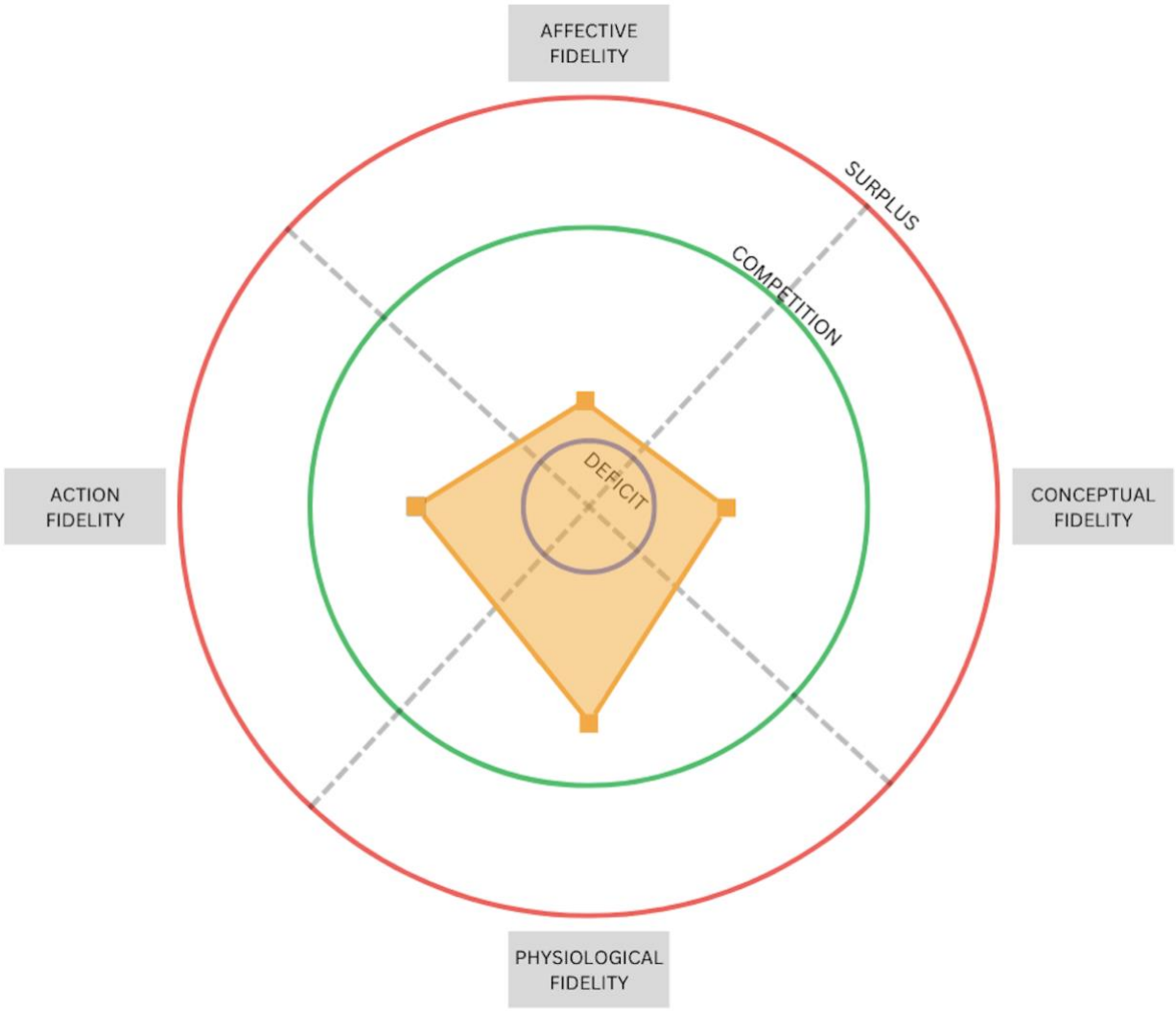

Figure 8.2. Fidelity plot- Training form activity

Example 2: Small Sided Game

Now consider a SSG in team sports played on a small pitch, less than one third of regulation size, with significantly reduced numbers on each team compared to competition. In this random, variable practice we would expect elements of performance-like levels of physiological fidelity due to an increased density of accelerations and decelerations (Duthie et

al., 2022). If competing against similar level opponents, action fidelity may actually be beyond that of competition given the number of actions both in and out of possession. However, while conceptual fidelity in this example would likely be higher than example one, based on the specific task constraints in the game which promote a variety of skilled actions, the strategic and tactical challenges of the whole game are likely reduced, given the smaller playing numbers, timings, pitch size and scoring format. Lastly, as it is a game form activity, there would likely be greater level of affective fidelity as players' motivation and engagement increase due to the game format itself (Halouani et al., 2014) (see figure 8.3.). However, with such limited investigation into the lived experiences of game form activities (see Jones & Piggot, 2020), this aspect of fidelity requires further investigation. For some this activity will involve the practice of already mastered skills, while conversely for others this will provide a much greater level of challenge and will stimulate learning. Thus the most likely outcome of this activity could be transfer to performance based on the skills being performed, while it may be considered 'growth' or 'maintenance' as the level of specific challenge will likely vary from player to player (Williams & Hodges, 2023).

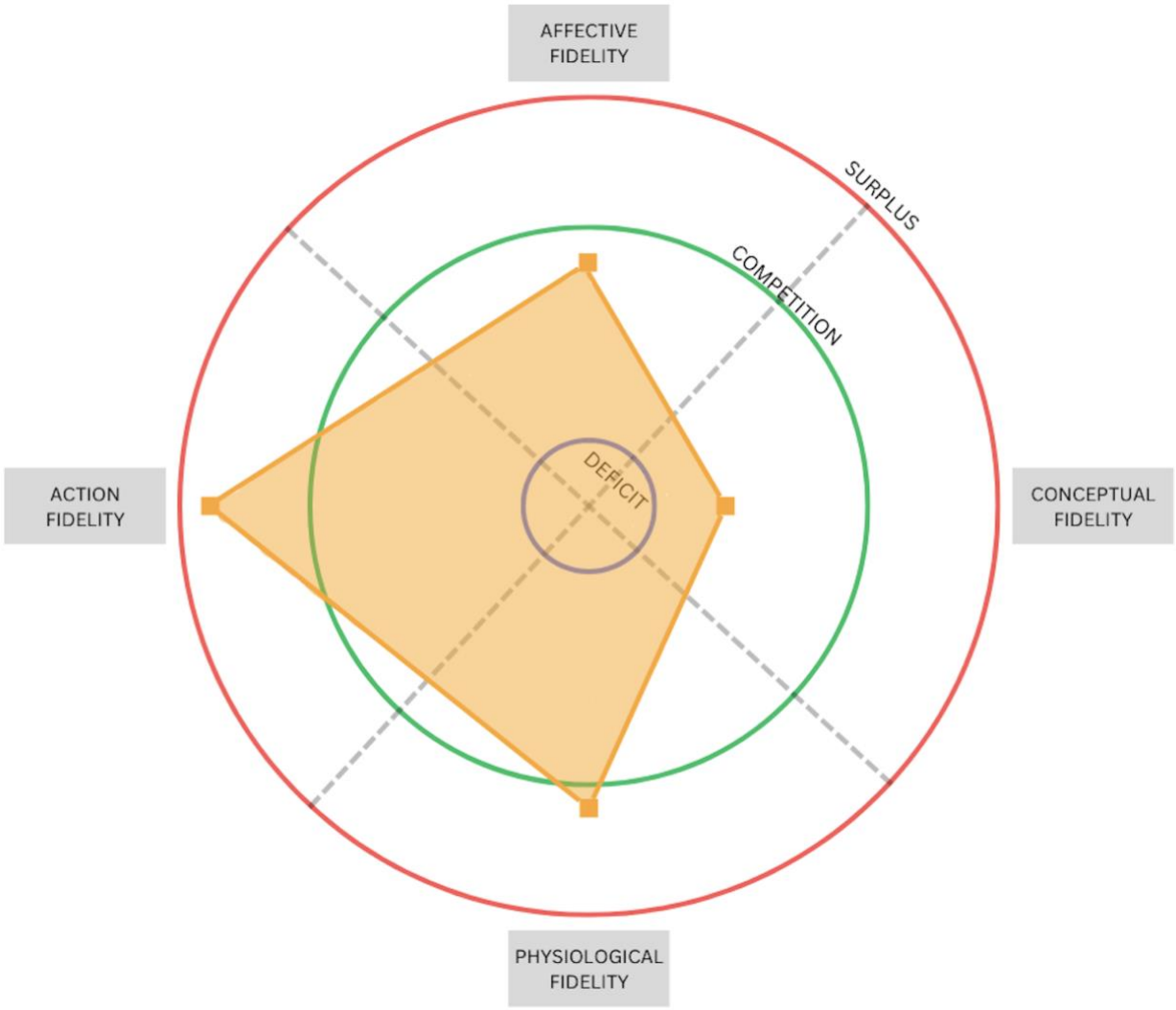

Figure 8.3. Fidelity plot- SSG

Example 3: Phase of play activity

The next example considers a full sided phase of play activity with the attacking team trying to work on 'beating the low block' where each play begins with the attacking team in possession at the halfway/court line and both units allowed to reset into desired positions between each play, with coaches facilitating a full debrief after every five attempts. The game form nature of this activity means it would be considered to be random and variable, albeit less random than example 2. In the current example, physiological fidelity will not match competition, due to the resetting of formations between each play and reflective discussions that would not replicate performance. Action fidelity would be close to performance but will be lower than example three due to the frequency of actions taken being lower than small sided

games and the conceptual challenge of 'off-ball' interactions. In terms of conceptual fidelity, this activity could offer a challenge approaching performance as both units work on developing tactical solutions to a specific game problem with affective fidelity being impacted by the relative competitiveness of the activity, along with the perceived pressure. Similarly, players may enjoy the game form activity but repetition of a specific phase of the game, may lead to a level of monotony (see figure 8.4.).

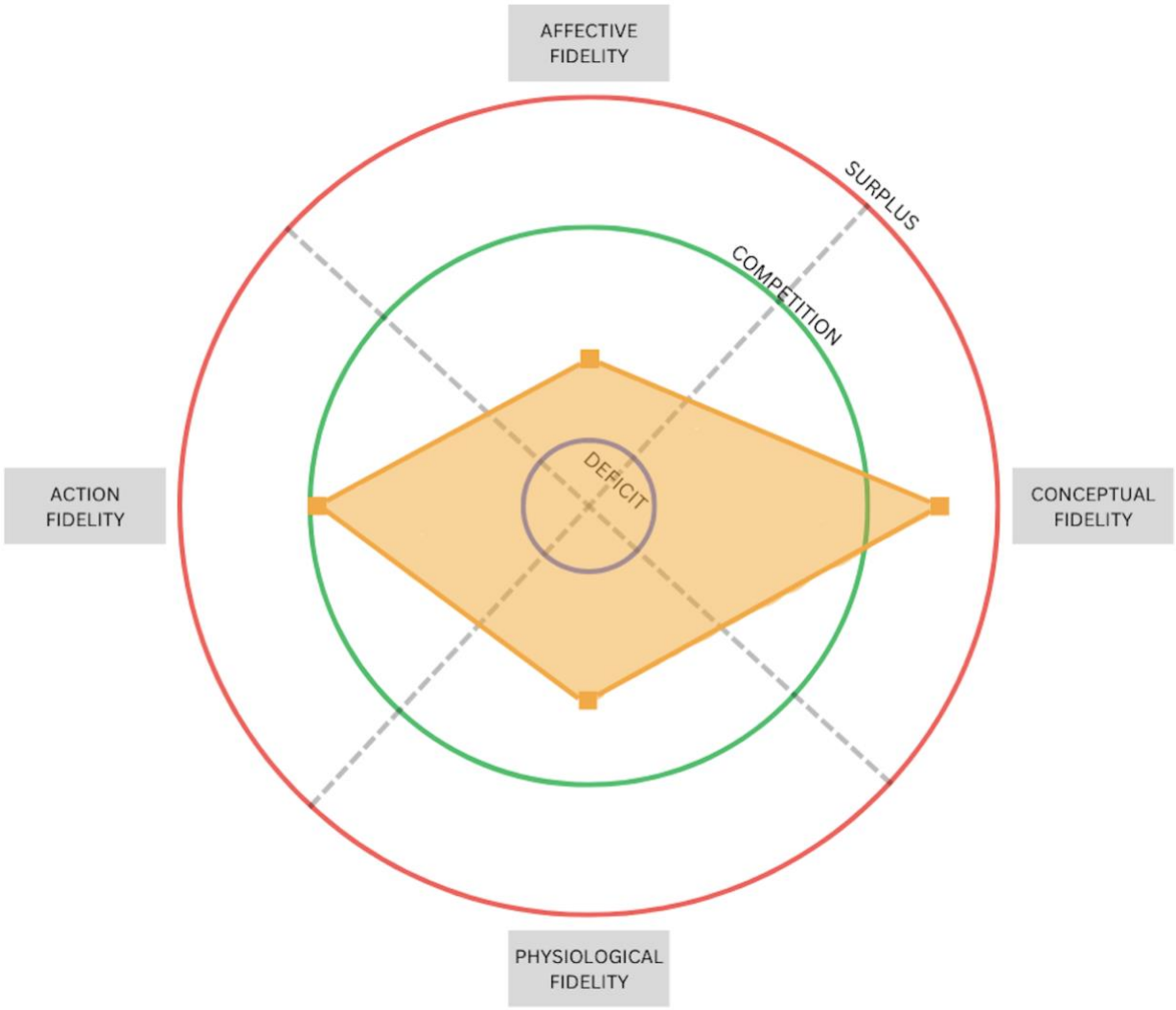

Figure 8.4. Fidelity plot- Phase of play

Example 4: Off Field Task

The final example of activity design is off field, using an approach referred to in the simulation training literature as a Tactical Decision Game. These games are 'decoupled', low action

fidelity activities designed to replicate the strategic and tactical challenges of competition (Clarke et al., 2023). The aim being to use high conceptual fidelity to enhance strategic problem solving in action, in a time efficient manner whilst imposing no physiological demands on players (Elliott et al., 2017) (see figure 8.5.). The scenarios presented can be delivered through various media including diagrams, video, tactics boards, or simply live discussion.

For instance, a coach presents a group of players with a scenario in which they are trailing by a goal against the opposition they are due to play at the weekend. They are briefed on the weather conditions, which players are on the pitch and field position. Players are given two minutes and asked to discuss and subsequently decide on a course of action to turn the game around. The coach then provides a response to their plan, updating the scenario using video footage of a prior game, before giving the players another two minutes to respond to changing conditions. Following the end of the Tactical Decision Game, the coach guides players through a structured debrief, encouraging players to reflect on decisions taken and the reasoning for them. A process that appears to enhance individual decision making and also enhance shared understanding in groups (Ashford et al., 2023).

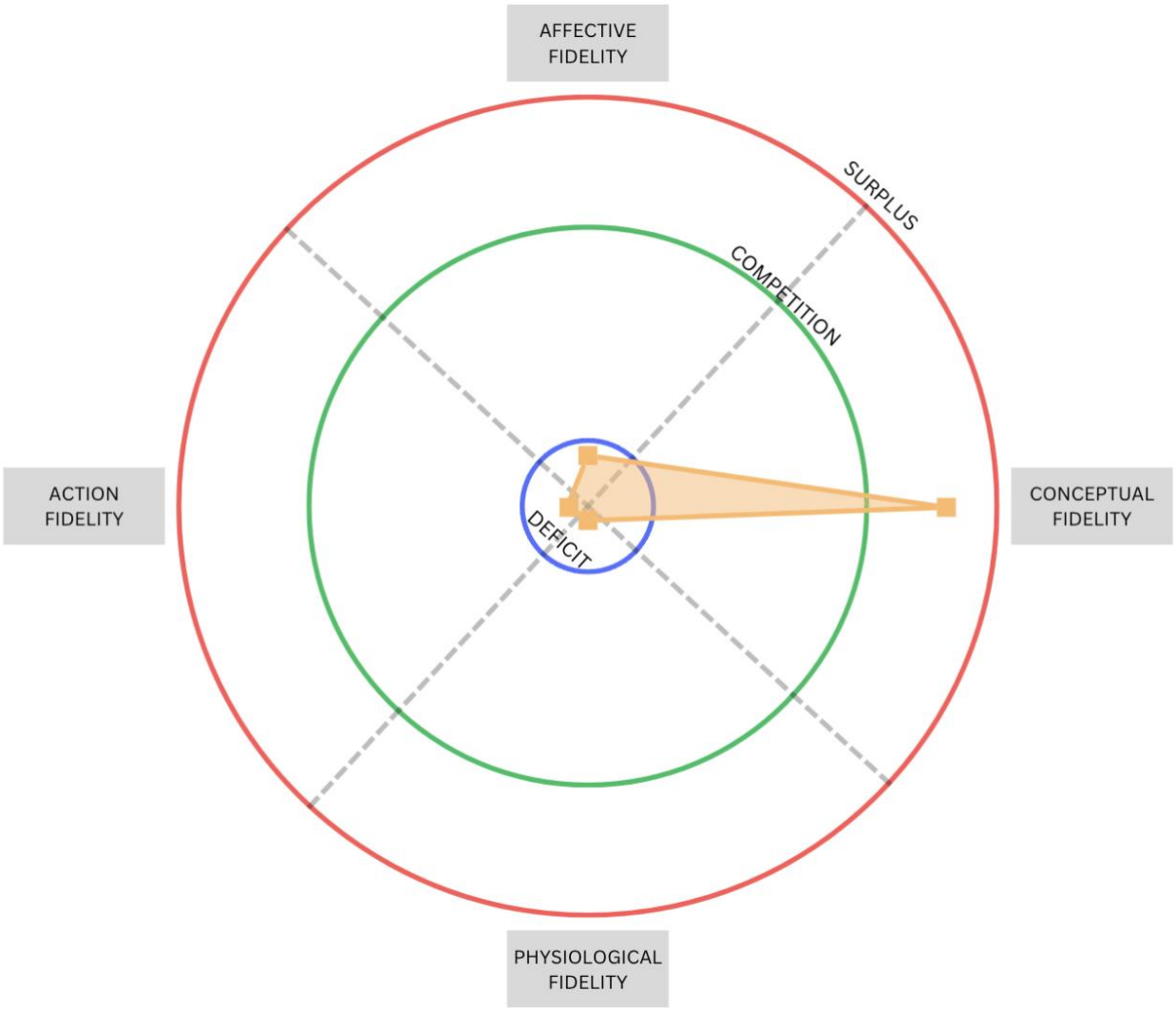

Figure 8.5. Fidelity plot- Off field task

8.6. Discussion

In line with the objectives for Chapter 8, as outlined in Chapter 1 of this thesis, I have drawn on the four forms of fidelity most applicable to a sporting context: affective, conceptual, action, and physiological. These forms of fidelity should be considered dependently, allowing the coach to adjust each form both inter and intra session to promote a range of desired intentions including learning, development, and short-term performance goals. The ability to adjust levels becomes crucial when considering the role of challenge posed by fidelity, the implication being that optimal learning occurs at a "challenge point" when the task difficulty is appropriately matched to the player's current capabilities. Crucially, with the adjustment of fidelity across the four forms possible, purposeful selection of high and low fidelity practices becomes a key

consideration for practitioners, built upon their PJDM. Here a host of factors may need to be considered to aid in the planning for deficit, competition, or surplus level of fidelity or indeed a level between those described. Thus, based on the notion of 'it depends', a coach must decide based on their intentions, what level of fidelity is appropriate, while avoiding the fidelity trap – the idea that higher levels of fidelity corresponds to better practice. This is an important addition to the discourse surrounding activity design and intentions for impact given the findings from Chapter 5, highlighting coaches' predisposition to forming intentions for impact exclusively based on physical outcomes. Understanding the complexity of practice design necessitates a deep appreciation of how player experiences can be shaped. In this regard, previous work in the simulation literature suggests that once players understand how the simulation is related to performance, they will accept difference in settings without questioning the relevance (Dieckmann, 2007). Thus, the notion of fidelity as a lens through which to view activity design encourages coaches to better understand implications of their activity design and planning for intentions for impact. Furthermore, it provides an opportunity for practitioners to move beyond the framing of activity design in terms of either training form or game form and instead view activity design in terms of the player experience. This seems to be a novel introduction to the coaching discourse and an important one given the importance of player experience, the coaches ability to shape it and its implications for player development and sport continuance. As such, further investigation into player experience and how it is shaped warrants investigation.

8.7 Conclusion

To conclude, this chapter has built upon the notion of forms of fidelity as a lens to view the intention for activity design first introduced in the data analysis in Chapter 5. Fidelity of practice refers to the degree realism created in practice compared to competition with four forms proposed as most transferable to a sporting context: affective, conceptual, action, and

physiological. These forms should be considered dependently, allowing the coach to adjust in and between sessions to promote a range of desired intentions including learning and performance goals. This suggests the possibility that coaches can frame practice around the impact of different activity designs on participant experience rather than attempts to focus on a specific methodology. In this sense, a range of complex factors need to be considered in the planning for deficit, competition, or surplus fidelity. If different forms of learning occur at a "challenge point" where task difficulty is appropriately matched to the participant's current capacities, purposeful selection of high and low forms of fidelity practices becomes a key consideration. As such, effective activity design will require that coaches adaptively and skilfully navigate the interplay between different forms of fidelity, adjusting challenge based on desired intentions. Furthermore, this new lens for viewing activity design requires advancement. With this in mind practitioners or researchers seeking to understand how activity forms are challenging players may use adaptations to the scale items of questionnaires such as the NASA TLX (Hart, 2006), or the use of scale items in semi-structured interviews to further develop practical opportunities for practitioners to engage with fidelity as method of practice design.

Chapter 9: Implications and Limitations

9.1. Introduction

The overarching aim of this thesis was to explore how coaching practices can influence the player experience. This involved an initial focus on the methods utilised by coaches in their applied practice, specifically the adoption of a GBA, before broadening to focus on the understanding and shaping of player experience. This required a series of qualitative studies undertaken to extend knowledge in these areas. This chapter will provide a brief overview of each chapter before synthesising the results of Chapters 3,4,5,6,7 and 8 based on the pragmatic research philosophy and methodology utilised in this thesis. As such this chapter aims to provide practical suggestions for coaching stakeholders to utilise to in relation to the use of game form practice, coach development and catering for appropriate player experience. Furthermore, this chapter will also provide implications for the research literature in these areas.

Chapter 1 presented an introduction to the thesis. This chapter provided information on the background and significance of the research, as well as the aims and objectives of this programme of work.

Chapter 2 reviewed the literature in the areas of theoretical underpinnings of activity design, pedagogical approaches to game form training, professional judgement and decision making and coach learning. This literature review summarised, synthesised and discussed the literature providing a comprehensive overview of the research to date.

Chapter 3, the first study in this thesis, investigated the impact of GBA on player development and coaching attitudes in Gaelic games. This was conducted through focus group discussion with parent coaches, talent development coaches and NGB staff from across Ireland.

Chapter 4 was an investigation into how high level team sport coaches utilise game form activities within their practice. This involved semi-structured interviews with 17 coaches around their underpinning knowledge and the sources of their pedagogy.

Chapter 5 investigated how these high level coaches plan for the use of game form activities and how they form their intentions for impact.

Chapter 6 was a curriculum investigation of youth level Gaelic games. This involved rapid, semi structured interviews with 140 players, parents and coaches from U13, U15 and U18 age grades with a focus on the experienced curriculum.

Chapter 7, was an investigation into streaming practices in youth Gaelic games across U13, U15 and U18 age grades.

Chapter 8, the final study in this thesis, critically synthesised the literature around the use of simulation fidelity and its potential application in team sport coaching as a means of understanding and catering for appropriate player experience.

9.2. Implications of this thesis

9.2.1. Game based approaches

In line with previous findings within Gaelic games and other sports (Gavin et al. 2025; Reid & Harvey, 2014), the findings in Chapter indicate several misconceptions of GBA pedagogy in Gaelic games. These misconceptions seemed to overlook the role of the coach in the application of GBA, thus reducing the activity to a game form activity. A further example of this is the interchangeable use of SSG and GBA, the latter a pedagogical approach, the former devoid of inherent pedagogical considerations (Rampinini et al., 2007). That is not to say that SSG are to be avoided by coaches, instead pointing to the notion that they are not necessarily a GBA. This conflation of methods, seems to echo memes such as ‘just let them play” (Nash & Taylor, 2021), the idea that players get better simply through activity design regardless of coaching input. These findings seem to reflect the constructivist shift in sport coaching discourse,

presented in Chapter 2, a shift that perhaps downgrades the role of the coach (Cope & Cushion, 2020). These findings presented in Chapter 3 posed problems when considering the player experience through an inequitable use of GBA where players of higher ability thrive in a game form activity but lower ability players may not be the beneficiaries of as much opportunities to perform the skills of the game within the game form activity. Additionally, there appeared to be a disparity evident between the use of GBA between parent coaches and talent development coaches, the latter typically representing more informed and experienced coaches. This point becomes especially prominent when considering the findings of Chapter 4, where there was no universal approach to the application of game form training. Instead the cohort of high level coaches selection of practice activities seemed to be highly contextualised. Furthermore, these activities were highly intentional, reflecting the planning process of this cohort of coaches who displayed evidence of 'nestedness' in their plans with clear links between various levels of planning. This highlights an apparent inconsistency with how coaches utilise game form activities, across Chapters 3 and 4, perhaps driven by the level of coach. The high level team sport coaches in this study also reflected on a range of different theoretical positions as influencing their practice some of which might appear incongruent, yet seemed to offer significant pragmatic value (Raab & Araújo, 2019; Stodter & Cushion, 2017), as opposed to the coaches in Chapter 3, who seemed to uncritically and universally adopt GBA. Moreover, some participants in Chapter 3 seemed to view GBA as a solution to coaching. This seems to indicate a shift in coaching attitudes when compared with previous literature (see Harvey et al., 2014), where training form activity appears to have been replaced by game form activity as the predominant culturally preferred method. One factor underlying the popularity of GBAs is the emphasis on facilitating transfer to performance (see Harvey & Jarrett, 2014). The value of practice design that realistically mirrors the demands of competition has long been recognised across diverse theoretical perspectives, such as specificity of practice, supported by a body of

research concerned with cognitive views of learning (Hodges & Lohse, 2022) and representative practice design, a principle of non-linear pedagogy (NLP) (Rudd et al., 2021).

The promotion of GBA in Chapter 3 and game form training in Chapter 4 was perceived to emanate from multiple information sources, both mediated coach education content and from unmediated sources including social media. Rather than a critique of any of these sources, the findings point to a broader issue in that a somewhat confused and fragmented landscape exists. This highlights a key challenge; how can coaches be equipped with the requisite knowledge, pedagogical literacy, and attitudes to meaningfully interpret and apply emerging ideas in practice (Stoszkowski et al., 2020). As discussed in Chapter 2, considerable previous research has investigated the inherent complexity in the application of pedagogical methods (e.g. Lindsay & Spittle, 2024). In this regard, sport coaching research has often prioritised methodological concerns over a more relational pedagogical perspective, one that recognises the dynamic interaction between coach and participant (e.g. Kirk, 2009). The prioritisation of methodological stances has manifested in the debates between more repetitive training form activities and game form activities (Ford et al., 2010). These debates have coincided with the rise in popularity of GBA, as outlined in Chapter 2 and supported by the findings in Chapters 3 and 4.

As discussed in Chapter 2, and supported by findings in Chapter 4, unmediated learning is often the preferred source of learning for coaches (Stoszkowski & Collins, 2016), however it may not always be the most beneficial form of learning and findings from Chapter 3 suggest that it has led to a culture of copy and paste coaching in Gaelic games. This paints an interesting picture. Contrasting the prevalence of copy and paste coaching described in Chapter 3, against the highly contextualised use of game form practice evident in high level coaches in Chapter 4, with both underpinned by suggestions of naïve mediated coach education. However, given that both sets of participants from these studies lamented the quality of coach learning, it would

seem that mediated coach education needs to move beyond procedural focus of game form practice and move towards a more nuanced and deeper pedagogical understanding. Consequently, coaches in Chapters 3 and 4 made critical comments regarding the naïve and prescriptive promotion of GBA, in a manner contrasting with some GBA literature (Pill, 2020). Thus, a more robust mediated coach education may contribute to bridging the gap between the literature and naïve interpretations. In this sense, and again reflecting the broader coaching literature (Judge & Smith, 2023), the findings of Chapter 3 point to the need for mediated coach learning to provide better support for coaches. Again this is not to say that GBA should be avoided. The issues being presented here pointing to naïve implementation rather than with the approach or its supporting body of literature. Furthermore, the findings in Chapter 4 seemed to suggest that these high level coaches utilise a range of different theories in their practice, in line with research presented throughout this thesis (Brackley et al., 2020). In some cases these theories, presented in Chapter 2, appearing incompatible with each other, highlighting that coaches seem to be operating in a pragmatic fashion.

This suggests a need for NGBs to reflect on their role in promoting pedagogical approaches. Rather than advocating a single method, such as GBA, it may be more appropriate to support coaches in developing the capacity to critically evaluate and apply a range of approaches based on participant needs and coaching context. Furthermore, NGBs should look to develop broad coaching knowledge to help coaches make sense of novel information and how it may apply in their context (Stoszkowski et al., 2020). This seems to be one of the key differences between the parent coaches in Chapter 3 and the high level coaches in Chapter 4. Furthermore, the use of game form activities in practice seems to be planned for without any considerations from the educational literature. In this sense, there is a body of work which could be used to support player learning such as retrieval practice, interleaving, spacing, variability and the dialling up and down of contextual interference (Bjork & Bjork, 2020;

Magill & Hall, 1990; Shea et al., 2000; Stokes et al., 2008; Taylor & Rohrer, 2010). As these concepts were entirely missing from these coaches reflections, it is reasonable to infer that they are unaware of their existence. This again points to the limited exposure in mediated and unmediated learning situations to the underpinning theories of learning or pedagogical approaches discussed in Chapter 2. This offers a further area in which coach development, particularly mediated coach education programmes, can become more sophisticated in their offerings to coaches. Thus, coach education should offer a platform for the growth of expertise, rather than the somewhat 'box ticking' exercise it sometimes perceived to be (Webb & Leeder, 2022). This will require collaboration between a variety of stakeholders, including NGBs and researchers. While this task should not be underestimated, it should also be embraced given that critiques of mediated education courses have been a feature of the literature (Cope et al., 2021). Finally, given the aforementioned naïve approaches to mediated education programmes, future research should look to investigate the impact of a more sophisticated programme on coaching knowledge and attitudes.

9.2.2. Fidelity of practice and the player experience

Chapter 5 was an investigation into how high level team sports coaches form intentions for impact and how these intentions influence planning for game form activities. While conducting the research described in Chapter 5 and seeking to understand the 'realness' of the coaches' activity design based on their reflections, I began to contemplate a framework to make sense of this 'realness'. Thus, these intentions could be viewed through the various components of fidelity, or more plainly: the degree of realism created in practice activities when compared with competition. Findings show that coaches seemed organisationally bound by the need to manage physiological fidelity as a priority above other types of fidelity. The implication being the development of players, in areas other than that of physical preparation, may be sub-optimally considered. This focus on physical preparation could also be part explained by the

complex nature of sports coaching referred to throughout this thesis (Cassidy et al., 2023; Cushion et al., 2003; Greif, 2007; Stober & Grant, 2006). This cohort of coaches were responsible for a breadth of tasks and were required to operate in a multi-faceted role and fulfil a varied selection of purposes supported by either a sports science department or S&C coach whose sole responsibility was the physical preparation of players.

As discussed in Chapter 8, simulation fidelity is a concept which has been utilised across domains for many decades (Liu et al., 2008). The explicit framing of sport practice design through fidelity is a recent phenomenon though (R. Taylor et al., 2023). By examining the simulation literature, a body of work concerned with the creating immersive 'real' experiences for learners, I began to understand the reflections of the coaches in Chapter 5 through various types of fidelity, rather than a singular meaning. Following an in-depth investigation into the simulation literature, I proposed a framework of fidelity applicable to team sport coaching to assist coaches in moving beyond the physical focus and towards a better-rounded approach to activity and session design. Thus, in Chapter 8 affective, conceptual, action and physiological fidelity are explored and subsequently followed with examples through the use of activity descriptors and fidelity graphs. Built upon a solid body of literature, the aim of this framework is to aid coaches in their planning while also providing an opportunity to move beyond dogmatic debates surrounding activity design as outlined in Chapter 2. Furthermore, and consistent with the evolution of this thesis, this fidelity of practice framework proposed also emphasises the player experience, allowing coaches to design more appropriate activities as part of their practice design.

This is a novel contribution to the literature and applied coaching practice. In terms of applied practice, the effective application of practice design will demand a nuanced understanding of the multifaceted nature of sports coaching. I propose that coaches adaptively and skillfully navigate the interplay between different forms of fidelity, adjusting challenge

based on desired intentions (Ashford et al., 2024), built upon their PJDM. Here a host of factors may need to be considered to aid in the planning for deficit, competition, or surplus level of fidelity or indeed a level between those described. Thus, based on the notion of 'it depends', a coach must decide based on their intentions, what level of fidelity is appropriate, while avoiding the fidelity trap – the idea that higher levels of fidelity correspond to better practice. Furthermore, fidelity of practice offers the possibility for coaches to frame practice around the impact of different activity designs on participant experience rather than attempts to focus on a specific methodology.

While framing practice activities in terms of fidelity may be of use conceptually to coaches, a future research challenge should be the design of tools to help the coach consider and measure these types of fidelity (e.g., Bam et al., 2023), such as adaptations to the scale items of questionnaires such as the NASA TLX (Hart, 2006). These tools would help coaches navigate the challenges of understanding short term observations and move beyond performance measures in the evaluation of training activity. Currently similar measures exist within sporting contexts (Krause et al., 2018) and have been used more extensively in fields such as nursing education (Song et al., 2010) where researchers report that the use of fidelity tools may enhance the systematic evaluation of training.

In terms of the literature, one implication of Chapter 8 is the framing of fidelity as a multi-theoretical approach. The importance of this being understood against current pedagogical debates in sport coaching fields (R. Taylor et al., 2023). In this sense, fidelity offers a middle ground, applicable to advocates of different approaches, much like the coaches in chapter 4, to better conceptualise their practice and shift from a focus on methods to the player experience. Thus, there is a potential to move beyond dichotomous debates to further progress sport coaching.

9.2.3. Streaming and the player experience

With player experience increasingly being viewed through the lens of curriculum (Gavin et al., 2023), Chapter 6 was a an investigation into the playing experience of youth Gaelic games, particularly focused on the experienced curriculum and the factors which influence this experience. This need for support coaches was also seen throughout the transition through youth GAA, which was associated with an increase in seriousness, in line with other sports (Jørgensen, 2024). In this sense youth sport was deemed as a critical point in which participants reflected on the need for a level of expertise in their coaches beyond that which they experienced in children's sport. Furthermore, it was the interactions between player and coach which seemed to have the biggest impact on experienced curriculum. In line with other chapters, this points to a need to support coaches to improve their practice.

One meso level intervention to help support coaches was the implementation of ability grouping, explored in detail in Chapter 8. Youth sport is often organised through ability grouping where individuals are grouped for training and competition based on external perceptions of their current ability, while teams are typically organised in skill-based divisions (Jørgensen, 2024). The aim of this being the provision of appropriate challenge based on youth players' current competence. Borrowed from the educational literature, the concept of ability grouping is often referred to as streaming, a term which tends to evoke heated debate in educational settings (Johnston & Wildy, 2016).

Here though, the purpose of streaming is different in that it not only supports the pedagogical approach of the coach, but is also used as a tool to provide appropriate challenge for the player; something proposed to be essential for learning in the skill acquisition literature (Guadagnoli & Lee, 2004). As such, streaming may have the potential to both provide a level of challenge within or just beyond a player's current capability through the grouping of players of similar ability and assisting a coach's approach to practice.

The findings from Chapter 7, an investigation into the experiences of streaming, reflect an overwhelmingly positive perception, albeit conditional to appropriate implementation. The adaptive use of streaming seems to offer a range of benefits for players both in the short and long term, contrasting with the educational literature. Primarily, these benefits seem to be associated with greater acceptance and participation based on competing with ability matched peers which was accepted as being a necessary part of the increased competitive focus associated with youth sport (Merkel, 2013). Yet, in current practice, there appeared to be a number of factors that seemed to mitigate against these potential benefits. Much like some of the educational literature (Betts & Shkolnik, 2000) the implementation of streaming was hindered by a series of systemic challenges most notably the intention underpinning its use, resource allocation, rigid grouping, and the organisation and structure of streaming and misunderstanding the motivations of lower ability female players. Furthermore, it seemed that lower ability groups were often considered to be less valued. This in itself reducing their perceived worth and further increasing disparities of ability.

While parents and coaches seemed to view the introduction of streaming uncritically, of concern here would be the psychological consequences these players experience through its introduction, where after several years of mixed ability groupings they are abruptly ranked into homogenous ability groups, with a hierarchical structure, in education and sport. Furthermore, little is known about the mechanism underpinning the selection of players into these ability groupings. This is of particular concern given the well documented issues with using present performance as a predictor for future potential (Johnston et al., 2018).

Furthermore, given the lack of guidance directed to clubs or coaches from NGBs, streaming seems to be applied in a highly contextualised manner not only from club to club, but within clubs across different age grades. Thus, it is imperative that NGBs offer explicit guidelines to clubs and coaches to maximise the adaptive and minimise the maladaptive

consequences of streaming. These should relate to the purpose of matching ability levels, movement between groups, equal access to coaching and facilities and consideration of localised factors. As such, careful consideration and planning is required when implementing streaming practices.

To the best of my knowledge, this is the first research of its kind in youth sport, certainly within Gaelic games. As a result there is significant potential for the GAA to take these suggestions and have a tangible impact on coaching practices across the organisation in any clubs which employ streaming as a means to manage large quantities of players. Moreover, as this is such a novel area of research, there are numerous research avenues possible. For example, future research could look to build a more in depth understanding of the underpinnings factors related to streaming, or the mechanisms leading to categorisation of players across various ability levels.

9.3. Limitations

As with any research project, it is important to acknowledge the methodological limitations which may have influenced data collection. As previously described, Chapter 3 utilised one-off focus groups. Whilst the use of focus groups is an entirely appropriate method of data collection, the unique nature of single session focus groups can be associated with a range of issues such as: lacking the necessary depth to fully explore topics (O.Nyumba et al., 2018); limited time for the development of rapport between participants and facilitator (Hopkins, 2007); and the risk of group conformity associated with the aforementioned lack of rapport between participants (Barbour, 2007). As such steps were taken to address these limitations and are outlined in Chapter 3.

In Chapters 4, 5, 6 and 7 semi structured interviews were utilised. A crucial limitation associated with this method of data collection is the influence of the interviewer and the possibility of leading participants (Cairns-Lee et al., 2022). Thus, the reflexivity sections in

these chapters illustrate the steps taken to avoid these type of researcher biases. A further concern here, is the variability in the quality across the dataset (Gill et al., 2008). In this regard, interview guides and probes were developed to ensure consistency across interviews (see appendices C, F and J). Lastly, the use of interviews are considered highly dependent on the quality of the interviewer (Ritchie et al., 2005). Chapter 4, the first chapter in which I utilised semi structured interviews was my first undertaking of qualitative research. Through this research journey and the subsequent use of semi structured interviews in Chapter 5, 6 and 7, my experience grew and my skill as an interviewer increased with this experience.

In terms of the overall limitations of the thesis design, this thesis was underpinned by a pragmatist philosophy and as such any limitations of this research programme need to be considered against what this philosophy entails and the aims as stated in Chapter 1. In this sense, it is important to remember that pragmatism does not make any claims of an absolute truth (Bacon, 2014). Thus, any reflections on the design of the studies in this research need to be considered against this fundamental principle of pragmatism. In this sense, the aim of the research, following the pragmatist tradition, was to increase the provisional knowledge of a given phenomenon, which is open to revision (Kaushik & Walsh, 2019). That aim has been achieved.

I have attempted to add to the understanding in terms of what we know about how coaches use of game form training, its impact on player development and experience. For example, while every individual youth player competing in Gaelic games was not given a voice in Chapter 6, the sample was large enough to generate shared meaning from the data, applicable to many players, coaches, parents and clubs beyond those included as participants. Practically speaking, and as a further example, there has been no research conducted in relation to streaming in Gaelic games prior to the research undertaken for Chapter 7. So while this research did not investigate every aspect of streaming, of which there are many, it did offer a significant

contribution to the literature, while also acknowledging that further inquiry is necessary. As such, there is now the potential that NGBs can offer explicit guidelines to clubs, clubs can implement a coherent approach to streaming within their club and individual coaches can be supported in the day to day implementation of streaming as a result of this research. These guidelines pertaining to the allocation of resources, flexible movement for players and the intention underpinning the use of streaming within coaching practices.

Similarly, the analysis for Chapters 3,4,5,6 and 7 was conducted using RTA. RTA places considerable emphasis on the researchers subjectivity and positionality (Braun & Clarke, 2021). Critics, particularly those who tend towards a more positivist stance, may view as a weakness of the research. However, a researchers bias, experiences and perspectives help to generate the data, in line with a key assumption of RTA: that findings do not emerge from the dataset, nor are they 'found' by the researcher, instead they are generated by the researcher (Braun & Clarke, 2024). In this sense, RTA is inherently subjective (Braun & Clarke, 2021a). Crucially though, this does not mean that RTA is a free for all with researchers reporting on whatever takes their fancy. Instead a researchers reflexivity, the steps taken to account for bias and subjectivity, should be well documented. In this regard, I have attempted in each chapter to document my prior assumptions and experience along with a detailed account of steps taken to analyse my own reflexivity. This reflexivity got stronger as the research programme continued. This was for two reasons. Firstly, as I grew in experience with RTA and became to understand it more in depth I better recognised the importance of this documentation. Secondly, when I proceeded to begin investigations within Gaelic games, an organisation where I am an active coach, parent coach and coach developer that this reflexivity and its documentation would be vital to produce quality research.

As a concluding thought, I believe that RTA and pragmatism are well aligned. For example both embrace the notion of pluralism. This is evident in RTA emphasising the

researchers role in forming a research narrative and that no two researchers will engage with the dataset in exactly the same manner, while the notion of pluralism from a pragmatic standpoint posits that there is no universal truth. Furthermore, both emphasise the importance of context, the implication being for this thesis that it is up to the reader to consider the transferability of these findings to their own context (Burchett et al., 2013).

9.4. Personal practitioner development

In line with the applied nature of a professional doctorate, it is important to reflect on the impact that this programme of research has had on my development as a coach and coach developer. In this sense, my knowledge has evolved dramatically as I now better understand the underpinnings of my practice. A pertinent example may be the use of constraints in game form activities. Where once I would have used constraints, labelled as conditions, I now understand what it is I am trying to achieve with their use. Of course, my coaching practice is not one dimensional and I utilise several different type of practice activities, in a pragmatic fashion. Armed with a conceptual understanding of what I am trying to achieve, my coaching practice has changed dramatically, for the better.

Another shift in my practice was beginning to conceptualise coaching practice as teaching with an emphasis on learning. Prior to this programme, I had fallen foul of oversimplified coach education and thus advocated for GBA in my practice and the practice of those coaches who I worked with as a coach developer. In this sense I never truly viewed myself as an educator. Instead I held the view that I was a facilitator of practice and that there were good examples and bad examples of practice. Today, and as a direct result of writing this thesis, I now would be hesitant to label practice as good or bad. Informed by pragmatism and PJDM, I now believe that context is key and once a practice is underpinned by a sound intention for impact, then reductionist classifications are unhelpful and only add to the rhetoric promoted by some advocates of certain approaches to coaching. Moreover, my evolution as a coach has

included a major shift from focusing on the methods I was using, to my current practice of considering the player experience. This is undoubtedly influenced by the framing of fidelity of practice, specifically the four forms proposed in this thesis, which is now at the forefront of my PJDM.

9.5. Conclusions

To conclude, this thesis provides novel, significant and original contributions to the sport coaching literature through a serious of qualitative investigations. Following a shift in the sport coaching literature towards the use of game form activities, there has been an absence of research surrounding the impact of this widespread adoption of GBA in terms of the long term impact and how coaches utilise it in their practice. This thesis has contributed new knowledge with applied implications. Furthermore, this thesis also offered novel contributions around playing experience and specifically some of the considerations around the use of streaming. I hope that this research can help coaches, coaches and NGBs advance coaching practice.

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Appendices

Appendix	Appendix Title
A	Plain language statement – Chapter 3
B	Informed consent form – Chapter 3
C	Focus group questions – Chapter 3
D	Plain language statement – Chapter 4 and 5
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J	Semi-structured interview guides – Chapter 6 and 7
K	Letter of ethical approval – Chapter 3, 6 and 7
L	Approval of amendment of ethical approval – Chapters 3,6 and 7
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Appendix A. Plain language statement – Chapter 3

Plain language statement

You are invited to take part in a research study titled "The impact of hands off pedagogy on player development". This research is being undertaken by Dublin City University. The principal investigators for this research study are:

Mr David Moran, Doctorate student at the School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: david.moran@dcu.ie

And

Dr Jamie Taylor, Assistant Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Jamie.taylor@dcu.ie

And

Dr Áine MacNamara, Associate Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Aine.macnamara@dcu.ie

Please take your time to read the information provided on this plain language statement before making any decisions about participation in this research.

What is this research about?

The aim of this research study is to explore and investigate what the long-term impact of a games-based methodology is on the long-term development of Gaelic games athletes.

Why is this research being conducted?

It is important that we examine how the application of game-based training affects the long-term development of Gaelic games players. This information will support the refinement of coaching practices across team sports, ensuring optimal development of players. The research is being conducted as part of a doctoral thesis.

What will I be required to do if I participate?

You will be required to attend one online video focus group via Zoom for a duration of approximately 90-minutes, to discuss your thoughts and experiences on the long-term development of players when engaged in a game-based environment. This focus group will

take place with you, the principal investigator and each of the other invited coaches. All meetings will be recorded and transcribed. You will be sent a private and password-protected zoom link via email at least one week prior to the focus group. On the date and time of your focus group, you may log into your personal zoom meeting. You will remain in the waiting room of your zoom meeting until the principal investigator(s) grants you access to the meeting room. Your focus group will take place within the online meeting room.

What additional security considerations will be put in place for the zoom focus group?

- The meeting will be locked prior to the start of the meeting to ensure that only those invited may join
- The zoom meeting will be encrypted to ensure your privacy and anonymity is respected
- Unique meeting IDs are required for each scheduled meeting
- Focus groups will take place between the principal investigator (s) and each of the other participants simultaneously
- All meetings will take place using the DCU licenced version of zoom to comply with data protection requirements
- Both video and audio will be recorded
- The recording will immediately be moved to a password protected DCU google drive
- Transcription will be done by the principal investigator

What are the benefits of taking part in this research study?
You will contribute to research that may have future implications for the evaluation and refinement of coaching practices in team sport.

What type of questions will be asked and what types of personal data will you be asked to provide?
You will be asked questions around games-based coaching and specifically the advantages, disadvantages and challenges of adopting a game based coaching approach in Gaelic games.

Data protection and privacy notice

- DCU is the data controller for this research study.
- The study will be conducted in compliance with the General Data Protection Regulation (GDPR), and if you have any concerns regarding how your data in this study has been handled, you can contact: DCU Data Protection Officer, Mr. Martin Ward – (data.protection@dcu.ie Tel: 01-7005118/01- 7008257) who will handle any data protection concerns arising from this research. An individual also has the right to report a complaint concerning the use of personal data to the Irish Data Protection Commission: Data Protection Commissioner
- It is important that you understand how the data collection from the focus group that you participate in will be collected and used for this research study. We are required by law to provide you with this information before you decide whether to participate in this research. This study will use your personal information under two legal bases as defined by the General Data Protection Regulations 2016: Because we feel this study

is important for scientific research (Article 9(2)(i)) and because we feel the information you provide could be important for public interest (Article 6(1)(f)).

- This study is completely confidential. You will be assigned a code number and will not be identified by name. Consent forms will be secured in an encrypted electronic DCU file. Results from this study will be used by the principal investigators to write a report that may be published and presented publicly. All data will be presented anonymously, individuals will not be identified.
- There will be no automated decision-making or profiling of your personal data in this study. This means that we will not use your personal data to make any predictions about you. Your information will not be processed for any other reason than for this study and it will not be transferred to any other country or organisation.
- Upon publication of the study and a period of 6 months, all personal data will be deleted.
- It is important that you know that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.
- Your participation in this research is voluntary. The processing of personal data is only lawful where it has what is known as a 'legal basis'. For this research article 6 of the General Data Protection Regulation (GDPR) defines consent as a legal basis.
- Please visit Data Privacy Policy V3.6 | Dublin City University | (dcu.ie) for more information on DCU's data privacy policy

What are my rights?

- You have the right to lodge a complaint with the Irish Data Protection Commission if you are dissatisfied.
- You have the right to restrict or object to processing of your information.
- You have the right to have any inaccurate information about you corrected or deleted. For example, you have the right to look over and edit the transcript of any interview with you.
- You have the right to ask for any of your information in a readable format. This can be done by emailing the principal investigator who will then provide a copy of their data upon completion of the project.

How will I find out what happens with the project?

You may contact the principal investigator to receive feedback from this research if you wish. All information from this study will be in non-specific order to preserve anonymity and will be available within 6 months after completion of this study.

If you need any further information now or at any time in the future, please contact:
Name: David Moran
Academic supervisor: Áine MacNamara
Address: School of Health and Human Performance, Dublin City University, Glasnevin, Dublin 9, Ireland.
Email: david.moran@dcu.ie
If you have concerns about this study and wish to contact an independent person, please contact:
The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, e-mail rec@dcu.ie

Appendix B. Informed consent form– Chapter 3

Participant informed consent form

You are invited to take part in a research study titled "The impact of hands off pedagogy on player development". The principal investigators and the data controllers for this research study are:

Mr David Moran, Doctorate student at the School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: david.moran@dcu.ie

And

Dr Áine MacNamara, Associate Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Aine.macnamara@dcu.ie

And

Dr Jamie Taylor, Assistant Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Jamie.taylor@dcu.ie

What is the purpose of this research?

The purpose of this research is to explore the impact of hands off pedagogy on player development in Gaelic games.

What will I be required to do?

You will be required to attend one online focus group discussion via zoom for a duration of approximately 60-minutes, to discuss the impact of game-based training in Gaelic games. This focus group will be between you, the principal investigator and approximately four other coaches. You will be sent a zoom link via email at least one week prior to interview. You will be required to login into your meeting with your unique and private Zoom meeting ID. Once logged into the zoom meeting, you will be briefed about the procedure of the discussion,

alongside some warm-up questions. The focus group will then subsequently take place. Your interview will be recorded for subsequent transcription and analysis.

Participant – please complete the following (Circle Yes or No for each question)

I have read the Plain Language Statement (or had it read to me)

Yes/No

I understand the information provided

Yes/No

I understand the information provided in relation to data protection

Yes/No

I have had an opportunity to ask questions and discuss this study

Yes/No

I have received satisfactory answers to all my questions

Yes/No

I am aware that my interview will be recorded

Yes/No

This study is completely confidential. You will be assigned a code number and will not be identified by name. Consent forms will be secured in an encrypted electronic DCU file. Results from this study will be used by the principal investigators to write a report that may be published and presented publicly. All data will be presented anonymously, individuals will not be identified. Your information will not be processed for any other reason than for this study and it will not be transferred to any other country or organisation. Your personal data will be retained until publication for a period of 6 months. Upon completion of the study and publication, all personal data will be permanently deleted.

It is important that you understand that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.

Your participation in this research is voluntary. You can withdraw from this study at any time without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not be possible to identify you from this aggregated data set. You can contact the researcher at david.moran4@dcu.ie if you have questions about this.

Signature:

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____

Appendix C. Focus group questions – Chapter 3

To begin, I would like to know more about you and your work in coaching. Could you briefly introduce yourselves?

The GAA have consistently advocated for the use of game form activities in training, an example being their learning website Tobar: *"Firstly on a macro level the coach uses training sessions in between games to help players improve upon aspects identified in the games as requiring attention. Secondly the coach applies a philosophy of emphasising games-based activities in their coaching sessions. The coaching process should start with the Game and when necessary the coach "Freezes" the Game and using the appropriate activity from the Coach10 Activity Wheel (see below) they "Fix" the skill before going back to play the Game. Thirdly, the Coach uses a 'Guided Discovery' as opposed to 'Instruction' based approach when communicating with players."*

How was this approach advocated for in coach education/development?
What was the impact on the coaching that you typically see?

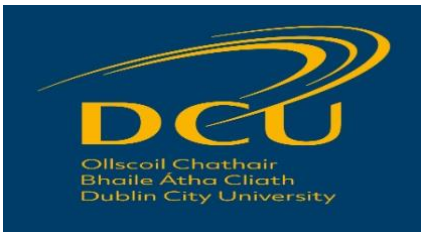
Over the last ten years, what has been the impact of this policy/approach on player development?
- Technically?
- Tactically?
- Mentally?

Were there any negatives to adopting the approach?
- Player Development
- Coaching more broadly

What were the positives?
- Player Development
- Coaching more broadly

What are the lessons learned?

Appendix D. Plain language statement – Chapters 4 and 5



Plain language statement

You are invited to take part in a research study titled "The Game is the Teacher: Effective Pedagogy in Team sports". This research is being undertaken by Dublin City University. The principal investigators for this research study are:

Mr David Moran, Doctorate student at the School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: david.moran45@mail.dcu.ie

And

Dr Áine MacNamara, Associate Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Aine.macnamara@dcu.ie

And

Dr Jamie Taylor, Assistant Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Jamie.taylor@dcu.ie

Please take your time to read the information provided on this plain language statement before making any decisions about participation in this research.

What is this research about?

The aim of this research is to explore how game form activities are planned for and administered across multiple team sports. Game form activities typically refers to any game activity within a session where the game has been included for either tactical, technical or physical outcomes and can refer to full-sided or small-sided games. In addition to these typical uses of game form activities this investigation may uncover additional motives for using game form activities.

Why is this research being conducted?

It is important that we examine how the design of games in training, along with the application of those games aligns with learning theory and as such whether or not our current understanding

of games and their use as a training method is being utilised in an optimal fashion to support player learning. This information will support the refinement of coaching practices across team sports, ensuring optimal development of players.

What will I be required to do if I participate?

You will be required to attend one online video interview via Zoom for a duration of approximately 90-minutes, to discuss your planning and application of games in training. This interview will be between you and the principal investigator only. All interviews will be recorded and transcribed. You will be sent a private and password-protected zoom link via email at least one week prior to interview. On the date and time of your interview, you may log into your personal zoom meeting. You will remain in the waiting room of your zoom meeting until the principal investigator (s) grants you access to the meeting room. Your interview will take place within the online meeting room.

What additional security considerations will be put in place for my zoom interview?

- The meeting will be locked prior to the start of the interview to ensure that no one else may join
- The zoom meeting will be encrypted to ensure your privacy and anonymity is respected
- Unique meeting IDs are required for each scheduled meeting
- Interviews will take place between the principal investigator (s) and each participant only
- All meetings will take place using the DCU licenced version of zoom to comply with data protection requirements

What are the benefits of taking part in this research study?

You will contribute to research that may have future implications for the evaluation and refinement of coaching practices in team sport.

Data protection and privacy notice

- Mr. David Moran, Dr. Jamie Taylor and Dr. Áine MacNamara are the data controllers and data processors for this research study. A data processor may hold or process personal data but does not exercise responsibility for or control over the personal data.
- You have the right to access your own personal data. For enquires contact the Data Protection Officer at Dublin City University, Mr. Martin Ward (**Email**: data.protection@dcu.ie **Phone:** 7005118 / 7008257)
- It is important that you understand how the data collection from the interview that you participate in will be collected and used for this research study. We are required by law to provide you with this information before you decide whether to participate in this research. This study will use your personal information under two legal bases as defined

by the General Data Protection Regulations 2016: Because we feel this study is important for scientific research (Article 9(2)(i)) and because we feel the information you provide could be important for public interest (Article 6(1)(f)).

- This study is completely confidential. You will be assigned a code number and will not be identified by name. Consent forms will be secured in an encrypted electronic DCU file. Results from this study will be used by the principal investigators to write a report that may be published and presented publicly. All data will be presented anonymously, individuals will not be identified.
- There will be no automated decision-making or profiling of your personal data in this study. This means that we will not use your personal data to make any predictions about you. Your information will not be processed for any other reason than for this study and it will not be transferred to any other country or organisation.
- Upon publication of the study and a period of 6 months, all personal data will be deleted.
- It is important that you know that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.
- Your participation in this research is voluntary. You can withdraw from this study at any time without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been pseudo-anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not be possible to identify you from this aggregated data set. You can contact the researcher at david.moran45@mail.dcu.ie if you have questions about this.
- Please visit for more information

What are my rights?

- You have the right to lodge a complaint with the Irish Data Protection Commission if you are dissatisfied.
- You have the right to restrict or object to processing of your information.
- You have the right to have any inaccurate information about you corrected or deleted. For example, you have the right to look over and edit the transcript of any interview with you.
- You have the right to ask for any of your information in a readable format.

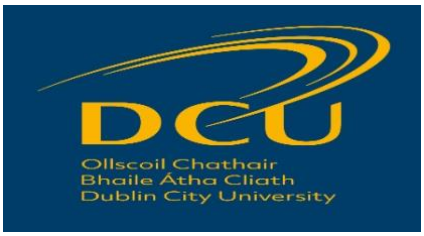
How will I find out what happens with the project?

You may contact the principal investigator to receive feedback from this research if you wish. All information from this study will be in non-specific order to preserve anonymity and will be available within 6 months after completion of this study.

If you need any further information now or at any time in the future, please contact:
Name: David Moran

Academic supervisor: Áine MacNamara
Address: School of Health and Human Performance, Dublin City University, Glasnevin, Dublin 9, Ireland.
Email: david.moran45@mail.dcu.ie
If you have concerns about this study and wish to contact an independent person, please contact:
The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, e-mail rec@dcu.ie

Appendix E. Informed consent form – Chapters 4 and 5



Participant informed consent form

You are invited to take part in a research study titled "The Game is the Teacher: Effective Pedagogy in Team Sports". The principal investigators and the data controllers for this research study are:

Mr David Moran, Doctorate student at the School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: david.moran45@mail.dcu.ie

And

Dr Áine MacNamara, Associate Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Aine.macnamara@dcu.ie

And

Dr Jamie Taylor, Assistant Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Jamie.taylor@dcu.ie

What is the purpose of this research?

The purpose of this research is to explore how games are planned for and administered across multiple team sports.

What will I be required to do?

You will be required to attend one online video interview via zoom for a duration of approximately 90-minutes, to discuss your planning and application of games in training. This interview will be between you and the principal investigator only. You will be sent a zoom link via email at least one week prior to interview. You will be required to login into your meeting with your unique and private Zoom meeting ID. Once logged into the zoom meeting, you will be briefed about the procedure of the interview, alongside some warm-up questions. Your

interview will then subsequently take place. Your interview will be recorded for subsequent transcription and analysis.

Participant – please complete the following (Circle Yes or No for each question)

I have read the Plain Language Statement (or had it read to me)
Yes/No

I understand the information provided
Yes/No

I understand the information provided in relation to data protection
Yes/No

I have had an opportunity to ask questions and discuss this study
Yes/No

I have received satisfactory answers to all my questions
Yes/No

I am aware that my interview will be audiotaped
Yes/No

This study is completely confidential. You will be assigned a code number and will not be identified by name. Consent forms will be secured in an encrypted electronic DCU file. Results from this study will be used by the principal investigators to write a report that may be published and presented publicly. All data will be presented anonymously, individuals will not be identified. Your information will not be processed for any other reason than for this study and it will not be transferred to any other country or organisation. Your personal data will be retained until publication for a period of 6 months. Upon completion of the study and publication, all personal data will be permanently deleted.

It is important that you understand that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.

Your participation in this research is voluntary. You can withdraw from this study at any time without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not

be possible to identify you from this aggregated data set. You can contact the researcher at david.moran45@mail.dcu.ie if you have questions about this.

Signature:

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____

Appendix F. Semi structured interview guide – Chapters 4 and 5

Question	Probes
To begin, I would like to know more about you and your work in coaching.	Give me a brief run through your career, with an emphasis on your coaching roles
How often do you use games in your typical training week?	What does your typical training week look like? Does this change depending on phase of season? Typically, how much of your training time is taken up in game form training? Why is this amount of training time given to game form activities?
Why do you use game form activities in training?	Are there any specific reasons you use games? What decides the selection of game-based practices?
Outside of training, what methods do you use to prepare players for game-based practice?	Discussion of individual player roles/tasks/needs? Prebrief the session? Debrief the session?
What are the typical outcomes for players when using game form training?	How do games benefit players? Are there disadvantages to games based training? How do you know this? How do you measure this? How do you maximise/mitigate these?
What is the role of the coach in games?	What is your role when game form training is taking place? What are your reflections on coaching/providing feedback vs using the game? Do you stop the game to give instructions or ask questions?
I'd like you to think of a game that you have recently used in training. How did you choose or design it? (Specific)	What were your reasons for playing the game? Theoretical underpinning? Trial and error? Seen someone else use it? Planned as part of a block of training? Do you use the same game across multiple sessions? What was the game built upon?
What was your criteria for success when using this game? (Specific)	How the players coped with the demands or can it be deemed a good game even if the players struggle somewhat with it? Is this normal? Have there been any occasions when you have looked for different outcomes?
Where have you found out about the use of games?	Where did you learn about using games in training? Do you do it how you were taught it, or 'by the book'? Do you mix approaches?

Appendix G. Plain language statement for parents and coaches – Chapters 6 and 7

PLAIN LANGUAGE STATEMENT: Parents / Guardians / Coaches

Project Title: Competitive Youth Gaelic Games: Perceptions and Experiences of Players, Parents, and Coaches
Investigators: David Moran, Dr. Áine MacNamara, Dr Jamie Taylor and Dr. Stephen Behan
University Department: School of Health and Human Performance and the Insight SFI Centre

Introduction to the Research Study
A key principle of the GAA, LGFA and Camogie Association is the promotion of lifelong participation within Gaelic games. Exploring the perceptions of children, parents, and coaches, can help gain a deeper understanding of the sporting experience. This knowledge helps us make informed decisions and develop strategies to improve youth sports and promote lifelong participation. Therefore, the aim of this research study is to examine players, parents, and coaches' perceptions of youth Gaelic games.

Involvement in the Research Study
If you consent:

- You **and/or** your child will be required to attend one in-person interview for approximately 5 minutes, to discuss your perceptions of youth Gaelic games.
- This interview will be with the principal investigator only and will take place at the Gaelic games pitch.
- All interviews will be voice recorded and transcribed.

Privacy Notice
Upon completion of the study, all personal data will be deleted. At this stage all data will be fully anonymised, and the research team will keep this data for comparison with future research study.
Confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.

Participation in this research is voluntary. You **and/or** your child can withdraw from this study at any time without giving a reason. If you **and/or** your child withdraw, any identifiable data will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not be possible to identify you from this aggregated data set. You can contact the researcher at if you have questions about this.

If participants have concerns about this study and wish to contact an independent person, please contact: The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, e-mail rec@dcu.ie

If you need any further information now or at any time in the future, please contact:

Name: David Moran – david.moran@dcu.ie

Appendix H. Informed consent form – Chapters 6 and 7

Participant informed consent form

You are invited to take part in a research study regarding the experience of youth Gaelic games. The principal investigators and the data controllers for this research study are:

Mr David Moran, Doctorate student at the School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: david.moran45@mail.dcu.ie

And

Dr Áine MacNamara, Associate Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Aine.macnamara@dcu.ie

And

Dr Jamie Taylor, Assistant Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Jamie.taylor@dcu.ie

What is the purpose of this research?

The purpose of this research is to explore participant perceptions of youth Gaelic games.

What will I be required to do?

You will be required to attend one in-person interview for approximately 5 minutes, to discuss your experience of youth Gaelic games. This interview will be between you and the principal investigator only. Your interview will be recorded for subsequent transcription and analysis.

Participant – please complete the following (Circle Yes or No for each question)

I have read the Plain Language Statement (or had it read to me)
Yes/No

I understand the information provided
Yes/No

I understand the information provided in relation to data protection
Yes/No

I have had an opportunity to ask questions and discuss this study
Yes/No

I have received satisfactory answers to all my questions

Yes/No

I am aware that my interview will be audiotaped

Yes/No

This study is completely confidential. You will be assigned a code number and will not be identified by name. Consent forms will be secured in an encrypted electronic DCU file. Results from this study will be used by the principal investigators to write a report that may be published and presented publicly. All data will be presented anonymously, individuals will not be identified. Your information will not be processed for any other reason than for this study and it will not be transferred to any other country or organisation. Your personal data will be retained until publication for a period of 6 months. Upon completion of the study and publication, all personal data will be permanently deleted.

It is important that you understand that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.

Your participation in this research is voluntary. You can withdraw from this study at any time without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not be possible to identify you from this aggregated data set. You can contact the researcher at david.moran@dcu.ie if you have questions about this.

Signature:

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____

Appendix I. Informed assent form – Chapters 6 and 7

School of Health and Human Performance, Dublin City University

INFORMED ASSENT FORM: Youth Gaelic Games Players

Project Title: Competitive Youth Gaelic Games: Perceptions and Experiences of Players, Parents, and Coaches.
Investigators: David Moran, Dr. Áine MacNamara, Dr Jamie Taylor and, Dr. Stephen Behan
University Department: School of Health and Human Performance and the Insight SFI Research Centre for Data Analytics

Clarification of the purpose of the research
This study is aiming to examine your experiences and perceptions of participating in youth Gaelic games.

What will I be required to do?
You will be required to take part in one short interview for a duration of approximately 5-minutes. This will be conducted by the principal investigator and will only involve you.

Participant – please complete the following (Circle Yes or No for each question)	
I have read the Plain Language Statement (or had it read to me)	*Yes/No*
I understand the information provided	*Yes/No*
I understand the information provided in relation to data protection	*Yes/No*
I have had an opportunity to ask questions and discuss this study	*Yes/No*
I have received satisfactory answers to all my questions	*Yes/No*
I am aware that the focus group will be recorded	*Yes/No*

This study is completely confidential. You will be assigned a code number and will not be identified by name. Consent forms will be secured in an encrypted electronic DCU file. Results from this study will be used by the principal investigators to write a report that may be published and presented publicly. All data will be presented anonymously, individuals will not be identified. Your information will not be processed for any other reason than for this study and it will not be transferred to any other country or organisation. Upon completion of the study and publication, all personal data will be permanently deleted.

It is important that you understand that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.

Your participation in this research is voluntary. You can withdraw from this study at any time without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it,

but it will not be possible to identify you from this aggregated data set. You can contact the researcher at david.moran@dcu.ie if you have questions about this.

Signature:

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project.

Participants Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____

Appendix J. Semi-structured interview guides – Chapters 6 and 7

Player Interview Guide

Background question	Prompt Examples
Tell me about your background in Gaelic games.	• When / where did you start playing? • How did you get involved? • Why did you get involved? • Have you previously participated in the Go Games?
What is different about this season compared to last?	• How did you feel during this transition? • Were you prepared for the change? • Were there any specific challenges you faced during the transition?
How did today go? What were you hoping for?	• e.g., winning / development / enjoyment / other? • What do you believe players should gain from participating at this level? • Do you see any differences in the purpose of Gaelic games at this level compared to Go Games?
What is your experience of participating at this level/age group?	• Are there any positives / what do you like? • Are there any negatives / what do you dislike? • How do these experiences influence your motivation and commitment to the sport?
What are your thoughts on the competition structure at this level/age group?	• How does this competitive structure influence your experience? • What do you believe are the advantages and challenges of the competitive focus at this level? • Are there any changes or improvements you would suggest for the competition format?
What are your thoughts on coaching at this level/age group?	• What is the role of the coach in your development? • What should the focus of the coaching be at this level/age group? (i.e. winning, tactics, development etc) • Do you feel there has been a change in the coaching since you moved to u13/15/minor games? • Do you feel the coaching prepares you to play at this level?

Coach Interview Guide

Question	Prompt Examples
Tell me about your background in Gaelic games.	• When did you start coaching? • How did you get involved? • Why did you get involved? • What team/s are you coaching? • How long are you coaching these teams? • What is the commitment level of coaching these teams (e.g., number of training sessions, travel time etc.)
Can you discuss how you perceive the transition of players from Go Games to competitive youth level?	• What are some challenges you've observed players face during this transition? • Can you share any experiences or examples of how players typically adjust to the increased level of competition during this transition?
What do you think is the main purpose or goal of participating in Gaelic games at this level/age group?	• e.g., winning / development / enjoyment / other? • What do you believe your players should gain from participating at this level? • Are there specific coaching objectives or values you emphasise at this level? • How do these coaching objectives align with the overall purpose of the sport at this level?
What are your perceptions of the players' experience of participating at this level/age group?	• Are there any positives / what do they like? • Are there any negatives / what do they dislike?
What are your thoughts on the competition structure at this level/age group?	• How does this competitive structure influence the players' experience? • Can you share specific examples of how the competition structure has impacted players' experience? • What do you believe are the advantages and challenges of the competitive focus at this level? • Are there any changes or improvements you would suggest for the competition format?
Can you describe your coaching approach at this level?	• What is the role of the coach? • How does this affect your coaching strategies and the players' experiences? • Do you find that the competitive structure enhances or presents challenges to player development? • Has your coaching approached changed since the transition from Go games?

Parent Interview Guide

Question	Prompt Examples
Tell me about your childs background in Gaelic games.	• When / where did you start playing? • How did you get involved? • Why did you get involved? • Have you previously participated in the Go Games?
How did you perceive your child's transition from Go Games to competitive youth Gaelic games?	• How did your child feel during this transition? • Were there any specific challenges your child faced during the transition?
What do you think is the main purpose or goal of playing Gaelic games at this level/age group?	• e.g., winning / development / enjoyment / other? • What do you believe your child should gain from participating at this level? • Do you see any differences in the purpose of Gaelic games at this level compared to Go Games?
What are your perceptions of your child experience of participating at this level/age group?	• Are there any positives / what do they like? • Are there any negatives / what do they dislike? • How do these experiences influence your child's motivation and commitment to the sport?
What are your thoughts on the competition structure at this level/age group?	• How does this competitive structure influence your child's experience? • Can you share specific examples of how the competition structure has impacted your child's experience? • What do you believe are the advantages and challenges of the competitive focus at this level? • Are there any changes or improvements you would suggest for the competition format?
What are your thoughts on coaching at this level/age group?	• What is the role of the coach in your child's development? • What should the focus of the coaching be at this level/age group? • Do you feel there has been a change in the coaching since your child moved to competitive games? • Do you feel the coaching prepares your child to play at this level?

Appendix K. Letter of ethical approval – Chapters 3, 6 and 7

Ollscoil Chathair Bhaile Átha Cliath
Dublin City University

DCU

Dr Kevin Gavin
School of Health and Human Performance

15th June 2023

REC Reference:	**DCUREC/2023/135**
Proposal Title:	**Qualitative Analysis of Gaelic Games Participation**
Applicant(s):	**Dr Kevin Gavin, Dr Stephen Behan, Dr. Áine MacNamara Dr. Jamie Taylor**

Dear Colleagues,

Thank you for your application to DCU Research Ethics Committee (REC). Further to expedited review, DCU REC is pleased to issue approval for this research proposal. This approval is valid as long as the DPU recommendations are implemented.

DCU REC's consideration of all ethics applications is dependent upon the information supplied by the researcher. This information is expected to be truthful and accurate. Researchers are responsible for ensuring that their research is carried out in accordance with the information provided in their ethics application.

Materials used to recruit participants should note that ethical approval for this project has been obtained from the Dublin City University Research Ethics Committee. Should substantial modifications to the research protocol be required at a later stage, a further amendment submission should be made to the REC.

Yours sincerely,

DCU
Research & Innovation

Taighde & Nuálaíocht Tacaíocht
Ollscoil Chathair Bhaile Átha Cliath,
Baile Átha Cliath, Éire

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E research@dcu.ie
www.dcu.ie

Dr. Melrona Kirrane
Chairperson
DCU Research Ethics Committee

Note: Please retain this approval letter for future publication purposes (for research students, this includes incorporating the letter within their thesis appendices).

Appendix L. Approval of amendment of ethical approval – Chapters 3, 6 and 7

Dear Stephen,

Thank you for submitting the amendment for your research project DCUREC/2023/135.

I can confirm that the REC Chair has completed their review and issued approval for the amendment.

Please accept this email as formal approval.

Kind regards,
Catherine D. **(on behalf of DCU REC)**

Rúnaíocht Coiste Eitice um Thaighde | DCU REC Secretariat
Tacaíocht Taighde | Ollscoil Chathair Bhaile Átha Cliath
Research Support | Dublin City University

Email: rec@dcu.ie
Tel: +353 (0)1 700 5612
Web: www.dcu.ie/research

Appendix M. Letter of ethical approval – Chapters 4 and 5

Ollscoil Chathair Bhaile Átha Cliath
Dublin City University

DCU

Dr. Áine MacNamara
School of Health and Human Performance

Mr. David Moran
School of Health and Human Performance

11th April 2022

REC Reference: **DCUREC/2022/057**

Proposal Title: **The Game is the Teacher: Effective Pedagogy in Team Sports**

Applicant(s): Dr. Áine MacNamara, Mr. David Moran, and Dr. Jamie Taylor

Dear Colleagues,

Thank you for your application to DCU Research Ethics Committee (REC). Further to notification review, DCU REC are pleased to issue approval for this research proposal.

DCU REC's consideration of all ethics applications are dependent upon the information supplied by the researcher. This information is expected to be truthful and accurate. Researchers are responsible for ensuring that their research is carried out in accordance with the information provided in their ethics application.

Materials used to recruit participants should note that ethical approval for this project has been obtained from the Dublin City University Research Ethics Committee. Should substantial modifications to the research protocol be required at a later stage, a further amendment submission should be made to the REC.

Yours sincerely,

Dr Melrona Kirrane

Dr. Melrona Kirrane
Chairperson
DCU Research Ethics Committee

DCU
Research & Innovation

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Ollscoil Chathair Bhaile Átha Cliath,
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