University of Southampton

FACULTY OF SOCIAL SCIENCES

SOUTHAMPTON EDUCATION SCHOOL

GAME GAIN© coach sense – game sense ©
Creativity, Autonomy & Tactical Sense (CATS)

An exploratory case study using video stimulated recall of elite football coaches’ reflection and analysis of coaching behaviours towards coaching Creativity, Autonomy and Tactical Sense

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Thesis for the degree of Doctor of Philosophy

September 2020
Acknowledgements

I principally acknowledge and dedicate this thesis to those that have been around me through the creative and epic journey of this work. To those that have supported and accommodated me, inspired and motivated me, learned and shared with me, and ultimately; remain close to me.

A special mention to Sir Ken Robinson PhD (1950-2020) whom I first saw speak about ‘creativity’ many years ago, his words were one of my first inspirations to explore the ideas of creativity, and sowed the seed to what has grown to be this work.

Appreciation to Carl Plunkett, for being a constructive inspiration within the realms of football coaching practice and education, and, it has only been through his support and assistance that this project has been made possible. Also thanks to all the involved staff at Reading Football Club, with special thanks to the coaches who committed their valuable time with me and to the video analysis team for the technical and resource support. It has been enriching to share and grow the knowledge within such a positive environment.

Acknowledgement in the highest order to Sergio Zorzi and my Italian family; in life, rugby, education, food, drink and really good company; sharing and growing great ideas within a fantastic country and culture. Grazie mille.

I would like to thank Professor Martin Dyke, who inspired, motivated and convinced me to undertake the BA (Ed.) that many years ago, then persuaded me to continue with the MSc (Ed.) and subsequently this PhD; always there or thereabouts in Building 32. Also there is gratitude to staff, peers and colleagues at University of Southampton, in many departments, in many ways, over all the years.

For the latter stages of supervision, I would like to thank Dr Chris Downey for his specialist input and expertise that has assisted me to apply extra dimension to this work.
Finally, Dr Gary Kinchin, to whom I extend the utmost gratitude and appreciation. Over the many years that we have sat in the office and thrashed out ideas and put the rugby, football, education and general worlds to rights. Thanks for your dedicated input and belief in my work, that support, guidance and motivation has been instrumental to creating the ideas within this project, and key to realising it to become a presentable reality.

‘It remains to be said that the [Researcher] author of this report is a philosopher, not an expert. The latter knows what he knows and what he does not know: the former does not […] one concludes, the other questions’ (Lyotard, 1979 p xxv)

‘Ancora imparo’ (Michelangelo, 1562)
Abstract

In identifying the limited understanding of creativity within sports coaching and performance, but more pertinently the paucity of how creativity could be coached (Light & Harvey, 2015; Light, 2013; Memmert, 2015), this research proposes and presents ‘Game Gain’ as an orientation that will aim to better accommodate attempts to contextually understand creativity and related coaching behaviours. This research presents conceptualisations of Creativity, Autonomy and Tactical Sense (CATS) as part of Game Gain orientation, and within a case study methodology that engages with (n=2) professional football coaches to explore perspectives and attitudes upon their coaching behaviours as they are; observed, reflectively reviewed and analysed in video review; as to forge new contextual understandings of Creativity, Autonomy and Tactical Sense, and also conceptualise coaching behaviour in relation to CATS and the orientation of Game Gain.

Within football and team sports generally, creativity has been viewed as playing and performance moments of; flair, dazzling runs, ball trickery or game-winning actions (Memmert, 2011; Memmert & Roth, 2007). Then within coaching realms, these aspects have focussed on coaching behaviours that would focus training upon skill and technique of performance in playing (Light, 2015; Williams & Hodge, 2005). The focus upon the physical, and mainly involve being in possession of the ball or directly involved in action, has detracted away from the wider, tactical sense, and the engagement and connectedness that would exist, to consider greater cognitive participation (Light & Harvey, 2015; Light, Harvey & Mouchet, 2014).

Football coaching culture and the education that has supported these thoughts, English football coaching has been dominated by (what has been labelled) ‘traditional coaching’ (Light & Robert, 2010; Light & Fawns, 2003; Lyle, 2002, Nelson, Cushion & Potrac, 2012; Piggot, 2011) as instructional and didactic coaching behaviours (Light, 2013). This has particularly been the case in elite settings such as professional clubs’ academies that are very often target and hard data driven – with high role objective pressures and
often not normally permitting coaches to engage in their own continuing learning and development (Armour, 2011; Lyle & Cushion, 2010; Lyle, 2002).

Through the concepts and principles of Game Gain, this research identifies and operationally defines: in possession; with the ball, at-action, and also near and away from the ball and action. Then also: out of possession; at-action, near action and far from the action, and all applied decision-making (Light, Harvey & Mouchet, 2014; Mouchet, 2005). The identified variants of potential coachable moments that are conversely off-the-ball or away from the action and the associated coaching behaviours, are key to instigating stimulated recall and video reflection and analysis for coaches, and possibly challenge their own coaching behaviours. CATS (Game Gain) is proposed to conceptually orient coaches’ understandings on how they interact with their players with apposite coaching behaviours that could align coaching performance more effectively to the definitions offered for Creativity, Autonomy and Tactical Sense for player learning, development and performance. The case study research engaged with n=2 coaches using multiple-perspective video recordings (8 sessions of 40 minutes) for post-session reviews (40 minutes duration) and through stimulated recall to identify with key or indicative moments for; observation, reflection and analysis. This data was then inductively coded according to Lichtman’s (2010) 3C’s approach, from which rich conceptual high-level themes emerged that included; coaches’ review narratives yielded a paradigmatic shift from reflection to analysis, noticing their (often silent) coaching behaviours that related to players’ cognitive involvement regardless of being on-the-ball, off-the-ball or near or away from the action and in or out of possession, and often related decision-making.

It is to identify and recognise that engaging coaches to reflect and analyse upon their coaching behaviour is to generate awareness and understanding of coaching behaviours in relation to players’ opportunity to learn, develop ad perform. This is a pertinent aspect of affording creativity conceptual and contextual definition for this research as Game Gain orientation for coaching behaviours in relation to the ideas of Creativity, Autonomy and Tactical Sense.
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Chapter One

Introduction

1.1 Introduction

This thesis will present an alternative and original orientation for coaching that has evolved from the reviewed basis of existing sports and pedagogical literature, and also the Researcher’s extensive experience and background of; coaching and researching in sports (football and rugby) and education (sports and academic). The research will aim to explore and investigate the intended tenets of a proposed orientation within a sample of professional coaches at a professional English Football Club’s Academy (see further in this Chapter, Chapter Two, Chapter Three and Chapter Four).

Having surveyed and reviewed the sports coaching literature and coupled with much experience of inhabiting coaching environment, the Researcher identified the paucity of understanding of creativity, and also autonomy and tactical sense that prevailed, and that only existed in folk [lore] theories (Bruner, 1999 in Armour, 2011) and tacit knowledge sense. Then, any attempt to understand coaching behaviours in relation to creativity, either did not exist or seemed invalid (see further in this Chapter & Chapter Two). Therefore, the Researcher saw a gap in the sports coaching literature that needed filling, and through the review of existing literature, collaborations with associates in the coaching network has devised and designed the proposed Game Gain orientation.

This research will investigate through the implementation of an exploratory case study that uses an innovative approach of multi-perspective video camera recordings for post-session review by coaches (see Chapter Four). In doing this, new understandings of Creativity, Autonomy and Tactical Sense (CATS) are conceptually and contextually proposed as evolved definitions that are investigated within the case study. The new understandings could be converse to definitions of learning, development and performance that would conceptually and contextually represent: the objectivised acquirement of
knowledge, skill and technique; that is applied, experienced and improved; that is exhibited and transferred through coaching into *in-game realisation*.

This chapter will afford attention to present the necessity of the proposed research as a potential model of coaching and research directive, with the intention to redress the misconceptions of some coaching approaches and misunderstandings of coaching behaviours. That like many have often only attracted research on the effectiveness of coaching processes, as they relate to performance and achievement (Lyle & Cushion, 2010; Armour, 2011, Potrac, 2006).

This chapter sets the scene to identify the need and purpose of the new and better understandings for the concepts of Creativity, Autonomy and Tactical Sense (CATS) and Game Gain, as a creative and innovative coaching orientation suitably to conceptualise and contextualise coaching behaviours within football. For any suggested potential transferability or generalisation to other sports such as Rugby Union or Field Hockey, as Memmert (2015) inferred, whereas the Researcher will only propose generalizability and transferability on the conceptual and propositionally (hypothetical) level; and only as a suggestion of future research (see Chapters Four, Five & Six).

Within the Introduction and the Literature Review, the proposed needs of this project will be identified around the areas it aims to address and the apparent gaps in sports’ coaching literature.

### 1.2 Introduction to Game Gain; coach sense, game sense, featuring Creativity, Autonomy and Tactical Sense (CATS)

In attempts to provide for better understandings of Creativity, Autonomy and Tactical Sense (CATS) this Research positions approaches for coaching behaviours for learning and development within the coached practice and playing of football.

This thesis presents Game Gain© and Game Gain; coach sense, game sense© as an original concept and product that is the main title and theme of
this PhD thesis. The larger entirety of the proposed notions and ideas of Game Gain; coach sense, game sense © are inclusive with the Appendices and specifically Appendix 8 as the whole concept is considered too expansive to include in the main body of this thesis, and also too complicated to conceptually and contextually apply within any one research methodology. Therefore Game Gain is represented by the conceptual and contextual ideas of Creativity, Autonomy & Tactical Sense (CATS) as the key framework notions that are used within the exploratory case study research applied to ideas for coaching behaviours.

‘Game Gain’ appear with the copyright symbol © within the Title, the opening paragraphs of the Introduction chapter and where (deemed) applicable as an original idea, product and service concerning commercial and non-commercial legalities and protocols with copyrights as intellectual property and work of the Researcher. ‘CATS,’ ‘Creativity, Autonomy and Tactical Sense’ is also deemed as intellectual property and copyright as part of Game Gain© and to the Researcher. Then, for ease of reading the aforementioned may be simply written as CATS or Game Gain, unless discourse is explicit to other aspects of CATS, Game Gain or coach sense, game sense.

As CATS and Game Gain are explained, this thesis will position and signpost the rationale and direction of the need for new definitions and understandings around the reasons and problems of ‘why’ the project has been deemed necessary. Game Gain will be afforded explanation through the Introduction Chapter and referred to within the Literature Review Chapter. The main emphasis is of Creativity, Autonomy and Tactical Sense (CATS) which features in the Design Chapter; as the operational functionality of the proposed Game Gain (within Design Chapter and referred to Appendices).

1.3 Problematizing

The pursuit of ‘coaching’ or ‘accommodating’ creativity in the context of football (sports) practice and playing performance, (possibly) as learning and development, has seen approaches to coaching being misunderstood in a
number of ways (Memmert et al., 2013; Light & Harvey, 2015). Firstly, creativity has been misinterpreted as (often only) ‘in performance events’ that focus on; ‘on the ball action,’ or, ‘at action’ moments that are devoid of the (wider) tactical activeness without the ball or possession and also of the constant cognitive processing as independent decision-making for autonomy. This would relate to more ‘tactical sense’ and ‘active game’ context involvement within total participative performance; incorporating relative learning and development (Light & Harvey, 2015; Light, Harvey & Mouchet, 2014; Light, 2013; Memmert, 2015; Memmert, 2011).

Then secondly, the practice of coaching has tended to only narrowly provide (accumulative) experience of practicing (misinterpreted) creative objectives as activities that would (often only) focus upon the physical technique and skill acquisition (Berry, Abernethy & Cote, 2008; Williams & Hodges, 2005). With the only consideration to cognitive decision-making directly associated with ‘possession of the ball action’ and ‘at-action moments,’ as skill and technical acquisition (Light, Harvey & Mouchet, 2014; Williams et al., 2011; Williams & Hodges, 2005; Berry, Abernethy & Cote, 2008) thus limiting scope to be considerate aspects that are; ‘away from the ball’ or ‘away from the action,’ and also as ‘out of possession’ occurrences, particularly to be actual coaching objectives to be objectively coachable.

Even the most recent of Game-Based Approaches (GBAs) such as Game Sense (den Duyn, 1987; Light, 2004, and TGfU, Bunker & Thorpe, 1986) that have attempted to provide for (some) tactical understanding, have not provided a coaching approach that can be considerate of the constant cognitive aspects that are required for creativity, allowing players to be independent to develop autonomy in the (wider) tactical sense. Approaches such as TGfU (Bunker and Thorpe, 1986; Butler, 2006), and, more specifically Game Sense (den Duyn, 1987; Light, 2013) have sought to provide some pedagogical understanding to better prepare coaches and facilitate or change coaching behaviours to better accommodate a better-informed approach. It is to note that within this research, approaches such as TGfU, Game Sense, as examples, and the newly proposed orientations will be referred to as Game-Based Approaches (GBAs) rather than Game-Centred Approaches (GCAs) as
used by Oslin & Mitchell (2006) and also Harvey & Jarrett (2014) *inter alia*. The Researcher’s preference is inferred to emphasise that the ‘game’ does not prioritise centrality and is more the *basis or foundation* for player-centred learning as pedagogical concepts and contexts for the original proposed ideas within this thesis.

As an addendum, it has been identified that within professional clubs’ academies (as talent development centres) that there often remains a strong sub-culture, that; role-objective pressure can have a pervasive impact and effect upon coaches behaviours (Lyle *et al*., 2010). Also, with such pressures; traditional methods and behaviours are didactic, autocratic and prescriptive, as coaches’ job roles dictate (Partington *et al*., 2015; Harvey, Cushion & Massa-Gonzalez, 2010). Therefore, levied against the continuing coach education participation that only offer limited knowledge and skills (Partington *et al*., 2015), the proposed research of this thesis recognises that the review and reflection through video analysis as post-session reviews can provide an informal environment for discussion and self-reflection of coaching behaviour practice (Partington *et al*., 2015; Mead, Spencer & Kidman, 2016). Identifying coaching as *thought and action* ‘in the moment,’ making the self-reflection of the observable behaviour and cognitive aspect; ‘an interaction in practice’ that can be critically challenged or built upon – to potentially enhance or change perspectives and coaching behaviours towards the notions and definitions of CATS.

**1.4 Purpose and Research Questions**

The purpose of this PhD thesis is to explore coaching behaviours framed within ideas and orientations for coaching, comprising a set of principles that could potentially form a framework for coaching within Football.

For this research, the positionality around problematization is two fold;

1. Develop a method to engage coaches in reflection and analysis to develop their own coaching behaviours through video observation and review
2. Develop a greater contextual and conceptual understanding of creativity, autonomy and tactical sense as sporting performance in definition through coaching orientation and coaching behaviours.

Therefore, this raises two questions as the research directive, within what will form an exploratory case study approach that will comprise of methods described in Chapter Four.

Firstly; in post-session review of video and through stimulated recall, what indicative and key moments do coaches identify that provide the basis for reflecting and analysing upon their coaching behaviours?

Secondly, as a function of post-session video reflection and analysis; to what degree can coaches construct understandings of their coaching behaviours; to align with notions of coaching Creativity, Autonomy and Tactical Sense?

The innovative aspects within this case study research focus upon the use of multiple perspective video recordings (collated to one screen) to; ascertain observable data to create case study representations of coaching behaviours (see Chapter Four). Then within review of video, coaches will identify indicative or key moments to reflect and analyse upon, potentially as; with-the-ball, at-action, time-to-action, away-from-action; as they may develop or exhibit some understanding of CATS.

Within the spectrum of coaching behaviours (see Chapters Three & Four) both in (the initially intended) systematic observation and reflective review, particular attention is afforded to moments that could be more inclusive to the conceptual content of CATS. In methods of systematic observations this would have been considerate of; moments that coaches notice occur and to apply affirmation, praise or use questioning, and also moments when gaze of attention is really noticeable in some form (see Chapters Three & Four).

Within methods of post-session review it is viewed as pertinent, what moments are identified and reflected upon, and how and why moments that would be described by coaches. These moments would include those that are noted with affirmation, praised or no direct intervention (silence), or a particularly pertinent intention is considered to be questioning; within the
taxonomy of questioning and definitions of coaching behaviours (see Chapters Three & Four). There is a need to define or redefine *creativity* in sports learning, development and performance, along with a need to understand *creativity* in the context of coaching from a pedagogical perspective. Thus to provide for coaching orientation to fulfil the systems needs whilst developing positive coaching behaviours that are key to sustaining the model that is proposed in this thesis.

Often coaches working at an elite level are ‘subject to high-pressure role objectives and busy time-constrained schedules that do not permit dedicated time to accommodate continuing professional development’ (commonly stated by personnel at participant club). The proposed orientation and the intended research processes (see Chapter Four) will aim to accommodate and facilitate the participant coaches to engage in reflective and analytical thinking, that could shift coaches’ behaviour and practice to better accommodate players’ learning, development and performance, that characterise CATS and Game Gain (see Chapters Two, Three & Four).

How the development and research into the proposed ideas and orientation could contribute to the future coaching and sports’ learning, development and performance literature is set out herein. Simultaneously, the proposed orientation as original research (process) is intended to meet the identified needs to engage coaches in reflective and analytical practice, as the ability to optimise cognition strategies (O’Leary, 2019), which is intended to cover a need for coaches (especially in elite level roles) to continue to learn, develop and perform. The proposed orientation will intend to provide an orientation to engage coaches in reflective and metacognitive practice, where it can be possible for coaches to develop their own practice performance; potentially in pursuit of such coaching behaviours that could consider and accommodate coaching the notions of Creativity, Autonomy and Tactical Sense, which the proposed ideas purport.
1.5 Reason for Research

In the main, football coaching culture in English Football still has been dominated by ‘traditional coaching’ (Light & Robert, 2010; Light & Fawns, 2003; Lyle et al. 2010) based largely upon didactic coaching behaviours (Light, 2013), levied with an underlying sub-culture of pressures of role-objectives, such as is in professional football (Partington et al., 2015). The education for coaching method to provide for learning and development for all players has tended to be more coach-centred, particularly in elite settings such as professional clubs’ academies that are target or hard data driven – with high role objective pressures (Armour, 2011; Lyle & Cushion, 2010).

This research identifies the prevalent culture in football coaching environments (such as within elite academies) that often does not permit for creative behaviours, as role-objective sub-culture has a pervasive and impacting effect, meaning coaches gravitate to autocratic and prescriptive behaviours (Light, 2013, Lyle et al., 2010). In seeking to address the lack of understanding of creativity in football performance and the paucity of apposite coaching behaviours to provide learning and development, the processes of engaging coaches within this research will seek to impart the new emerging definitions and applications.

Following shifts from what has been considered ‘traditional’ (Martens, 2004), ‘autocratic’ (Lyle et al., 2010) and ‘didactic’ (Jones, 2006 inter alia); sports coaching approach models such as; Game Sense (den Duyn, 1997; Light, 2004, 2006, 2007, 2013) and Teaching Games for Understanding (TGfU) (Bunker & Thorpe, 1986,1982) which have sought to make learning and development in sports and games that are more player-centred.

These approaches neither consider the expanse of the tactical dynamics and inclusion of ‘all’ participative players, nor provide a coaching orientation as a set of principles within a framework, for coaches to; objectify coaching to facilitate performance both cognitively and physically Light & Harvey, 2015; Memmert, 2011). It is these objectives that are to be sought through the proposed orientation to attempt to attain improved levels of effectiveness of problem-solving, decision-making; as creative actions that function with
space, with time, with actions, with the ball as well as without the ball (Light & Harvey, 2015; Light, 2013).

Efforts to change coach education had been disseminated from The Football Association’s (The FA) Coaching Strategy (2008) and Developing World-class Players (The FA, 2008), which focussed upon coaching behaviour associated with coaches’ participation in the aforementioned courses. Whilst these aforementioned strategies sought to conceptualise and objectify ‘creativity,’ coaching behaviours remained largely unchanged (despite some initial impact) – regardless of environment; this included elite and professional academies.

The purported ideas would aim to bridge the paucities within the existing literatures (Game Sense, TGfU, Tactical Games Approach) by offering clarification to possible misunderstandings of creativity in sports’ performance, learning, development in coaching, and also, in playing. This thesis will present conceptual definitions, positioned within the tactical sense of the playing and coaching. Employing a Positive Pedagogy perspective (Light, 2013) (see Chapter Two) would intend to facilitate coaching behaviours, the proposed orientation aims to provide a coaching approach that contributes to better understandings of Creativity, Autonomy & Tactical Sense; practically and theoretically.

The proposed orientation, and the research processes intended to be employed, will seek to engage and facilitate coaches, into and through, processes of pro-active reflection and meaningful analysis that could shift perspectives and behaviours towards a clearer understanding of learning and development for all participant players. With the objective interest for this research to explore and investigate the extent to which the participant coaches could demonstrate understanding and application of CATS and Game Gain, through; identifying coaching behaviours that collaboratively complement the learning and development objectives of the practice or game. Then, potentially as a greater sense of tactical understanding and creative decision-making as ‘game appreciation’ develops (Bunker & Thorpe, 1982).
There is a need to define and conceptualise creativity to provide a contextually based understanding within coaching for player learning and development and towards operationally defining tactical sense. This need is the requisite for coaches to understand pedagogy as scientific interaction between coaches and players, as an effective and simpler way to conduct (social) interaction in the context of coaching (Light & Harvey, 2015; Reid & Harvey, 2014). Thus, through the presented approach, links could be formed and attribute to motivation as a more ‘productive social interaction [that] can lead to players understanding each other as more that [just] objects on the field’ (Light & Harvey, 2015).

The proposed orientation of this research is intended to be a Positive Pedagogy (Light & Harvey, 2015; Light, 2013), which through the utilisation of a set of principles as a framework, could aim to facilitate the processes, and, coaches to convey the orientation to objectively deliver and support player learning, development and performance through coaching behaviours and the coaching environment. The proposed Game Gain orientation incorporating CATS seeks ‘not’ to over-burden coaches with having to have a deep understanding of pedagogy (as the science of teaching and learning). Therefore, pedagogically, the proposed orientation would be facilitated by the notions and framework of Positive Pedagogy (Light & Harvey, 2015; Light, 2013) which as a socio-interaction of coaching behaviour and player learning, potentially provides for autonomy as ownership, engagement and empowerment, which is inclusive of the notions of independent learning (see Chapter Two) (Francis Pollin, 2011).

Positive Pedagogy (Light & Harvey, 2015) intends to afford an accessible understanding of players’ learning to provide a platform to develop ‘coaching behaviours’ that can attend to player-centeredness (as autonomy). Within a game-based approach that supports and supplements approaches as positive pedagogy, and intend to ‘develop confidence’ [for players to be] ‘motivated to participate in activity for the longer term’ (Renshaw et al. 2012 in Light & Harvey, 2015). This could, to a certain extent, eradicate the idea that a deep understanding of pedagogy is necessary to be an effective coach (Armour et al., 2011; Lyle et al., 2010), which will be outlined within this chapter and with
more in-depth explanation throughout the Chapter Two and then Chapter Three. Supplemented by the notions of Positive Pedagogy (Light & Harvey, 2015) the ideas that will contribute to the proposed new orientation are substantiated to facilitate coaches to pro-actively reflect in analytical practice through the research methodology processes (see later in this Chapter, and, Chapters Two, Three and Four).

This is intended to address the research questions; Firstly; in post-session review of video and through stimulated recall, what indicative and key moments do coaches identify that provide the basis for reflecting and analysing upon their coaching behaviours?

Secondly, as a function of post-session video reflection and analysis; to what degree can coaches construct understandings of their coaching behaviours that align with notions of coaching Creativity, Autonomy and Tactical Sense?

1.6 Background

In chronologically charting the development and implementation of coaching methods within GBAs, the evolution of approaches through physical education and sport education (Siedentop et al., 2011) then led to game-based approaches such as Game Sense (den Duyn, 1997; Light, 2013; 2006; 2004), as probably the newly proposed orientation of Game Gain’s nearest relative. In contrast to such approaches within GBAs as TGfU (Harvey; Cushion & Massa-Gonzalez, 2010) and Game Sense (den Duyn, 1987; Light, 2013) that served to develop skill and technique within game-based experience with general game understanding, as objective (and tangible) frameworks for decision-making ‘at-action,’ ‘local-to-action’ and ‘remote-to-action’ through; ‘perception,’ ‘process’ and ‘product.’

The proposed CATS and Game Gain ideas, as with the approaches from which it has evolved from, including Game Sense inter alia (den Duyn, 1997; Light, 2013; 2006; 2004), is informed by relevant pedagogical theory and literature that supports the premises of coaching (as teaching and learning), and also learning and development (leading to performance) of players in the
context of Creativity, Autonomy and Tactical Sense (CATS). The breadth and contribution of pedagogical literature (as theory and practice) that has informed the development is set out within Chapter Two.

Potentially there also is a greater sense for coaches and players to work collaboratively around problems, solutions and the technical of the tactical sense (Light & Harvey, 2015) as creativity (see further explanation within this Chapter, Chapter Two and Chapter Three). In conjunction with the orientation that will be proposed and incorporating the supplementation of Positive Pedagogy; collectively the whole approach facilitates shaping coaching behaviours to be more ‘future-paced’ (Grant, 2011 in Light & Harvey, 2015, p9), so therefore; develop skills and tools to better realise solutions to problems as collaborative player and coach interaction (Light & Harvey, 2015).

1.7 The Research Process

The research intends to implement an exploratory case study that involves a small purposeful sample of coaches within an elite level academy of a professional football club in England (see Chapters Three & Four).

The purpose of data collection will inform the research of perspectives and attitudes in identifying key/indicative moments in post-session reviews of video recordings from coaching sessions. Initially it was planned that systematic observations in video analysis would be applied, but it was realised in pilot work that other methods were more appropriate. It is intended that coaches will identify with their coaching behaviours in developing understanding coaching application that could be framed within the concepts and principles of the proposed CATS and Game Gain. The objective is that the processes of the research will serve to; collect and process data in line with the research objectives around coaching, coaching behaviours and the ideas around creativity, and in engaging coaches in the reflection and analysis of the video review process.
As already mentioned, coaches working at an elite level of development, and for performance of that objective standard as output, are often very busy within their professional roles (see Chapter Four, describing selective purposeful sample of participant coaches at English professional football club). They can be working under role-objective pressure to meet and exceed individuals’ and team’s targets and aims. Being subjected to such aspects can not only inhibit coaching performance and behaviours, but also leave little time, if any, for engaging in a productively reflexive level of reflection of practice in performance. The research process will test to engage pro-active reflective thinking; that can evolve coaching behaviours towards the future proposed notions and objectives of an original orientation.

1.8 Context & Scene

The context for this research thesis is within football coaching environments at an English professional football club’s academy of Category 1 (CAT1) status. The Category 1 status is (the highest level in line with Elite Player Performance Plan (EPPP) Premier League (PL), and representative of the English Football League (EPL) and The Football Association (The FA).

The game of football (as Association Football) is the subject in a (realistic) game with opposition, direction, objective and the ball; there is always a pitch or field of play to accommodate the aforementioned; the coach is there to facilitate the learning, development and performance (see Chapters Two, Three & Four).

1.9 Game Gain

Game Gain’s orientation and principles are suggested to consider and accommodate for planning, preparing and delivering coaching; the ‘why’ above the ‘what’ and ‘how’ within the coaching behaviours and the coaching process as principles and methods is expressed well within the following statement;
‘The man [coach] who knows ‘how’ will always have work; the man who also knows ‘why’ will always be his boss. As to methods; there may be a million then some, but principles are few. The man who grasps principles can successfully select his own methods. The man who tries methods, ignoring principles, is sure to have trouble.’ (Harrington Emerson, 1911)

Game Gain (see Chapter Three & Appendix 8) will focus upon the principles of Creativity, Autonomy and Tactical Sense (CATS)

1.10 How and Why Game Gain and CATS are distinct?

The concept of Game Gain (CATS) is proposed as an original game-coaching orientation presented herein, and as it has some similarities to (or been evolved from) Game-based Approaches (GBAs) such as TGfU (Bunker & Thorpe, 1982; 1986) and Game Sense (den Duyn, 1997; Light, 2013) could be viewed as a derivation and extrapolation from the pedagogical literature relating to approaches used in sports coaching.

The proposed ideas of Game Gain and CATS consider the tactical and technical aspects and objectives as well as the opportunity for delivering ‘learning and practice’ of decision-making that moves beyond the cognitivist perspective of acting directly upon input information (Light, Harvey & Mouchet, 2014), and not to accumulate practice time in order to (propose) shift from ‘novice’ to ‘expert’ (Light, Harvey & Mouchet, 2014; Cushion et al., 2012). CATS (Game Gain) and is intended to be considerate and inclusive of the teaching and learning objectives and processes implicit in any form of education (Armour, 2011; Lyle & Cushion, 2010).

Game Gain is instead proposed as a distinct coaching orientation organised around a set of principles to facilitate coaches and coaches’ behaviours to objectively accommodate coaching as learning, development and performance of Creativity, Autonomy and Tactical Sense. Game Gain is presented as a set of principles that constitute a framework approach to facilitate coaching (CATS) within the context of the game of football that can be tactically and technically inclusive to all participants (as within an English professional football club’s academy).
The evolution of coaching approaches from the traditional (Martens, 2004) of direct-instruction (Metzler, 2000) and command style (Mosston & Ashworth, 1986), to the more recent game-based and player-centred approaches such as Teaching Games for Understanding (TGfU) (Bunker and Thorpe, 1982) and Game Sense (den Duyn, 1997; Light, 2013), is what has led to the Researcher's evolution of Game Gain. TGfU presented game-based approach that required a sense of decision-making and acquiring skill with technique through participative, objective and deliberate practice (Light, 2013). Although using games as the main structure for learning, the focus is more upon skill and technique objectives, where often, even the most game-based practices, can appear as block practice. Then, particularly through coach education, there has been a bias to structure training and coaching around phases or aspects of play or practice that focus on; with or at ball/action, often negating decision-making and coaching opportunities around, near and away from the ball/action; both in and out of possession. TGfU can stimulate some player enquiry but is considered more general to providing for sampling sport experience, and thus lacking in specific subject knowledge for players’ learning (at a higher level) to deliver objectives of tactical astuteness (Light, 2013; 2007). Game Sense evolved to address a perceived need to accommodate higher levels of tactical understanding and ability required for (the progression to) elite level development and performance, and was subsequently used extensively in Rugby Union in Australia and New Zealand (den Duyn, 1997; Light, 2013).

In pursuit of the idealisms of tactically creative and autonomously independent players, to be realities within the context of coaching (as learning, development and performance) in football (or rugby and other sports); there is an objective need to shift from transmitting knowledge to facilitating active learning (Light, 2015 p1), and to (finally) document and form an empirical blueprint away from the holistic folkloric talk (Bruner, 1999 in Armour, 2011), and to add identity of the influence of ‘tacit and craft knowledge that [can be] developed through experience’ (Light and Evans, 2013 p407).

Game Gain, as the proposed innovative orientation to coaching that upholds the idea that; the game is the subject, the pitch is the classroom and the
coach is the facilitator. With this notion, Game Gain follows lines of enquiry to address the shortcomings of (in the examples) TGfU and Game Sense. Game Gain intends to afford coaches a framework of principles to facilitate realising and objectivising the cognitive aspects of anticipation, awareness and adaptability as they will relate to the decisions and action of players.

Whereas other approaches such as TGfU and Game Sense have readily addressed player learning of the technical, skill and tactical understandings through game-based training scenarios (Light, 2013; Light & Harvey, 2015), Game Gain represents a framework of principles that considers; perception, process and product of involvement of all; where there is always active participation in thinking and doing for players, and also coaches (see Chapter Four). The principles by which a coach implements coaching methods for players’ learning, development and performance are also objectified towards planning and providing for players’ transfer of learning and development to performance; as a continuum through practice and playing.

Comparisons certainly recognise Game Gain is similar to other coaching approaches, particularly the GBAs such as TGfU, Game Sense inter alia, but the sense of the distinctiveness and uniqueness of Game Gain introduces the ‘what, how and why,’ as Game Gain further evolves and extends upon such game-based approaches; with the application/sense of positive pedagogy to facilitate coaching behaviours sustaining the orientation and approach.

The Introduction Chapter has begun to substantiate the relevant base of pedagogical theory, and also expanded the depth of understanding and application through the introduced notions of independent learning (see Chapter Two) to rationale the ideas of autonomy within the purported Game Gain.

The ideas and perspectives around creativity (creative performance) in sport, and autonomy as independent learning, have also been conceptualised and contextualised by Francis Pollin (2011), to assist in levying the problems, positioning and potential of the Game Gain project and thesis and which will be reviewed in more depth in the next chapter.
Some coaching approaches have alluded to creativity in practice and play, such as TGfU and Game Sense, and then also in Memmert (2010), definitions of Tactical Creativity as aligning to the descriptors of Lubart (1994) and Sternberg (2012; 2006) to describe creativity as original decisions and actions to problems within games and practice (Lubart, 1994; Sternberg, 2012; 2006). Game Gain offers a definition of creativity of learning, development and performance within the context of coaching and coaching behaviours, as: Creativity, Autonomy & Tactical Sense. Within the framework of principles, Game Gain (Creativity, Autonomy & Tactical Sense - CATS) considers the cognitive aspects of performance perception and process that lead to the action product within a psychophysical enactment, as cognitively conscious and non-conscious actions (Light & Harvey, 2015). Distinctively from other approaches such as TGfU and Game Sense, Game Gain tangibly and objectively promotes the constant-active cognitive and physical participation of any or all the players within the game or practice.

Even through more recent efforts to be more inclusive of the idea of ‘tactical understanding’ along with the technical and skills aspects as objectives, it is often the technical and skill parts of play and practice that predominantly become the foci in play/practice, and also the coaching emphasis (Williams & Hodges, 2005). This often means that the coaching focus upon ‘at-action’ which is represented by; manipulation of ball in possession; at-action and in immediate support (to receive or gain the ball), and also of the team out of possession; as a combatant, competing for the ball as tackler or in direct support to compete for, or gain possession of ball. It could be paralleled to how one views sport such as Football and Rugby Union (or other invasion sports) on television, for example.

These situations often frame only a narrow perspective of what happens when players are in possession of the ball ‘at-action,’ or, of the team in possession ‘at-action,’ or ‘near-action,’ then, conversely; competing for the ball ‘at-action’ and combating in direct support in ‘at-action’ area; to gain possession. This somewhat blinkered view or narrow perspective of ‘at-action’ and ‘local-action’ drives an emphasis and focus to attention objectives on the actions in a technique and skill context, in turn perpetuating the use of drill and block type
training and not promoting game-based approaches (Light, Harvey & Mouchet, 2014; Mouchet, 2005). The aforementioned aspects will be outlined later in this chapter whilst signposting to more detail in the Literature Review Chapter.

Within this thesis the main tenets of Game Gain (as they are introduced) will be termed ‘principles.’ The principles that form the ‘concepts’ and ‘objectives’ of Game Gain will be presented to assist coaches to develop new understandings, and, facilitate coaching practice and behaviours to conceptually and contextually involve players accommodating decision-making and actions as perceptual-cognitive and psycho-physical processes of all players (Roca, Williams & Ford, 2012) (see Chapter Three). The decision-making and actions as ‘coached player learning,’ development and performance, ‘relate to the conscious and non-conscious’ (Light & Harvey, 2015); possibly representing flow and mindfulness of a positive-state thriving learning processes (Harvey & Light, 2015; Light, Harvey & Mouchet, 2014; Jackson & Csikszentmihalyi, 1999).

1.11 ‘Coach sense’ and ‘game sense’ of Game Gain

Game Gain is representative of the concepts and contexts of ‘coach sense’ and ‘game sense.’ As concepts, these words refer to the relationships between meanings of ideas, that present reality, coherence, tangibility and given sense (Cohen, Manion & Morrison, 2011), this is also the practicality of theory providing for an approach to change coaching behaviour as a function of utilising Game Gain. The terminology of ‘coach sense’ and ‘game sense’ is not to be interpreted ‘verbatim’ as in the notion of Game Sense (Light 2013 2007; 2004; den Duyn, 1997) as a distinct methodology for coaching and learning in sports. Rather it is as an alternative appreciation of the necessary practical and theoretical understandings and applications of coaching and playing Football (sports) in which the learning, developing and performing would take place; as ‘le sens pratique’ (Bourdieu, 1986) as cited by Light (2005) in reference to Game Sense.
Within coaching environments, that include the in-game playing aspects, coaching effectiveness, has, in the main, been based on in-practice performance gains of the players, and largely as achievements and success as winning, or subjective in-game performance statistics (Smith & Cushion, 2005; Gilbert and Trudel, 2004; Potrac, 2002). Then also this view often places ‘win’ or ‘lose’ at the top of that performance hierarchy (Smith & Cushion, 2005).

The data gathered from such coaching processes are too often measured against role objectives of coaches as ‘coaching effectiveness’ and then levied with ‘effect and yield’ of player performance (Armour, 2011; Lyle & Cushion, 2010). As coaches are subject to role objective contextual pressures and constraints, this impinges upon social realities of interacting with (young) learning and developing players (Lyle & Cushion, 2010; Armour, 2011). The research project of Game Gain is deemed necessary to tangibly objectify coaching approaches and processes to relate to; creativity in sporting performance; creativity in a learning context, and how important decision-making and autonomy are in creative performance in the tactical sense, as individuals and the collective team (see Chapter Two).

To present alongside Game Gain, the ideas of ‘game sense’ and also ‘coach sense,’ should not complicate understanding, but rather, construct contextual and conceptual perspectives and new understandings of how an appreciative ‘sense’ of coaching and playing the ‘game’ can potentially yield players’ creativity and autonomy in learning, developing and performing. Overall, Game Gain (incorporating coach sense, game sense) is literally intended to realise recognisable ‘gain’ for players in their ‘Game,’ as tactical, skill and technically tangible objectives of the coaching plan. The ‘Gain’ of Game Gain is in simple terms; the perceived ‘gain’ as an informal or formal measure of learning, development and performance for coaches and players. This ‘gain’ could be set against real objectives of coaching performance or behaviours of player learning, development and performance. ‘Gain’ is progressive; in how the concepts transfer and convert in playing and practice performance, as learning and development retention. ‘Gain’ is representative as ‘gain’ in learning, development and performance in coaching and playing football,
beyond an idealist and/or subjectivist perception of creative and independent performance, towards an objective realism where gain can be knowable and real. ‘Gain’ in Game Gain, is a positivism, a concept that is observable and reasoned, that will empower coaches (and players) in understanding behaviour with tangible descriptions of their coaching and playing towards achieving tactical and pedagogical objectives, and ultimately for success and winning – through learning and development.

The proposed Game Gain; coach sense, game sense © project, also includes to focus upon; Creativity, Autonomy & Tactical Sense (CATS). The presented notions as coaching orientation, recognising that; the learning is not designed, but rather designed for (Francis Pollin, 2011), and accounts for in-game moments that can only be anticipated through an accommodated awareness of adaptable and applied actions (Lave & Wenger, 2005). Game Gain, as a proposed positive pedagogy, aims to facilitate tangible learning and performance objectives as core pedagogical features to facilitate shift in behaviours and alternative perspectives to create the possibilities to promote positive learning and development experiences (Light and Harvey, 2015; Armour, 2011). For the participant coaches working in the elite coaching environments with high role objective pressures, the opportunity for (continuing) learning and developing is often a time-constraining challenge, heavily driven by the imposed objectives of a club hard data targets (participant club personnel, 2018).

The notions of independent learning (Francis Pollin, 2011) pedagogically substantiate the aspects of autonomy and learning elements within the proposed Game Gain, as a coaching orientation to assist coaches’ behaviours in constructing and developing performance that can accommodate players’ decision-making and actions towards player independence and creativity in a tactical sense.

The proposed notions of this research intend to provide for an objective coaching orientation to positively shift coaching behaviours and coaches’ perspectives as they relate to their own learning, development and performance in practice, and also as that practice transfers to the competitive
game. Transfer from performance ‘in practice’ to the ‘in-game performance’ is a principal objective that the Researcher understands of coaches within the network. Game Gain orientation and the research processes aim to realise this and to rationalise ‘how and why’ coaching perspectives and behaviours can possibly shape and facilitate ‘what’ the learning, developing and performing opportunity can look like. The aim of presenting a proposed coaching approach framework of principles that; coaches and the coaching can be more tangibly and objectively prepared, then planned to deliver accommodating game-based scenarios for players’ learning, development and performance in the sense of being creative in the tactical sense and also independent as a player and a learner. The ideas around Creativity, Autonomy and Tactical Sense (CATS) as supported by the notions of Positive Pedagogy (Light & Harvey, 2015) will be provided for (further) within the Literature Review.

The most basic methods of coaching are considered rudimentarily behaviourist as stimuli and response and described as traditional with direct instruction, command, scold, negative re-modelling; methods which have evolved to use the (specific) game in variant forms as a platform (Light, 2013). Approaches such as GBAs have considered objectifying an understanding at a more tactical level of in-game participation, moving beyond just the ‘what’ to do in the game (with ball, at-action & local-to-action’) but also the ‘how’ & ‘why’ (shifting towards more problem-solving and decision-making), and also the ‘where’ & ‘when’ thus possibly suggesting a need to shift to assimilate new approaches to coaching.

The proposed notions of Game Gain will recognise that ‘the game is the teacher’ (Kidman, 2008), and that learning, developing and performance occurs through both ‘deliberate play’ and ‘deliberate practice’ (Memmert, 2015; Gréhaigne et al., 2005, Launder, 2001) (see Chapter Two for detail of Deliberate Play and Deliberate Practice). The active and interactive participation of all includes; players; with the ball, near and around and away from the ball of team in possession, and then; at the ball of team out of possession, and also near, around and away from the ball of the team out of possession. These descriptors not only account for all participants as
individuals, but also then as units (defence, midfield, forwards for example) and whole team/s (Light, Harvey & Mouchet, 2014). As a coaching approach, Game Gain is also inclusive of both attacking and defending phases of play, whilst also considering the transition of possession, possibly as a neutral ball scenario (50/50 ball); to ensure inclusion for the decision-making and making-action objectives, conceptually and contextually to accommodate the technical, tactical and strategic objectives (Light, 2013; Cushion et al., 2010).

‘Where children used to play in green areas (and streets) without coaches and systematic training schedules’...[as imposed structure]...’and also without being bombarded by instructions and corrections’ (Memmert, 2010 p233).

Game Gain aims to provide coaching orientation to realise the key to coaching, learning and developing creativity, autonomy (as player independence) and tactical sense, and to consider coaches’ planning and preparation, and accommodate in coaches’ action and behaviours to possession players, and more importantly to ‘position players’ as the ‘process’ that leads to the ‘product’ as active decision-making in playing and practicing.

For Light (2013), this highlighted the necessity to focus on coaches to understand and implement ‘training approaches that can develop play off the ball’ (Light 2013, p45). Versions of Game Sense (Light, 2013) and related research of game-based approaches have demonstrated player movement and thus active learning off the ball (Mitchell, Oslin and Griffin, 1995 in Light 2013, p46).

‘New opinions are always suspected and opposed, without other reason but because they are not already common’ (John Locke, 1689)

There is often an unknown degree of resistance to the creative, innovative and the new, as is anticipated a degree of dilution to learned (good) practice of coaches after any re-education process (from Researcher’s discussions with sports coaches). This is often the case as they are exposed to role objectives (from clubs and significant others) and other impinging pressures from parents, players, stakeholders and others such as line managers. This shift, or revert to type/default is what Francis Pollin (2011) referred to as ‘re-socialisation,’ as coaches are subjective to role objective pressures and
general constrictors that inhibit their philosophy or approach, even after undergoing coach education or continuous professional development.

The difficulty lies not so much in developing new ideas, as in escaping from the old ones.’ (JM Keynes, 1953)

An endemic aspect in sport reflects the conflict with creativity that exists in the wider world. That clubs, organisations and bodies purport and promote about creativity and innovation as a promotional and political directive, but still employ and deploy personnel to maintain the status quo, because, it seems, they are afraid and adverse to change. This is the challenge.

1.12 Creativity, Autonomy & Tactical Sense (CATS)

CATS represent, in the most simplistic terms; Game Gain’s coaching Creativity, Autonomy & Tactical Sense. The ‘CATS’ of Game Gain leads into the principles, concepts and objectives that form the orientation for coaches and the coaching and thus forms the conceptualisation of Game Gain as a coaching philosophy (see Chapters Two & Three).

Creativity, Autonomy & Tactical Sense (CATS) are included within the Literature Review (see Chapter Two). Then, within the Design Chapter (see Chapter Three), CATS is portrayed within; through principles, concepts and objectives, to provide and facilitate coaches with the ideas and tools to enact Game Gain; CATS coaching. The presentation of the principles, objectives and concepts as Game Gain; CATS is done so as not to impose total prescription or imposition upon coaches, and although the directives are framed by, or around Positive Pedagogy (Light & Harvey, 2015), the design is presented as to permit plenty of scope for coaches to also (potentially) exhibit contextual CATS (see Chapter Three).
1.13 Structure of Thesis

The structure of this thesis is organised and presented around six chapters. Chapter One as the Introduction sets the scene and background of the practical and theoretical perspectives and conceptualisations within and relating to the context and purpose of this thesis and why the research is necessary. Chapter Two reviews the literature in sports coaching, player learning, development and performance, and the pedagogical literature. This Chapter builds and substantiates the Game Gain concept as a unique and distinct approach, that leads into Chapter Three, The Design Chapter, which illustrates through words and diagrams (whilst signposting to Appendices), what the proposed principles and concepts of Game Gain looks like as a framework and orientation to coaching. Chapter Four explains the Research Methodology and philosophies, further exploring the research thesis’ hypotheses and direction rationale. Chapter Five presents and evaluates the findings and discussions in evaluations of the research thesis, presenting and offering evidence and recommendations. Chapter Six summarises and addresses in conclusion whilst reflecting upon the whole experience in perception, process and product; to propose and recommend future direction to coaching orientations and approaches for coaching behaviours and player learning, development and performance for the future.
Chapter Two

The Literature Review

2.1 Introduction

The Literature Review Chapter analyses, examines and extrapolates the relevant reviews of sports coaching, player learning, sports development, games performance and pedagogical literature. The review process examines the inclusive aspects derived in the coaching and sports performance, learning and development contexts, and also in the pedagogical sense. Through the process of reviewing the relevant or related sports and pedagogical literature, this chapter derives the distinct purpose of the conceptual principles focus of CATS from the proposed orientation of Game Gain. On focussing upon and presenting CATS and Game Gain, this chapter presents the arguments and evolves the research direction in the context of coaching and player learning, development and performance, and to contribute original material to the pedagogical and sports literature.

Through reviewing the key relevant literature and in referencing the notions and definitions that have been afforded to creativity (traditionally and) within sports, this chapter will identify how creativity has been misunderstood or, at least, limited potential applications in coaching for learning, development and performance in football and possibly other sports. This leads to the need to develop new definition and understanding for creativity and how that can be conceptualised and contextualised within any orientation to coaching. ‘Creativity,’ within the new purported definitions is key to the conceptual coaching orientations for coaching behaviours and contextual player learning, development and performance within the coaching context.

The chapter chronologically charts, in most relevant detail, how approaches in theory and practice have evolved to the closest relatives of the ideas of Game Gain, whilst arguing and demonstrating what is different with Game Gain, and then, how and why Game Gain is distinct and has become necessary as ideas and an orientation to coaching.
Pedagogical theory has both underpinned, and, impacted upon the theories and practices based around learning, development and performance in the contexts of sports coaching (Light, 2014; Cassidy, 2010; Robinson, 2010). Within the contexts on the (sports’ learning) contexts; coaching is the teaching, learning is the process of developing understanding and abilities with knowledge as learning foundations, and within an environment as a socially interactive setting (Light, 2013; Cassidy, 2010; Robinson, 2010; Wenger, 1998). Inclusive of the social nature of coaching (as learning), the pedagogy yields ‘product’ as tangible performance results and data that could relate to the impositions of role objectives and performance goals which is led by learning objectives as ‘perceptions’ and as ‘process’ as the interactive dynamics of learning, developing and performing within coaching sports (Armour, 2011; Cassidy, 2010). The imperative for pedagogical consideration that ‘coaching’ is both; ‘design’ and ‘practice’ (Lyle & Cushion, 2010; Cushion, 2010; Wenger, 1998) relate to the pedagogical theories that will be explored within this Chapter.

The Literature Review will relate the chapter’s reviewing to the problematizing and proposed themes of the original ideas of Game Gain and CATS in positioning the literature to relate to the research questions.

Firstly; in post-session review of video and through stimulated recall, what indicative and key moments do coaches identify that provide the basis for reflecting and analysing upon their coaching behaviours?

Secondly, as a function of post-session video reflection and analysis; to what degree can coaches construct understandings of their coaching behaviours that align with notions of coaching Creativity, Autonomy and Tactical Sense?

Within the next three sections this Chapter will ‘kick-off’ in reviewing the main aspects that would relate to Creativity, Autonomy and Tactical Sense (CATS) which are the main framing principles that are pertinent to the research as an exploratory case study comprising video review for reflection and analysis. This Chapter will then go on to review other relevant themes that relate to the situation that the research intends to address.
2.2 Creativity

Creativity, as a notion and concept as contextually and operationally defined, is central to this research, so therefore it is with Creativity where the Literature Review will begin. Then as this chapter evolves, the review process will draw reference to how creativity in football playing and coaching has been defined and utilised, at times incorrectly and inappropriately. In addressing previous issues, this chapter will advocate new understandings and appropriations for creativity for how it could ultimately be operationally defined as a concept, and, within the context of coaching creativity. The presented ideas of that will evolve through this thesis, and contextual definition provides a principles-led approach that provides a framework for the defined notions and concepts of creativity relating to autonomy and in a tactical sense; for the coaching of sports, such as football in this research case.

Following a brief general introduction, it is to emphasise that in recognising creativity as a very important principle and pivotal concept to this research, autonomy and tactical sense are also intrinsically pertinent to this work. Therefore, this thesis will attempt to keep the writings on creativity contextual and relevant to the conceptual content being purported rather than being too broad about creativity (in general), as, although a very interesting subject it is also massive. Therefore, the aim will be to keep the content herein upon creativity; rich, relevant and contextual focussed, and not to be drawn into the dichotomous realms of ‘whether creative thinking is general or domain specific’ (Kaufman & Baer, 2002 p5).

Within many fields, such as the arts, education, the professional and corporate world as well as in sport, definition has been attempted and afforded to the ideas around creativity, and even efforts to standardise creativity possibly to make it tangible to understand and apply generically across fields (Kaufman & Baer, 2012; Sternberg, 2006; Lubart, 2000; Guilford, 1950). Within definitions of creativity, generally, pedagogically and sportingly; Lubart (2000) identified certain tendencies involved in the creative process, such as learners sensing problems (to be solved), which could be coupled with a capacity to produce creative ability as a synthetic learned skill.
developed from experience to apply as decision-making and action, and, to (attempt to) problem solve (Lubart, 2000). From what has been perceived by some as the modern day idea (Kaufman & Baer, 2012; Sternberg, 2006; Lubart, 2000), traditional explorations for researching creativity had taken a convergent thinking stance to allow for more imaginative conceptualisations (Sternberg, 2006).

Typically, practical attempts to coach creative aspects in football have tended to gravitate to ‘with the ball’ and ‘at-action’ practices moment, that, by-design, accumulate knowledge and experience to apply in-game and in-practice decision-making and action which, dichotomously, this often can result in (often limited) convergent thinking (Memmert, Baker & Bertsch, 2010). The pursuit of creativity in the tactical sense, does not need to be removed from what might be perceived as; conventional thinking and analytic ability to identify resolution through decision and action, and also the practical contextual knowledge and ability to pursue creativity with some value of effectiveness and appropriateness (Sternberg, 2006; Lubart, 2000).

According to Lubart (2000; 2001), the creative process was tangibly expressed within the realms of the psychological as; perceptual cognitive sequences of enactments that yield novel, innovative and adaptive products [as actions] (Lubart, 2000; 2001). Creativity (as performance within football) is evaluated as an ability or skill that produces work, outcomes and events that are novel, original, unexpected and appropriate; within an efficacy and efficiency scale (Memmert, 2010). Trying to convey the tangible transferability of a standardised view of creativity, Memmert & Roth (2007) summed up creativity in sports playing contexts as exhibiting varying, rare and flexible decision-making within complex game situations (Memmert & Roth, 2007). These not need be complex in the technical, skilful or tactical manner, but would instead produce variants of game-play scenarios that could differ to some degree, or instead, where there is perceived unpredictability, or even chaos within the practice or game (Memmert & Roth, 2007; Memmert, 2011). These studies, although dealing with decision-making and actions of variant and variable practices and games, in the main focussed upon the actions of decision-making with the ball or (immediately) at-action or near the ball. This
not only limits learning, development and potential performance but also narrows the scope of coaching opportunity within the creative and tactical sense to consider and accommodate the constant cognitive engagement that relates to decision-making and actions in the wider tactical sense (Memmert, 2011; Light, 2013).

‘Creativity’ is proposed as the key component and concept that other coaching approaches such as, Tactical Decision Learning Model (Grèhaigne, Godbout & Bouthier, 2001), Play Practice (Launer, 2001), Teaching Games for Understanding (TGfU) (Bunker and Thorpe, 1982, 1986), Tactical Games Approaches (Mitchell, 2005) and Game Sense (den Duyn, 1987; Light, 2005), have alluded to in ways that only define it as attacking moments of flair in possession. Whilst focus from a coaching and coaching behaviours perspective is heavily biased to being with the ball and at-action; as conceptualised from the definitions of Lubart (2000; 2001) and Sternberg (2006), and by Memmert (2015), Memmert and Roth (2007), Memmert, Baker and Bertsch (2010) within team sports contexts of Tactical Creativity. In short, the conceptualisation and contextualisation of creativity and Tactical Creativity of Memmert et al. (2015; 2010; 2007) focused upon direct applications of decision-making of applied skill and technique as the creativity, which within team sports examples considered no wider than direct possession or direct involvement at the (supposed) tactical level.

Creativity, in definition, and its conceptualisation and contextualisation within the proposed approach of this thesis will be the main tenet that makes the presented orientation for coaching distinct (see further in this Chapter and Chapter Four). This section has viewed creativity from a wide, general perspective, whilst then linking it sports performance and coaching. Now, within the next sections (2.3 & 2.4), the chapter will review conceptualising creativity to autonomy (independence) within context of tactical sense.

Through the ages of cognitive and psychological science, the challenge evolved to go beyond mere definition of creativity and shift from the proposition of; ‘what is creativity?’ to explore; ‘where is creativity?’ To endeavour to develop systems that could potentially underpin or quantify
tangible models for application in the corporate or educational settings *inter alia*. Csikszentmihalyi (1999; 1988) developed a systems model of creativity intended to provide a format to frame dynamic psychological behaviours in that respect, and to go beyond the *subjectivity* and aspire to *objectivity* in understanding where in the physical world, and within a psychological and cognitive sense; *where* creativity can exist (Gangadharbatla, 2010). This systems model would be further cited and applied to the corporate world, research and education (Henriksen, Mishra & Fisser 2016; 2015; Kerrigan, 2013; McIntyre, 2008 *inter alia*).

For creativity to occur, a set of rules and practices must be transmitted from the domain to the individual. The individual must then produce a novel variation in the content of the domain. The variation then; must be selected by the field for inclusion in the domain (Csikszentmihalyi, 1999 p315).

Csikszentmihalyi (1999) proposed three main components to form the systems model, based upon; Individual, Field and Domain. The individual represented the cognitive and psychological aspects, the field was the social, societal (community of practice, environment) and the domain was the cultural system, symbolic representation as; knowledge, tools, practices.

To contextually align these ideas to this research, the individual could be the player/s and/or coach involved in cognitive processes towards decision-making and physical actions, the domain transmits or imparts the coaching behaviour as instructions, objectives, accommodation of learning, then the field validates the process/product as ‘creativity’ for addition/inclusion to the domain.

McIntyre (2008) paraphrased Csikszentmihalyi (2004) by purporting a symbiotic reciprocity of interactive dependencies that indicate that systematically creativity cannot be produced as something that just appears (McIntyre, 2008). Instead, McIntyre (2008) and Csikszentmihalyi (2004) analogised the model idea explaining that a tree produces apples not just because it is looked at (observed), but is dependent upon sun, soil and other factors for the production of fruit. Therefore, creativity as a product of an
individual (player) is dependent upon the field (environment/accommodation) and domain (knowledge/validation) to objectify and validate the process and product. Creativity, in this sense, if both ‘product’ and ‘process.’

Educational psychologists such as Henriksen, Mishra & Fisser (2016) in relating research to Csikszentmihalyi (2014, 1999) formed research links between creativity and areas such as leadership in work environments, learning as intellectual and emotional growth, as well as education (Henriksen et al., 2016). Henriksen et al. (2016) reiterated that creativity is both a process and a product, but that the novelty, innovativeness and originality must have effectiveness and be relative to the situation or scenario possibly as contextually task appropriate to ultimately be regarded as creative (Henriksen et al., 2016; Sternberg, 1999).

‘Novel, effective and whole,’ formed the acronym ‘NEW’ (Henriksen et al., 2016), and was applied to conceptualise Csikszentmihalyi (2014) searched beyond ‘what is creativity?’ in asking ‘where is creativity? and to contextually and objectively place creativity in more tangible realms that can ‘impact practice [as] a key point for the field of education (Henriksen et al., 2016 p29). As within Csikszentmihalyi (1997) systems model of creativity, creative production and processing is an interaction of systemic elements, with (part of) mutual and reciprocal information and influencing systems to assert that creativity lies within interaction of the individual, the domain and the field. It is the multifaceted interplay that determines creativity (novel, effective, whole), both as; process and product (Henriksen et al., 2016).

Creativity then is the product (decision-making and actions) of dynamic (cognitive and psychological) process, emergent via the systemic interactions (of individual, field and domain), where the process is not linear with no start nor determined finish point, but instead; domain, field and the individual could be considered as units of imitation or component representation of a system in processing and production. This is what Dawkins (1976 in Csikszentmihalyi 1999 from Sternberg 1999) referred to as memes as units of imitation, purporting those memes as genes representation of individual creativity, as
they exhibit information and instruction and are the components of culture (domain), with a place in the community of society (field).

To objectify creativity product as process in and from the individual that could be observed as something valued, it is both dependent and reactively resultant upon the field and domain; to ultimately be recognised as creativity (Kerrigan, 2013). The field and domain not only have to validate perceived creativity but also facilitate and accommodate its production, as; ‘the environment in which the creative individual operates has a profound influence on the creative process’ (Gangadharbatla, 2010 p220). The production of creativity within systems models could be perceived as optimal functioning of consciousness as continuity and flow of process experience as the journey of flow is in the doing, experience as a positive psychology and, in processing and producing creativity, it is representative of a product of ‘positive pedagogy’ (Elkington, 2010; Seligman & Csikszentmihalyi, 2000) (see section 2.11 within this Chapter).

In referencing the systems model of creativity as psychological understanding Henriksen et al., 2016 referencing Csikszentmihalyi (2014) purported that if educators (teachers in their study) can relate to systemised model of, or, for creativity, that such modelling (in delivery) of creativity could ‘enhance, support and develop [creative] tendency in those learning (Amabile et al.,1996 in Henriksen et al., 2016 p32). Aligning the findings of research, Henriksen, Mishra & Fisser (2016) conclude in referring to the systems model of creativity (Csikszentmihalyi, 2014; 1999) by stating;

‘creativity can be learned, but since it’s a thinking skill it can only be learned by doing or as learning in action [and] involves approaches to thing rather than [just] a set body of knowledge that can be taught’ (Henriksen et al., 2016 p34)

Therefore, beyond the ‘individual’ (as a player) to process and produce creativity, for creativity to be a tangible reality, it has to be incepted/initiated, accommodated, facilitated and validated (possibly) within the realms of ‘field’ and ‘domain’ (as environment, objectives, practice culture, conditions, filters inter alia).
Although this systems model of creativity (Csikszentmihalyi, 2014; 1999;1988) has sought to identify ‘where is creativity?’ and has influenced and facilitated the corporate world, technological developing, research and education (Henriksen, Mishra & Fisser, 2016; 2015, Kerrigan, 2013; Gangadharbatla, 2010; Elkington, 2010; Seligman & Csikszentmihalyi, 2000; McIntyre, 2008; Amabile et al., 1996 in Henriksen et al., 2016 inter alia), this perspective is not considered directly applicable to the ideas of Game Gain research at this time. That said, the Researcher would consider further study of this great depth of theory in future research.

2.3 Autonomy as independent learning

Autonomy is afforded understanding within this research through the notions of independent learning and thus, is, contextualised within coaching and player learning, development and performance. This section will explain and review the relevant literature and relate it to this research. The independent learning notions are drawn and extrapolated from the Researcher’s previous research and study of Reggio Emilia Approach (Malaguzzi, 1953) to education, and its adapted versions and implementation the innovative teaching and learning programmes in some English primary schools (Francis Pollin, 2011).

Within the definitions of independent learning set out herein, notions identify correlative factors for considering, (possibly) as teaching and coaching behaviours for accommodating innovativeness, creativity and imagination that ultimately lead to levels of autonomy within coaching for game-based/player-centred approaches. As already alluded to; with learning as ‘an active process’ (Light, 2013; Edwards et al., 1998), and not solely as a transmission of pre-packaged knowledge; instead learning and development is constructed through activities that allow emancipation and experimentation through independent participation. Independent learning exhibits the non-specific objectives for learners to have control and choice of [decisions, movement and action in sport] un-predetermined learning structure, expressionism, ownership of learning and a reflective ability - developed via decision-making
of their (learning) experience (Rinaldi 2006; Edwards, Forman & Gandini 1998; Malaguzzi 1953). Independent learning is indicative to CATS; not representing shift from facilitated learning to that autonomous level, but as a self-initiated, self-motivated and innovative cognitive process. Independent learning is afforded through an appropriation of coaching behaviours to accommodate the player learning, development and performance, and in accommodating and fostering coaches behaviours of learning how to learn through game experience that could be framed by principles, and to capacitate autonomy (player independence) as a ‘self-sufficiency in learning’ and positive pedagogy (Light & Harvey, 2015; Poerksen, 2005).

Players as learners are active and participating in practice or game; with the ball in possession, without the ball (team in possession), near and around the ball (in and out of possession), and then also away from the ball (in and out possession). There should be opportunity to accommodate players’ learning and development creatively with independence. Autonomy, as player independence, is therefore, ability and product of decision-making and actions of players. Creativity is active perception, process and product that cannot be a transmission of pre-packaged knowledge; instead it is constructed through (game-based) activities and is [experientially] pragmatic (Edwards, Forman & Gandini, 1998).

Having reviewed (in the previous sections of this Chapter) the most relevant pedagogical notions for the proposed orientation within this research. The next section will review related content pertinent with tactical sense, as that would relate to creativity.

### 2.4 Tactical sense for creativity

Creativity in sports performance contexts, (very) often alludes to the flair and perceived expertise, displayed moments of sporting brilliance, as rare actions that spectators do not often witness, but also (only) often relating to the attacking (offensive) phases of a game (Memmert & Roth, 2007; Memmert, Baker & Bertsch, 2010; Memmert, 2011).
'Tactical Creativity' was how Memmert (2007), as referenced in Holt (2002), conceptualised and contextualised the creative process and action within sports' learning, development and performance. Memmert (2007) also purported in research of the 'effects of non-specific and specific concepts relating to tactical creativity,' and that; 'skill development is explicitly included in tactical approaches, just as game-play is a part of technical approaches' (Holt et al., 2002 in Memmert & Roth, 2007 p1423). Although it could be argued that skill development is implicit to technical approaches in deliberate practice and deliberate coaching. It could also be argued that skill development could be considered more of a by-product of games-play as deliberate play as performance. In this contestation the former is representative of specific concepts, and the latter is a non-specific conceptualisation.

Memmert (2015) explained further upon deliberate play as; principles to foster tactical creativity in unstructured and play-orientated games with fewer coaching inputs and feedbacks. Conversely, deliberate practice is more task-centred and dependent on instruction with feedback for more repetitive or block games that seek adequate problem solving. Memmert’s (2015; 2011; 2007) perspectives drew more from one-dimensional research experiments, and are more in line with the specifics of developed skill and technique representing a creative action that occur within gaining an understanding of the game (as the subject) and is thus more akin to TGfU (Bunker and Thorpe, 1982) and Game Sense (Light, 2013; den Duyn, 1997), and align to Game Gain concepts (see Chapter Three).

Non-specific concepts of deliberate play can offer greater opportunity for creativity, tactical creativity and decision-making, possibly as a divergent thinking perspective, as this is more conducive to a wider breadth of attention (Memmert, 2011; Light, Harvey & Mouchet, 2014). This was realised and referenced by Memmert (2011; 2007) that a conciliatory, combined blend of the technical and tactical offers players the best opportunities for skill acquisition, decision-making and tactical knowledge, and towards tactical creativity as learning and developing in football as a coached sport.
Much of the theoretical approaches have suggested that creativity could be derived or developed as a product from the gathering of accumulative and diversified experience as the ideal medium for developing creativity (Ericsson, Krampe and Tesch-Romer, 1993). This may have indicated that such acquisition of creative play and decision-making would be learned and developed through deliberate practice as; purposeful, but structured, conditioned and possibly over-instructed (Memmert, 2015). Whereas Memmert et al. (2010; 2007) indicated that unstructured, non-specific and non-deliberate opportunities lead to creativity, where, in fact, with more diversification and a wider scope of active participation, this presents the (potentially) wider breadth of attention (Memmert, 2015).

Therefore, by linking the tactical (sense) concept to contextually accommodate the sense of creativity, practical coaching concepts and approaches could be proposed. Through the initial inceptions of Game Based Approaches (GBAs), Wade (1967), and the continued efforts of Bunker and Thorpe (1982, 1986) with Teaching Games for Understanding (TGfU), Launder (2001) for Play Practice, and Gréhaigne, Godbout & Bouthier (2001) Tactical Decision Learning and for Tactical Games Approaches (TGA) (Mitchell, 2005). Practical approaches evolved to coaching the (subject) games objectively to deliver tactical sense and understanding, whilst accommodating the opportunity for learning and developing creativity in performance, strongly related to good decision-making. Through the evolution, Game Sense (den Duyn, 1987; Light, 2005) became the most prominent approach to accommodate principles around creativity and tactical sense and also Game Sense (den Duyn, 1987; Light, 2005), is comparably the closest relative to the concepts of Game Gain.
2.5 Creativity for autonomy & tactical sense

Creative performance or creativity in football (and sports generally) realises that ‘there is great potential in creative moments, products and processes’ (Memmert, 2015 preface). Although creative moments have been referred to as ‘golden eggs’ (ibid), they are too often observed and perceived as process or product of natural or innate ability (Wein, 2007, 2004) and the related decision-making to creative action referred to as ‘god’s gift,’ and not as performance that has been propagated through coaching (Light, Harvey & Mouchet, 2014; Light & Evans, 2010; Williams & Hodges, 2005).

Within the context of football coaching (and other team sports), observation, analysis and reflection tend to focus upon the immediate action area as ‘at-action,’ and to the player ‘with the ball,’ ‘in possession’ of the team in possession. The decision-making and creative action relating to the player that has the ball and these ‘creative abilities of expert sportspeople’ as ‘moments of sporting brilliance’ and of ‘extraordinary elite sports performance’ (Memmert, 2010 p93), nearly always focus on the decision-making ‘at-action’ as the player with the ball of the team in possession’ (Light, Harvey & Mouchet 2014 p258).

The narrowness of only observing and identifying creative performance and creativity as specific action moments and decision-making with the ball in possession in a game or practice game, negates most, or if not all, of the other players in the practice or game until they become a ‘possession player.’ Then the emphasis of concentrating on the decision-making at the micro level as ‘at-action’ (with ball); negates the game/practice strategy and tactical aspects at the macro level as actions that would be enacted through the decision-making closer to the ‘at-action’ area or meso level (Light, Harvey & Mouchet, 2014). In effect, the attention-bias to observe and coach ‘at-action’ moments as a focus on the ball in direct possession, negates most if not all the decisional background of the game in competition (and practice) as complex entities, where thinking unavoidably interacts with other players’ (Light, Harvey & Mouchet, 2014 p263).
Light (2013) emphasised the need to look beyond the micro ‘at-action’ ball skills, and that coaches need to seek coaching approaches that can develop play off the ball (Light, 2013). It is not then just about ‘the ball skills, but also perception, decision-making and movement off the ball’ (Light, 2013 p46). The focus and attention that places such emphasis on the ball player/carrier and the decision-making further perpetuates the rigid structure of mechanistic and systemic coaching approaches (Light, 2013; 2011).

By addressing the definition for creativity in the tactical context of playing and practicing in football, the importance of decision-making can be realised as; perception, process and product; with perception representing anticipation and awareness, process representing cognition and planning, and product representing the action; at-action, prior-to-action and in-action as interactive participation (in and out of possession). To this there is also a cyclical reflectiveness of ‘consciousness in action’ and ‘reflective consciousness’ to provide for ‘re-action’ as a constant shift and flux of decision-making (Light, Harvey & Mouchet, 2014; Memmert, 2015). Within GBAs players of teams are defined as ‘in possession’ as a team or, ‘out of possession’ as a team. This perspective would relate to the attacking or defending principles as decision-making objectives, and so to the players’ participation that correlate to their decision-making and actions relating to tactical aspects of; possession, position and space.

Within CATS (Game Gain) and within Chapter Three, a framework of principles is to be presented that address the actualities in conceptually framing creativity in the tactical sense for coaching Football. The framework of principles capacitates coaching objectives that address the players’ actions, both ‘in possession’ and ‘out of possession,’ then also; decision-making and actions relating to their position (movement) and space relating to the decision-making and actions involved with; ‘perception,’ ‘process’ and ‘product,’ via the cycle of decision-making.

The nature of Game Gain principles and coaching orientation facilitate coaching to address participation and involvement; ‘on the ball’ and ‘away from the ball’ (of the team in possession), and also ‘at the ball’ and ‘away from
the ball’ (of team out of possession), as; ‘at-action’ ‘prior-to-action’ or just ‘in-action.’ The wider opportunity to all participants being actively involved in the coaching process builds a greater sense of active engagement for players, whilst facilitating coaches to address the learning and cognitive processing of development and performance, without being over-whelmed with pedagogical theory (Light & Harvey, 2015; Light, Harvey & Mouchet, 2014).

2.6 Game-Based Approaches; the evolution towards conceptualising coaching behaviours for Creativity, Autonomy and Tactical Sense

The ideas that are proposed as an orientation for coaching that feature within this thesis could reference foundations within a number of Game-Based Approaches’ (GBA) ideas. These include; Teaching Games for Understanding (TGfU) (Bunker & Thorpe, 1986,1982) and Game Sense (den Duyn, 1997; Light 2013, 2011), Play Practice (Launder, 2001), Tactical Decision Learning Model (Gréghaine, Godbout & Bouthier, 2001) and the Tactical Games Approach (Mitchell, 2005). All as empirically evidenced models of GBAs to coaching and learning in sports, Light (2014) claimed that ‘of all the GBAs that have been developed from TGfU, Game Sense is [the] most clearly focussed on sports coaching’ (Light, Harvey & Mouchet, 2014 p267).

Light (2013) and Evans (2011) inter alia, claim Wade (1967) was one of the innovators and principal advocates of the use of simplistic small-sided games in training scenarios, thus to coach and to develop tactical understanding. Wade (1967) also realised that within those small-sided games training environments, specifically football in that case; skill was learned and developed within context and there was (need for) more contact with the ball and/or more immediate engagement with the action, making it all more fun, enjoyable and purposeful (Wade, 1967 in Light & Fawns, 2003; Renshaw, Araújo, Button et al., 2016). Within those innovative beginnings the main premises and principles of placing the learning and the learner at the centre of the coaching process were formed, and were retained within more recent approaches such as TGfU (Bunker and Thorpe, 1982) and Game Sense.
(Light, 2013; den Duyn, 1987), as the closest conceptualisations to the present proposals of Game Gain.

In pursuit of idealisms of tactically creative and independent players to be realities within the context of coaching (as learning, development and performance) in football and other sports, there is a need to shift from transmitting knowledge to facilitating active-learning (Light, 2015 p1), and to contribute to the literature and an empirical blueprint away from the holistic folkloric talk (Bruner, 1999 in Armour, 2011) of creativity, and to provide a conceptual reality to challenge any subjective theories that; creative, tactical and autonomy (independence) in learning and performance only exist as ‘tacit and craft knowledge developed through experience’ (Light and Evans, 2013 p407).

Like Game Sense (den Duyn 1997; Light, 2013), the proposed ideas will need to be within a GBA that is also player-centred, the proposed concepts of Game Gain’s (see Chapter Three) distinctiveness is emphasised by its principles that afford consideration of the participation of all players (potentially) in all positions and of both teams; with the ball and without the ball, at the ball, around or near the ball and away from the ball, in possession and out of possession, then through transitions and neutral ball situations (50/50 balls). It would be to also consider coaching opportunities for all the aforementioned possession and position player scenarios. Traditional coaching approaches and even TGfU (Bunker and Thorpe, 1982) and Game Sense (den Duyn 1997, Light, 2013) methods often place foci upon player/s in possession of the ball as skill and technique acquisition and performance (Williams & Hodges, 2005; Williams, 2003) which are also instructional, didactic, traditional coaching approaches (Metzler, 1990; Martens, 2004).

Gréhaigne et al. (2001), considered both the individual player and collective team aspects relating to decision-making as an on-going process with team sports performance. Although within games involving teams it may be perceived that there would be a cooperative-dependency of partners (within a team) and other influencing factors (from the opposition) that could potentially influence any individual player’s decision-making. This could be set, or to a
certain extent predetermine a player’s selective attention, depending on any number of possible factors. A cognitive map as a knowledge base represents the spectrum of selective attentions, formed from declarative and procedural accumulation through previous experience to form the player’s current knowledge. Based upon a player’s individual strategies and their accumulated experience as a cognitive map, so within a game the aforementioned form influences that contribute to player’s interpretation of a configuration of play (Grêhaigne & Godbout, 1995) as a tactical and strategic action basis.

Although the methods were player-centred, Wade (1967) attributed the principles of responsibility and accountability for the coach to; 1) maintain engagement as interest and motivation of learning, developing and performing through maximising participation, 2) take responsibility for players understanding the content of the training scenario, 3) stimulate and facilitate to motivate players to optimise potential, 4) explain the game in context within an appropriate environment to foster integrity and fair play (Light, 2013).

Mauldon and Redfern (1969) (in Light, 2013) used these same principles for teaching of skills as physical education (PE) and games approaches in primary school contexts. As curriculum this represented a significant shift from block skill drills, and this work coupled with the efforts of Wade (1967), came to influence the Teaching Games for Understanding (TGfU) movement of Bunker and Thorpe (1982, 1986).

Bunker and Thorpe (1982; 1986) recognised that traditional methods of isolated skill drills and non-contextual technical practices could develop technically sound players, but players did not necessarily gain a good understanding of the game and exhibited poor decision-making and low tactical awareness (Light, 2013). Light (2013), argued that non-game based approaches, that would consist of block drill practices, isolate any game-related techniques and are not conducive to provide motivation to players who fundamentally would be principally ‘looking to play a game’ (Bunker & Thorpe, 1982 in Light, 2013). This was all part of the revolution to shift away from the didactic and instructional approaches of skill drill and block practices, and also to tangibly and objectively transfer learning and development to in-game performance (Lyle & Cushion, 2010; Light, 2013). The TGfU approach was
modelled around four pedagogical principles, firstly; 1) sampling; opportunity to experience different sports and games with many benefits but the main ones being the complimentary learning and development and transference of performance across variant sports or games, 2) representation; experiencing modified games or forms of a game/sport to represent opportunity to learn and develop for more precise objectives without having to rely upon the full traditional versions of the game/sport, 3) exaggeration; implementing conditions to extenuate a scenario to increase the problem-solving and decision-making and amplify learning, development and performance objectiveness, 4) tactical complexity; provides the opportunity for players to match the tactical awareness and demands that are required through the complexity and progressions that through problem-solving and decision-making, learn and develop a tactical ability and awareness towards tactical performance (Light, 2013; Bunker & Thorpe, 1982; 1986).

For a tangible understanding in a linear curricula sense, TGfU also offered a six-step process model across the four pedagogical principles, as; 1) the game, 2) game appreciation, 3) tactical awareness, 4) (appropriate) decision-making, 5) skill (development) execution, and 6) performance. Whereas the game (1) part immediately made the process player-centred, this set the scenario as a cyclical and sequential imperative of a very structured and linear process, where only completion or attainment at one level then allowed progressions to the next step. The potential of a non-linear and situated learning perspective that could add flexibility to a TGfU (like) approach was purported by Chow et al. (2007) and Tan, Chow & Davids (2011). They suggested that by still using the same pedagogical principles (as TGfU) and the same content of the six-steps that the learning did not necessarily have to conform to a sequential cycle of progressions in learning, development and performance.

Although over recent years (probably since the original ideas and inception of TGfU, Bunker and Thorpe, 1982,) such approaches have been more founded and tested systems based on pedagogical theory. Teaching Games for Understanding (TGfU) was seen as the first and main challenge to traditional, instructional and didactic methods, pedagogically speaking, and initially was
perceived as presenting quite radical ideas on how games could be taught. This led to a shift from a predominant focus on skills and drills training in attempts to learn and develop ‘technique’ as technically sound players of sport (Light, 2013). The emphasis became a concept of teaching ‘in and through games’ for a wider understanding of participating in a sport or game, rather than just focussing on individual skills within drill or block practice.

Other approaches such as the Tactical Games Approach (TGA) (Mitchell, 2005), Play Practice (Launder, 2000), Modified Games Approach (Siedentop & Tannehill, 2000), Tactical Decision Learning Model (Gréhaigne, Godbout & Bouthier, 2001) and most particularly Game Sense (den Duyn, 1997; Light, 2013; 2006; 2005) outlined approaches that also offer more tangible perspectives on players’ actual learning, development and performance as they relate to in-practice progressions. Then it is also to consider the ‘in-game gains’ as coached learning, and how that transfers from ‘in-practice objectives’ towards in-game performance (Light, 2013).

TGfU came in and out of fashion from the early 1980s (Reid & Harvey, 2014) and possibly in pursuit of short-term gains or winning objectives, tactics and technique were over-looked as skill development was seen as more tangible to measure, especially against competitive outcomes over competitive performance. As technique development was levied against tactical learning, the Tactical Games Approach (TGA) (Griffin, Mitchell & Oslin, 1997) which brought about the first version of the whole-part-whole model, where games as the whole were portioned (as parts of the whole main game) as identified opportunities to practice related skill within that game. Thus the ‘part’ aspect was intended to provide a fragmented practice to emphasis the skill and technique, but as the part is derived from the whole and progressed back into a whole, it means the part is related to the whole and remains realistic to the game. Then evolving to progressions and complexities within the whole-part game to develop skill and technique that was objectively and contextual to performance and tactical understanding (Reid & Harvey, 2014; Light, 2013).

The most original Game Sense (den Duyn, 1987) approach evolved from the ideas of modified and exaggerated game-based forms with emphasis upon
player/learner decision-making and skill and technique objectives realised through practice from Tactical Games Approach (Griffin, Mitchell & Oslin, 1997), Play Practice (Launder, 2001) and Designer Games (Charlesworth, 2002).

Light (2013) built Game Sense theory and practice upon the aforementioned to include the ideas of tactics and strategies of; shaping, focusing and enhancing play, to transfer in-training progressions to in-game performance as a more tactical format than Play Practice (Launder, 2001). The French Tactical Decision-making Learning model (Gréhaigne, Richard & Griffin, 2005) contributed the concepts of whole-part-whole practice which involved starting with a game, then, through observations and feedback, then portioning practice down to smaller representative components, then through solution and problem solving, leading practice portions back in to form the whole practice (Gréhaigne, Richard & Griffin, 2005).

In reference to Game Sense, Light & Harvey (2015) and Light (2013; 2006; 2005) alluded (more than had previously been said), to notions of developing understanding to the wider sense of tactical participation and independence in learning as a perception that independence is of a shift from; taught to practice and practice to learnt, through rote and repetition, as the transition from facilitated to autonomous levels, set within an ability and understanding spectrum in sports learning, development and performance (Francis Pollin, 2011).

Game Sense has been noted as a less structured approach than TGfU and TGA, in that the emphasis shifts to ‘coaching that bases the learning within games and uses questioning to make it player-centred’ (Light, 2013 p20). The Australian Sports Commission (ASC) facilitated the evolution of Game Sense, as they supported den Duyn (1997) in producing resources (books and videos) to substantiate the notions in making them more accessible. Whilst in the United States of America (USA), Launder (2001) developed Play Practice, again as a games-centred orientation for learning sports (specific) skills, where teaching came through games; shaping, focussing and enhancing [creative and independent] play. This included; conditioned and manipulated
game scenarios; *whole–part–whole* formats, and; repetition, reconstruction and rehearsal, all to develop understanding and ability of tactics and strategy that were used to solve the game problems (Launder, 2001; Light, 2006).

Game Sense (den Duyn, 1987; Light, 2013) used GBAs in order for learners/players to perform techniques whilst developing understanding on how to play the sport or game, but the tangible objective still emphasises a bias to look for something to ‘coach,’ which again gravitates towards what happens (wrong) with, or at the ball or action, and to the decision-making of skill and technique associated with these micro aspects (Light & Harvey, 2015). Game Sense is less structured than TGfU that constructively builds from smaller component parts to the whole game and within linear process, of; game appreciation, tactical awareness and decision-making - contributing to skill and technique efficiency and performance which has been used more typically in the context of physical education to teach students how to play a game (Light, 2013; Mitchell, 2005).

Game Sense, although being less structured than TGfU, Play Practice and Tactical Games Approach *inter alia*, offered more opportunity for players to experience game play and build a tactical understanding and ability. To add to the tactical and strategic understanding, Game Sense’s game-based approach is very player-centred experientially to accommodate higher levels of decision-making, which will be reviewed within the next section 2.7.

### 2.7 Decision-making

Decision-making correlates to complex cognitive processes that are intrinsically entwined with the psychomotor processes of action and movement in football or other similar team sports. In that context, this would be depending upon players’ situations as to whether; in or out of possession, attacking or defending, and position in relation to the game scenario at a particular moment that also relates to *flux and flow* of the continuously changing game or practice environments (Light *et al.*, 2014; Light, 2013).
To establish understandings of decision-making in the context of future understandings, this section will review the ideas of ‘at-action,’ and its auxiliaries of ‘well-before-action’ and ‘time-to-action’ as central references cognitive engagement of perception, process and product, leading to decision-making and action (Light, Harvey & Mouchet, 2014; Mouchet, 2006).

Light et al. (2014) reported on the complexities, or, rather, misunderstandings of ‘at-action’ in relation to decision-making, where many would infer that smart decision-making was ‘god’s gift’ (Light et al., 2014 p259) or possibly that it was a thing of ‘nature’ or ‘innate,’ and that many would not accept that in ‘nature’ or ‘coaching,’ that it would be possible to learn and develop smart decision-making for or beyond the ‘at-action’ (action immediately with or at the ball) enactment. Even though Memmert (2011) identified a correlation that cognitively gifted players achieved higher level of tactical creativity (that includes decision-making).

A focus upon the controversy of ‘at-action,’ exacerbated the limitation of traditional, technique-focused and direct instructions approaches to place coaching emphasis on ‘with-or-at-ball’ action moments, thus narrowing practice and negating the cognitive involvement of many or most other players from coaching engagements. That would dictate mechanistic approaches of cognitivist views that mainly focus upon the individual with strictly linear learning processes (Light, Harvey & Mouchet, 2014; Gréhaigne et al., 2001).

Roca, Williams & Ford (2012), conceptualised their notions as; superior anticipation coupled with decision-making as acquisition of developmental activities (ibid., 2012). This implies that practice and experience are requisite to acquire a level of decision-making and anticipatory skill to make effective decisions. Superior anticipation and decision-making was represented as perceptual-cognitive expertise and operationally defined ability to anticipate and make effective decisions [..] predicting what is likely to happen prior to an event occurring’ (Roca et al., 2012 p1), which was coupled with the ability of the player to ‘select and execute an appropriate action in a given situation’ (ibid, 2012 p1; Williams et al, 2011).
The studies of Roca et al. (2012) and Williams et al. (2011) were based on the nature of acquisition being derived from a deliberate practice methodology requiring high volumes (hours) of training, akin to the 10,000 hours ideas of Ericcson, Krampe & Tesch-Römer (1993). Proposing that those many hours of repetition of practice will yield expertise to provide for (some) levels of decision-making, but in the main with restrictions to specific situations. This does not readily consider the complexities of decision-making beyond the individual as a team versus team scenario of randomness or unpredictable chaos. Such traditional, mechanistic and linear approaches cannot account for required self-organisation and maintenance (individually and collectively) for interpretation and adaptation for decision-making in games; at-action or otherwise (Light, Harvey & Mouchet, 2014).

Geographically and culturally, practice to objectivise decision-making can vary. Roca and Ford (2020) found significant disparities in participation in levels of non-active decision-making and active decision-making activities in studies that compared participation in various European countries. With English elite youth football players participating in higher levels of unopposed technical or tactical (skills) practices than European counterparts (Spain, Portugal inter alia), thus yielding active decision-making development more effective in the latter. European elite youth players spent around 62% of time in active decision-making compared to 20% in non-active decision-making according to Roca and Ford (2020).

Light et al. (2014) recognised the whole entity and environment as representing a myriad of constantly changing scenarios of temporal pressures, in which decision-making would have to be enacted; cognitively and physically. This required intellectual appropriation and application as perception, decision-making and action from the player, and a complete integration between player and the game environment (Light, Harvey & Mouchet, 2014). Apposite to this, GBAs to coaching that included TGfU (Bunker & Thorpe, 1982), Play Practice (Launder, 2001) and Game Sense (den Duyn, 1997; Light, 2004) presented pedagogically considerate approaches as adaptable (realistic) game environments to structure and facilitate learning, development and performance of (enhanced) decision-
making (Light, Harvey & Mouchet, 2014). To emphasize the holistic, yet, complex phenomena of both learning and performing decision-making and the level of dependency upon the environment, Dewey stated that we do not ‘educate directly, but indirectly by means of the environment’ (Dewey, 1916/1997, p19); ‘environment’ is considered very important to the coaching for learning, development and performance in relation to CATS.

The holistic, instead of the mechanistic, afforded attention to developing decision-making through the orientations of GBAs that considered tactical knowledge and ability as enacted skill, technique and movement without detracting from, or, negating the whole game in a realistic format (Light, Harvey & Mouchet, 2014). That said, much research centralised its ideas around the cognitivist perspective, and although recognising decision-making as a complex phenomenon, the heavily scientific method founded on closed systems analysis and determinate worldviews (Cohen & Manion et al., 2007). This, as a cognitivist perspective, weighted heavily towards focussing upon the individual, fundamentally inferring understanding of coaching decision-making as a linear process of (direct) inputs, to process, and action according to prior experiences and knowledge (Light, Harvey & Mouchet, 2014; Memmert & Furley, 2007; Gréhaigne et al., 2001, inter alia).

Considering experience, as accumulated hours of practice relating to cognitivist perspectives, expertise (knowledge) as a factor relating to decision-making has often been measured on a novice to expert continuum (Cushion, 2010; Light, Harvey & Mouchet, 2014). Although experience could account for perceptual accuracies of decision-making by relying on practice experience, the ‘expertise perspective’ cannot fully account for the complexities of how players, in learning and development, can make ‘embodied (pre-reflective) decisions in game play’ (Light, Harvey & Mouchet, 2014 p260).

Another research directive that considered decision-making was the ecological approach that focussed on the environment in which players are coached and play. To consider how a player, or, players change or react according to the playing or practice environment, as potential decision-making options; ‘persist, emerge, and dissolve as a consequence of laws of motion
and time evolution’ (Araújo et al., 2006 in Light, Harvey & Mouchet, 2014 p260). Araújo et al. (2006) recognised that much research had been conducted within lab-like or sterile (laboratory) settings, and this only observed decision-making (exact) in situ, which reflected subjectivity in players’ decision-making according to contextual or environmental specifics (Light, Harvey & Mouchet, 2014; Mouchet, 2006). Mouchet (2006) emphasised that decision-making is situated in, and highly specific to; contextual information at the local environment level as game situations. Although Mouchet’s (2006) study placed the focus ‘at-action,’ he did identify and include the whole game situations as strategies and decisional backgrounds that would affect, and be the consideration of any player/s decision-making, whether at-action, or, not.

Light, Harvey & Mouchet (2014) but prior and more prominently Mouchet (2006), conceptualised decision-making as the competence of tactical adaptation through deliberative cognitive activity. With ‘at-action’ and ‘well-before-action’ or ‘time-to-action.’ ‘Consciousness in action,’ enacted decision-making as a product of pre-reflective experience or an implicit mode of reflection) dominant in crucial/high-pressure moments such as transitions of gaining or losing possession or final moments of a game (as just two examples), but probably ‘in-action.’ ‘Reflective consciousness,’ was viewed as more passive as conceptualised knowledge as judgement and explanations about a process where there would be less pressure; further from the ball or action. Both these forms are transitional according to players’ perceptions and interpretation processing, potentially based on subjective experiences (Light, Harvey & Mouchet, 2014; Mouchet, 2006).

To conceptualise decision-making, Light, Harvey & Mouchet (2014) formed relationships (as operational aspects) between; conscious (reflective) cognition; embodied thinking (pre-reflective cognition), and; player’s (or coaches’) subjective influences (variant on time and space for; ‘time-to-action; to make next decision). To contextualise within game or practice, Light, Harvey & Mouchet (2014), drew on the notions of strategy and tactics (Grèhaigne et al., 2001; 1999) that formulated the phases of; ‘well before action,’ as macro; with ample time (and space) available, ‘time-to-action,’ as
meso; strategic decisions are made here, and ‘at-action’ as, micro; emergent decisions at the point of action.

The decision-making and the action is dependent upon perception as an interpretive process of continuous adaptations, effected by the (playing or coaching) environment, and also influenced by subjectivity within the individual more so than information inputs (Light, Harvey & Mouchet, 2014).

The complexities of decision-making in games in observation may be difficult to observe in order to intervene or record, if the cognitive does not result in an action directly related to the ball or in-action situation. Equally, if, for example, an at-action moment occurs where it is not perceived that cognitive perception or processing preceded that action, which may be missed as an opportunity to praise, intervene or record as smart decision-making. Light, Harvey & Mouchet (2014), described the ‘gap between thinking and action [that] can be seen to decrease to the point where mind and body act as one with the elimination of interference of the conscious mind’ (Light, Harvey & Mouchet, 2014 p263). Light et al. (2014), described these types of observations as ‘decision-making at-action when there is no time-to-action’ (Light Harvey & Mouchet, 2014 p263), implying that there is ‘no state of mind’ (ibid.) and ‘the mind and body are as one’ (ibid. 2014).

In researching Tactical Creativity, Memmert (2011) referred to the idea of ‘inattentional blindness.’ To consider the aforementioned idea that the cognitive thinking aspect before conducting smart decision-making and an action, or vice versa, Memmert (2011) suggested that with fewer precise inputs, as instructions or precise objectives, a wider breadth of opportunity for creative and tactical decision-making can be apparent. This is contrary to higher levels of inputs as instructions or precise objectives, which resulted in a narrowness of attention, and lessen the opportunities for smart decision-making. ‘If attention is diverted to another object, observers sometimes fail to notice an unexpected object, even if it is right in front of them’ (Memmert, 2014 p376). This reflects how mind and body can act as one, as pre-reflective conscious, or, ‘unconscious’ (reflective) cognition; embodied thinking (as pre-reflective cognition), and; the player’s subjective influences (variant on time
and space) at 'time-to-action' to make decisions (Light, Harvey & Mouchet, 2014).

‘Intrapersonal’ aspects can account for an individual player’s decision-making performance (as learning and development), but perspectives have to be more considerate of the ‘interpersonal’ aspects of decision-making, in the intricacies and inter-dependability of significant other that constitute the chaos of a game or practice (Light, et al., 2014; Grèhaigne et al., 2001). In that context, any decision-making will be dependent on every other player as players on the same team, or as the opposition. Thus, decision-making would depend upon every action and movement of every player, then also of others’ cognitive actions and reflections, as influences for perception, process and product. The actions of all teammates and all other participants are pertinent influencing factors upon any players’ decision-making, as; ‘a team (or teams) is more than the mere sum of its or their component parts as players’ (Light, Harvey & Mouchet, 2014).

‘To be perceiving the world, is to be acting in it – not in a linear input-output relation (act-observe-change) – but dialectically, so that what I am perceiving and how I am moving co-determine each other’ (Clancy; Lenzen et al., 2009 in Light, Harvey & Mouchet, 2014 p7).

As an enactment of knowledge, decision-making is based upon socio-cultural context and experiences that are embodied as perception and action to occur simultaneously (Light, Harvey & Mouchet, 2014; Cushion, 2010). As with constructivism and reflectiveness upon cognition, that beyond the ‘what’ as behaviour, there is a ‘how’ and ‘why’ to reason the thinking as metacognition (derived through pro-active reflection). Therefore the richer knowledge is learning experience constructed through processes of interpretation and enacted as decision-making for the self and those around as language and physical interaction in a social constructivism perspective (Fosnot, 1996; Wallian & Chang, 2007 in Light, Harvey & Mouchet, 2014 p264). It is therefore the experience that better facilitates greater construction for decision-making than accumulation of knowledge itself. Decision-making is therefore an interpretive social process of adaptations of experience rather than knowledge alone, and it is the consideration of groups or collectives (as teams) rather
than individuals (as players) that reflect the emphasis on (learning) decision-making as 'social process of adaptation' (Davis & Sumara, 2003 in Light et al., 2014 p265).

Within the contexts of practicing and playing football, GBAs have formed the approach and structure to emphasise realistic content and context, where decision-making is situated within; physical context; strategy; game plan; competition; social contexts; institutional aspects, all as decisional background factors. To plan and deliver coaching for decision-making thus requires consideration and management of these perceptual aspects within the learning environment as a realistic, contextual game (Light, Harvey & Mouchet, 2014; Harvey et al., 2010; MacPhail et al., 2008).

The complexities of decision-making in contact-invasion team games such as football should be represented as realistic practices for realistic learning, development and performance contexts. The design should be inclusive of ‘temporal pressure’ as; two teams in opposition; direction; a ball as the object; a target or objective (goal) and then conditions and challenges are set within that to extenuate the problems for solving as decision-making. This environment should facilitate itself and cannot yield effective improvement with direct instructions (Williams & Hodges, 2005).

In football (or other team sports), the aim is to develop and produce independent players that are very effective decision-makers in high-pressure competitive situations. Yet, too often, the learning environment is one of low or little pressure, and in which players too often have the decisions made for them. Therefore the emphasis needs to be with ‘designing an effective learning environment that replicates certain conditions in which decisions have to be made’ (Light et al., 2014), and coaches need to be informed and skilful to design for learning, manipulating the environment and facilitating the process for the ‘right balance between success and challenge’ (ibid.) for effective decision-making. For learning and development to effectively and appropriately accommodate decision-making, this can only really be achieved through ‘designing for learning,’ rather than attempting to ‘design the learning.’ Thus getting players interacting and engaging with the (learning) environment
rather than them being told what to do. The design components of the physical context as; teams, players, space, rules, conditions and challenges will account for opportunity to acquire skills, knowledge and dispositions, then ‘decision-making is made in response to the nature of the physical environment [...] as influenced by (any) decisional background (Light et al., 2014 p266). Design of the learning environment, therefore, is key (see Chapter Three).

‘Getting the game right is key to improving decision-making’ (Thorpe & Bunker, 2008 in Light et al., 2014 p266) as a considered environment within which players can cognitively and physically immerse in embodied learning and development of decision-making, and not being told what to do (see Dewey, 1916/1997 for example). Learning (of decision-making) emerges through immersing players within such environments of appropriately and considered GBAs. Learning and development of decision-making, cognitively and physically, is processed and enacted at a non-conscious state of inattentional blindness (Memmert, 2016) within that level of environmental immersion. However, Light (2014) identified by ‘designing an effective learning environment [...] that ‘good pedagogy can accelerate this learning by bringing thinking up to a conscious level through the use of language’ (Light et al., 2014 p266).

Decision-making, according to Light (2006) is (often) a habitual response with no conscious thinking. As within the context of questioning (and answering) to facilitating the players’ reflection and capitalising upon ‘mistakes’ as learning opportunities (for example) is best cognitively conceptualised as procedural and declarative knowledge (Anderson, 1980 Annett 1996 in Light, 2006). Declarative knowledge is conscious and verbally expressed; technical/tactical feedback, whilst the procedural (or enacted – Light & Fawns, 2001) is enabling players to ‘think,’ as; declarative is about what is happening around them as well as what they are doing. They are able to develop ‘understanding.’ as procedural, without being pressured to instantly attain technical competency.
A demonstration of knowledge in-action and knowing the game that entails effective and smart player decision-making through effective coaching for players to engage within ‘on-going conversations’ as an ‘interplay’ between language and action (Schön, 1983; Light & Fawns, 2003).

For developing decision-making, GBAs can provide for practices games in which players (as learners) could run or manage their own sessions as ‘reasonably independent learners’ (Light et al., 2014). The coach facilitates through instigating questioning, reflection, formulating ideas, tactics, strategies and progressing sessions. This provides for a constant of experience and reflection of decision-making as embodied responses are brought to a conscious level, or made declarative as language, to further analyse and progress as a learning and developing for optimising sports performance (Wallian & Chang, 2007; Grèhaigne et al., 2005; Light, Harvey & Mouchet, 2014).

As part of the sports’ pedagogical process, ‘questioning’ was an interventional method for ‘punctuating play with tactical time-outs’ (Turner, 2005) to help coaches facilitate (and manage) development of decision-making (Grèhaigne et al., 2005; Light, Harvey & Mouchet, 2014), which if conducted appropriately should negate having to deliver high levels of direct instruction or telling players what to do. The type of question is important, which is attached to the coaching behaviour of; when, what, how and why as the questioning is implemented. Then if the question closed (yes or no answer) or fairly open (to discover or establish facts), both as fairly convergent, or the questioning could be more divergent or overtly open to really empower players and instil ownership of a higher order of perception for decision-making (Grèhaigne et al., 2005; den Duyn, 1997; Light, Harvey & Mouchet, 2014). The skill of the coach is to ‘ensure learning is active and player-centred by stepping back to facilitate learning instead of attempting to determine it’ (Light, Harvey & Mouchet, 2014 p269). Again to reiterate, this is; instead of designing the learning, it is designing for learning. (See Questioning section within this Chapter and Chapter Three for more detail).
In performance within competitive games, decision-making can be influenced and affected by real contextual factors such as; score-line, time remaining, objective and temporal pressures, inter alia. Therefore, to instil and maintain the realist context of decision-making as learning and development, extra-contextual content may need to be embellished within the GBAs to extenuate decision-making appropriation. To fulfil this need, Launder (2001) incepted the idea of ‘Action Fantasy Games,’ where players within the practice environment (as teams and players) would be presented with a scenario to set motivated, decision-making objective. For examples, ‘league table positions; who ever wins this game qualifies for the Cup,’ ‘score a goal in last two minutes is worth double points’ or ‘if the red team is not at least two goals ahead by halftime, blues need only not to concede a single goal in second half to win game.’ These are just a few examples as a non-exhaustive list, that as part of the designing and manipulating of the environment as an important role for the coach; maintains the objectiveness of conscious and non-conscious decision-making within a GBA practice as a priority of learning and adoption of player-centred and inquiry-based pedagogy for football coaching (Light, 2012; Dewey, 1916; 1997).

The imperative for learning, development and performance of decision-making reviewed within is in contrast to traditional skill and technique approaches that focus on direct instruction and mechanistic deconstruction of games into unrealistic components. The complexities of realistic game environments in practice, as within temporal pressure of the decision-making performance within games, are themselves the problems to be solved that accommodate the opportunities for decision-making. Thus to facilitate in improving and developing decision-making that:

‘will emerge from playing [in] well-designed training games [with] learning [of] decision-making as a complex process that can [only] be enhanced or facilitated, but not determined (Light, Harvey & Mouchet, 2014 p272).

Decision-making is not just; at-action, but also; well-before-action, time-to-action, but always; in-action, as within the ideas that will be proposed as the
original orientation to coaching (see Chapter Three and further in this Chapter).

As collective aspects of decision-making; the organisational (within own team) antagonistic relationships (of opposition and potentially rogue actions within own team); all could represent influential interactions that would require tactical adaptations as decision-making. On the basis of decision-making as an individual and within the organised and/or disorganised collective; play-actions & behaviours would vary (Grèhaigne et al., 2001).

Within this section the pertinences of decision-making that needs to be considered have been examined and reviewed, as it relates to being a key consideration for; coaching behaviours in relation to player learning, development and performance. Decision-making (in and for players) is pertinent and pivotal to the considerations of new coaching orientations. To objectively consider and accommodate the key aspect of decision-making, there is an imperative for an appropriation of coaching behaviours to optimise the coaching behaviours and orientation, which the next section (2.8) will review.

2.8 Coaching Behaviours

Coaching behaviour, as a social process, reflects the dynamic interactions and relationships, possibly as inter-related and inter-connected [ness] (Cushion et al., 2012) between coaches, the players and the contextual factors that impinge upon practice (ibid., 2012), within the whole environment. This incorporates the cognitive aspect with the social interaction of reciprocity in participation of coaches and players, as learning is accommodated as more player-centred, witnessing a shift from traditional bias of an instructional basis (Lyle & Cushion, 2010).

Game Sense (den Duyn, 1997; Light, 2004; 2006; 2007; 2013), Tactical Games Approach (Griffin, Mitchell & Oslin, 1997), Play Practice (Launder, 2001), French Tactical Decision-making Learning model (Gréhaigne, Richard & Griffin, 2005), Teaching Games for Understanding (Bunker & Thorpe, 1982)
have all included to some degree; constructivism (Light & Fawns, 2003), behaviourism (Light, 2013; Davis, Sumara Luce-Kapler, 2000), experiential learning and Complex Learning Theory (CLT) (Light, 2013; 2008; Davis & Sumara, 2003; Varela, Thompson & Rosch, 1991), Self-Determination Theory (SDT) (Amorose & Horn, 2000; Deci & Ryan, 2000). Within the nature of coaching environments as learning communities, aspects of social and socio-cultural learning also exist (Wenger, 2005; 1998; Lave & Wenger, 2007; Bourdieu, 1986 in Light, 2004).

The coach is considered a powerful socialising agent, who not only has an impact upon the physical domain as suggested by Amorose (2007) and Horn (2002) (in Lyle & Cushion, 2010), but also upon players’ confidence, self-esteem, motivation and performance. As a practice, coaching is a process of behaviours that are delivered, received, witnessed and interpreted as words, actions and non-actions that affect the social and emotional condition of the young player/learner, as well as performance (Lyle & Cushion, 2010). This will impact on players’ behaviours, cognitions and affected responses (as stimuli), portrayed in the form of confidence, attitudinal aspects and self-initiated/directed ‘motivational orientation’ (Mageau & Vallerand, 2003, in Lyle and Cushion, 2010, p43). Again, combined with the cognitive processes in the social context, this can contribute to social and emotional wellbeing, very important premises to learning and developing players working towards an optimised sporting performance (Sport England, 2018). This influence of the coaches’ behaviours has been identified as a main agent to affect and/or to improve sporting performance (Cushion 2010 and Cushion et al., 2006).

Indeed, coach behaviour is subject to a multitude of factors that are impacted by; role objectives, player development, expectation, success or achievement goals or ambition, and also; philosophies (beliefs, meanings and values), experience and personal expectations (Lyle 2002, Metzler 2000, Jones et al., 2008). This is pertinent to the situation of the participant coaches as a selective purposeful sample within this research.

According to Cushion (2010), it was seen as ‘tradition’ or ‘traditional’ (terms coined by Martens, 2000) that coach behaviour could only be viewed as
observable behavioural elements, rather than delving deeper, as this research intends to do - to identify and examine behaviours as perspectives and attitudes that are derived from, or are products of other influential factors (see this Chapter). Instruction is one of the key behaviours as identified in research in football (Cushion 2010, Cushion et al. 2006; Potrac et al., 2002) and as instruction (Metzler, 2000), is the closest definition to the frequently referred to ‘traditional coaching’ (Martens 2004; Potrac et al. 2002; Lyle & Cushion 2010; Metzler 2000), that is a ‘flow of instructional information [...] to teach virtually all movement and content’ (Metzler,2000, p175), and this is regardless of players’ age, maturation or developmental level.

The coaches own validation of an instructional behaviour may vary, and not be solely dependent upon role objectiveness (Lyle, 2002) or task achievement of ‘fulfilling the requirements of the role [...] associated with performance success’ (Cushion, 2010, p46). ‘Socialisation,’ as a process that conditions the coach to an habitual-default through the pressures of those around them (Francis Pollin, 2011), impact the coach through participative experience of coaching ‘life-worlds’ (Habermas, 1961 in Edgar, 2006) to understand the experiential, social and contextual factors, which impact upon instructional process in sport (Potrac et al. 2000; Strean 2000 in Potrac et al. 2002, p187), and to ‘establish beliefs and traditions that validate and acknowledge certain behaviours as effective’ (Cushion 2010 p46). As emphasised by Lyle and Cushion (2010), high levels of instructional inputs reflect the beliefs derived from experience as exemplified coaching aspects received (previously) as a player or via football coach education (Nelson et al., 2012; Piggott, 2011). The formation of these beliefs and enacted instructional coaching behaviours, are in-line with traditional coaching (Martens, 2004) and instruction (Metzler 2000) but can also be applied within the teaching spectrum (Mosston & Ashworth (1986; 2002 in Jones et al. 2008) for a conciliatory blend of more productive applications that, go beyond the role or achievement objective, as a responsibility to affect young player learning and performance.

Smith and Cushion (2006), conducted a study that examined observations of coaching mainly associated with football ‘in-game time’ behaviours (following ASUOI, Lacy & Darst, 1984). Smith and Cushion (2006) argued, in line with
the thoughts of Carreira Da Costa & Pieron (1992) on effective coaching, that, 22.4% of instruction was significantly ‘low,’ pointing to the ‘premise that effective coaching relates to the quality of instruction rather than quantity alone’ (Smith and Cushion, 2006, p361). Potrac et al. (2002) detected an even higher total of (pre, concurrent and post) instructional behaviours of an expert coach (57.53%), where coach role objectives generate more pressure on performance and achievement (Smith and Cushion, 2006; Potrac et al. 2002). Light and Robert (2010) identified that role objective pressure presided within traditional and Instructional coaching that focussed on athlete competence, through a transmission of knowledge which limits the behaviour interaction of coach and players (Light & Robert, 2010; Culver & Trudel, 2008; Cassidy et al., 2004).

Coaching behaviours that exemplify knowledge and expertise via instruction at high levels (Metzler, 2011), possibly means players could be conditioned or socialised as ‘reliant or expectant’ upon instructional inputs, thus becoming resistant to other behaviours (Francis Pollin, 2011; Potrac et al. 2007; Lyle and Cushion, 2010). This could also lead to players remaining less autonomous in learning and development, devoid of creativity, imagination and emancipation, to remain predominantly coach-dependent, not only in training but also during matches (Smith & Cushion, 2006).

Accommodating behaviours permit players to be creative, imaginative, expressive and experimental, encouraging players to have a go, or take a risk, without fear of getting it wrong (Piggott 2008; Light 2007). This will set the appropriate environment that is permissible to mistakes and emancipation of experimentation. Accommodating behaviours are representative of operational definitions 6 to 14 of proposed initially intended for use systematic observation categories (see Chapter Four) that are less-autocratic behaviours, thus the constraints and pressures of performing would be alleviated, suggesting that practice would be accommodating when it serves as a foundation for experimenting and forging new (football) skills and concepts, even as new objectives (Piggott, 2008). Claxton (2006) also purported to the idea that just putting on the practice would not necessarily be sufficient, with; learning being a product of players not knowing (really) what
to do (Claxton, 2006). Players need to know the relevance of the objectives, as a technique, skill or tactic, with the accommodating behaviour serving as a licence that affords players the opportunity to practice, experiment and make mistakes. When any mistakes are realised as a product of experimenting, they can be harnessed as learning/coaching opportunities (Piggott 2008), and that leaving players alone in those moments is the key to independent problem-solving abilities that lead to a greater level of independence as autonomy (Piggott, 2006). Autonomy, as specified by Deci and Ryan (1985), as the degree to which the respondents perceive they have a choice in their behaviour. This freedom of choice, nurtures a more autonomous culture, whilst accommodating a climate of permissibility to mistakes, which may be facilitated (through coaching methods) to develop new learning as a product of the encountered experimentation and risk.

Accommodating coaching behaviours then objectify the learning, where actually the process of learning, is ‘a reaction to risk’ (Beck, 1992), or possibly a product of risk; with the un-prescribed parameters for the players as a fundamental reaction to what they perceive as new or uncertain situations, and ‘having the courage of our doubts, of our uncertainties, means participating in something for which we take responsibility’ (Rinaldi, 2006, p170). Experimenting is therefore the uninhibited risk undertaken to develop and learn new knowledge. Accommodating coaching behaviour that permit and encourage experimenting will promote; development and learning of creativity, innovation and inventiveness (Piggott, 2008; Light, 2013).

This sense of subconscious noticing with paying attention aligns to inattentional blindness paradigm (Memmert, 2016; then, Most, 2005; Simons & Chabris, 1999; Memmert, 2006 - all in Memmert, 2016). The non-intention to focus upon something is accommodated within the inattentional blindness paradigm, as a more apparent focus upon something also accommodates perception of an unexpected object within the [coach’s] field of vision or in range detection of peripheral stimuli (Memmert, 2016).

Noticing can be unintentional in the inattention of what you pay attention to as the perceptual non-constant of inattentational blindness (Memmert, 2016;
Memmert, 2006; Walker, 2019). As complex entities (Light, Harvey & Mouchet, 2014), coaches have evidenced that ‘attention-bias’ is not only avoidable, but that attention is intentional and unintentional, with no bias to determined foci.

Therefore, it could be said that within that context that coaches; ‘notice,’ are ‘noticing’ or have ‘noticed,’ in recognising and engaging with players; on-the-ball and at-action (micro) and/or near the ball (meso), also away from the ball and action (macro), and also in and out of possession as a team. This is to concede that nothing is beyond notice, or, noticing.

‘Anyone interested in thinking creatively needs to notice what has been overlooked or ignored by others, to get beyond distractions’ (Walker, 2019 px-xi)

The noticing in this research maybe represented as verbalisation, or to acknowledge, given instruction, feedback, facilitative input or questioning – all-in-all the product of ‘noticing’ or to be ‘noticed’ is, in itself, a coaching behaviour in its own right? ‘Noticing,’ possibly as applying focus, to consciously/unconsciously or intentionally or unintentionally process the developing understanding of the (coaching) environment making their experiences visible’ (Jewitt, 2012), and to, ‘pay attention to what you pay attention to’ (Rosenthal, 2016 in Walker, 2019) as being the important part of the process of noticing.

As a domain hierarchy, the affective domain shares priority with psychomotor (action) and/or cognitive (understanding), whichever is the relevant co-objective (Metzler, 2000). This may form the basis for the interactive coaching behaviours, which represent both the social and democratic aspects, which exist within coaching and sports playing environments (Lyle & Cushion, 2010; Amorose and Horn, 2000). The cognitive domain prioritises when learning focuses upon more tactical scenarios requiring understanding and problem solving, which in turn is facilitated by performance in the psychomotor domain. The full effect of the affective is realised with players combining tactical understanding and execution as authentic learning objectives (Metzler, 2000). Metzler (2000), argued that through this domain interaction delivered via the medium of such methods as, Tactical Games (TG) and Game Sense; there is
more appreciation for the game and greater positive effect on self-esteem, motivation and confidence (Light, 2013; Armour et al., 2011). As socio-pedagogical perspective, there is a certain imperative for coaches to understand the relationships amongst learning, coaching, subject matter and, more specifically - the (football) context (Kirk, 2010). This also includes motivational factors for the players as well as self-esteem and confidence. Furthermore, a specific pedagogical understanding affords coaches awareness of how the cognitive domain functions within players’ learning (Lyle & Cushion, 2010; Armour et al., 2011).

Accommodation is an important aspect of behaviour, and may not necessarily reflect an act of instruction as a technical, skilful or tactical input. Environment is created by the behaviours of the coach, and in a social learning context, players consider their own behaviour and judge it against their own standards, and also of others. As Bandura (1977, in Jones et al., 2008) points out, players compare their own perceived standards and behaviour to the standards perceived with, behaviours and thoughts (as feedback) of others, before reinforcing the judgement upon themselves for a measure of self-esteem, self-confidence and ability. Within the self-regulatory and self-determination theories (SDT) of Amorose & Horn (2000) and Deci & Ryan (2000), coaches and players will self-rate their competence, their level of autonomy, and thus, coaches’ behaviours impact their intrinsic motivation and perceptions in the coaching and playing environment. This would reflect the contextual aspect of instruction, positive reinforcement (feedback), social learning supportiveness and the balance of autocratic and democratic coaching behaviours (Amorose & Horn 2000; 2001). Amorose and Horn (2000; 2001) identified an imperative to apposite exhibition of conciliatory coaching behaviours, as the determinate of intrinsic motivation that would possibly fulfil a propensity of positive and accommodating coaching behaviours as objectives. This could see an independence of learning as an; ‘intrinsic concept of participation’ (Rinaldi, 2006, p140).

Motivation need not be dependent upon external praise/inputs from coach to player where the behavioural perspective is stimulated by (positive) reinforcements, praise and attention, A shift away from instruction and
command style coaching towards more democratic coaching behaviours can nurture positive interactions in the coaching environment (coach-player) to accommodate intrinsic motivation to be the predominant intrapersonal attribute, without dependence upon coach inputs and instruction leading to more creative approach and player independence (Lyle & Cushion, 2010; Armour, 2011; Amorose & Horn, 2000; Smith & Cushion, 2002; Gardener, 1993).

Thus, to accommodate these aspects the coaches’ behaviours must serve to nurture a climate that permits active experimentation, which both allows players to make mistakes within a supportive environment, and to feel comfortable with the coaches’ behaviours. Within this environment, mistakes are seen as learning opportunities, with Piggott (2008) aligning this with Karl Popper’s theories (1981), which witnessed the opportunity to aid (sport) development of creative problem-solvers with the capacity to learn from their own errors (Piggott 2008).

In Game Sense (Light 2004; den Duyn, 1997), TGfU (Bunker & Thorpe 1982; 1986), Game Intelligence (Wein 2004; 2007) as Modified Games (MG) (Siedentop & Tannehill, 2000), objective learning tasks are required to be accommodated by the coaching behaviour to link practice (in training) to game and match context. This then relates to Activity Theory (AT) to incorporate related humanistic and social processes (Kuutti, 1996 in Lyle & Cushion, 2010) which reflect and relate situations of; subjects (players), objects (ball and target), actions (passing, receiving and movement) in ‘operation as a dynamic picture’ in contextualised relevancy (Jones et al., 2010 in Lyle & Cushion, 2010). As with constructivist theory, there is not only a transfer of any previously learned aspects, but also a construction of knowledge that can lead to more independent or autonomous practice; to relate, integrate and automate the specific aspect of play (Siedentop & Tannehill, 2000).

Coaches could readily recognise that (young) players will always ask in training sessions, ‘when are we going to play a match?’ So relating aspects of the coaching sessions to game situations will serve to embed the application
of tactical coaching to fulfil the players’ needs to ‘play a match’ (Light, 2004; Wein 2001; 2004; 2007; Launder 2001; den Duyn 1997). Although, in studies of Game Sense approaches (Light & Robert, 2010; Thorpe, 1997) and TGfU (Light, 2004; 2006; Bunker & Thorpe, 1984), Light (2010) revealed that this pedagogical perspective had no real impact on ‘what actually happens or changes as coaching behaviours’ (Light, 2010 p103). However, the same study by Light & Robert (2010) identified that Game Sense (Thorpe, 1997) was effective for the learning of perceptual skills on the field (of play) and also developed decision-making abilities.

Constructivism has had a considerable presence in the pedagogical context of building learning within the coaching for player learning, development and performance, particularly in a cognitive sense (Armour et al., 2011; Jones, Hughes & Kingston, 2008). Players’ cognitive processing (of being coached), has represented building learning and development of objectives in development, knowledge understanding and performance. The constructivist approach to build learning and develop skill, contextualises and conceptualises a transfer of constructed technical performance and tactical understanding to the competitive game scenarios (Siedentop, 2000). It is to recognise the constructivist tenets within players’ learning, development and performance generally, but more importantly; in aiming to produce creative and independent performance in the tactical sense. Then also to realise the potential of Piaget’s (1896-1980) ideas of ‘disequilibrium,’ and, Vygotsky’s (1896-1934) Zone of Proximal Development (ZPD) as classic concepts that can accommodate potentially creative (original and optimal) learning, development and performance constructs.

Such approaches as Game Sense (Light, 2013), and in line with the proposed Game Gain as player-centred approaches are very relevant and realistic to the context and actualities with football (sports) practice and play. Thus to develop ‘a sense of the game,’ through which implicit learning cannot be directly taught’ (Light & Robert, 2010 p112), and it has also been identified as it takes into account the social interaction and social processes involved in learning (Light & Robert, 2010). It was argued in Light and Fawns (2003), and also Light (2006) that Game Sense would be inclusive of perception, decision-
making and skill (motor) performance, as these aspects are ‘intimately interrelated and are developed simultaneously’ (Light & Fawns, 2003 in Light, 2006 p13). The power relationship is shifted between coach and player to a more reciprocal basis than a direct or instructional approach, and allows coaches to ‘let go’ of the didactic and over-instructional methods (Light & Fawns, 2003 in Light, 2006). Thus, through a (very) game-based coaching approach, which presents the unpredictable scenarios that build an experience of anticipatory skills as part of decision-making, as a ‘key strategy for developing player independence’ (Light & Robert, 2010, p113).

Silence was identified as a significant and prominent coaching behaviour, accounting for 40% of some coaches’ total behaviour in observation of football coaches (Cushion 2010; Smith & Cushion 2006; Potrac 2002). Previously, according to Claxton (1988) a coach that was silent could be interpreted as passive and off task, then Miller (1992, in Lyle & Cushion, 2010) logically gave clarity to the circumstances in that, a coach cannot be continuously ‘active’ in behaviours without some capacity of silence, either as a purposeful enactment, or to accommodate other aspects of coaching, as managing, preparation of progressions, evaluation and analysis. Although instruction (Metzler, 2000) is present in the coaching behaviours, periods of non-injection by the coach in identifiable phases of silent behaviour; permits and accommodates opportunities to practice, experiment, demonstrate and exhibit, to be creative and imaginative, as well as development of decision-making. Silent behaviour was defined by Cushion (2010 & 2006) as the coaches’ opportunity to observe and check learning, in addition to an accommodation of independence in learning and development. Therefore, silence could be ‘a tool for promoting learning’ (Lyle & Cushion, 2010, p47), accommodating learning and development through non-verbal and non-demonstrative behaviours. Lyle and Cushion (2010) also suggested that periods of observable silence behaviour can be inter-dispersed with cues as; instructions, corrections, hustles and feedback. Within the coaching behaviour of silence there is the interaction or intentional on-task aspects of observation, analysing and monitoring to check learning; this would represent accommodation to player-centred learning, creativity and imagination,
emancipation to experiment (have a go) and (game-related) decision making opportunities. This accommodation prompts the cues of coach-player interactions of feedback and facilitation that sit within the systematic observation categories referred to in this research. Silence could easily be interpreted as a passive element of coaching, especially those that have researched and possibly advocated the traditional (Martens, 2004) as instruction (Metzler, 2000). However, silence can be an intentional mode of coaching behaviour that accommodates and facilitates the direct behaviours (as instructional, facilitative feedback), and also indirect behaviours (as opportunity for creativity and imagination, emancipation to experiment) with the permissibility for mistakes as learning opportunities and decision-making (Cushion & Jones 2001; Smith & Cushion 2006 & Potrac et al., 2007 in Lyle and Cushion, 2010).

Inclusive to approaches to coach education ideas, content has been based on motivational theories of intrinsic and extrinsic agency, outcome and ego, mastery and task (McMorris, 2006). The behaviourist (motivational) perspective as traditional and Instruction (Martens 2004; Metzler 2000), exhibit an autocratic balance, as responses to stimuli, or performance to inputs that would be the objectives. This suggests a rigidity of expectant decision-making and stringent obedience within a predominantly autocratic base of coaching behaviours (Amorose and Horn, 2000). The application of motivational theory does not go far enough to facilitate ‘learning environments where the players are challenged and stimulated to comfortably take responsibility for their own learning.

Behaviourism is rudimentary within the coaching process as player learning, development and performance, as; coaching inputs through practice, becomes experientially improved as performance (Thorndike, 1911; Skinner, 1952; Vickers, 1995). The behavioural process exemplifies the traditional approach to coaching (Martens, 2004) as instruction inputs (Metzler, 2000; Rink, 1985) exercising practice conditions and constraints based upon tactical and technical objectives. Such fundamental behaviourist aspects as instructional coaching behaviours represented as stimuli have been evidenced as predominant behaviours but cannot so readily accommodate
freedom of expression, imagination, creativity or independence through experimentation, instead this could narrow opportunity through systematic training schedules (Memmert, 2010).

With coaching method as stimuli and response and described as traditional with direct instruction, command, scold, negative re-modelling; methods which have evolved to use the (specific) game in variant forms as a platform (Light, 2013). These approaches such as TGfU, Game Sense (*inter alia*) have considered objectifying an understanding at a more tactical level of in-game participation, moving beyond just the ‘what’ to do in the game (with ball, at-action & local-to-action’) but also the ‘how’ & ‘why’ (shifting towards more problem-solving and decision-making), and also the ‘where’ & ‘when’ (suggesting a shift of participative involvement relating to positionality in the game or practice?)

Educationally and pedagogically, narrowing opportunity with direct instruction and command style coaching is scientifically didactic and only motivational in the sense that it is a behaviourist control, delivering a bias to conditional rather than optional objectives as learning, development and performance aims. Although there is an imperative for player motivation with age-appropriate consideration and physiological variant maturation within coaching; there is opportunity to identify behaviours that can accommodate these factors and impart knowledge.

Only in recent years, has research and writing just started to advocate a shift away from a coaching process of knowledge transmission (Light 2004; Cassidy, Jones & Potrac, 2004). Light (2006) viewed this focus as a very passive transmission of objectified knowledge that does limit the coach-player interaction, even as a player-centred strategy. Trends towards a greater pedagogical understanding in relation to a more active and interactive process of learning has resulted in a shift away from didacticism, to more player-centred approaches as complex situated social processes (Light & Robert 2008).

This level of interaction is a key tenet to constructivist perspectives in learning and a prominent feature of Game Sense and TGfU, that have accommodated
the notion of ‘player independence’ (Launer & Piltz 2006 & Light 2004). Mosston & Ashworth’s (1986) 2002 in Jones et al., 2008) spectrum of teaching styles draws attention to the possibility of coaching as teaching, and doing more than just transmitting knowledge (Mosston & Ashworth, 1986 in Jones et al., 2008). There would seem to be an opportunity to develop players to be independent and becoming less dependent on the coach (Light, 2008), as the effectiveness of coaching as instructional behaviours mainly provides a direct but limited transfer of knowledge (Metzler 2000).

Despite more interest being afforded to pedagogy within sports coaching communities, there seems to be insufficient recognition of curriculum (Cassidy & Kidman, 2010). Wein (2007) tailored practice structure more specifically as possible situations and scenarios most commonly encountered with team sports, instead of skill mastery. The scenarios’ based games incorporated progressive sequences of games, with aims and objectives (skills) where young players were required to problem solve the encountered challenges. An aspect that refines (taught) skills as corrective exercises and games can; enhance previous development and sees transference of previous learning to a different progressive level or competitive situations. There would then be a construction of abilities and skills that are developed with relevancy, so the players can see this clear link practice and matches, which would ensure players, are always highly motivated (Wein, 2007). Football, as a invasion team sport is full of unpredictability of; complex and completely different situations that players will encounter, and this needs to somehow incorporate the vast spectrum of decision-making for actions of techniques and skills to apply to any scenario.

There is a pertinence and imperative to; enhance, change, shift or foster coaching behaviours within the positive guiding principles to potentially create new conceptual understanding of coaching behaviours. The contents of Chapter Three considers many facilitative tools as concepts, principles and objectives that ultimately prioritise developing coaching behaviours for accommodating continuous psychomotor and socio-physical participation (see Chapter Three).
Having reviewed many aspects of coaching behaviours, the next section will review some literature on video analysis that would relate to the observable behaviours.

2.9 Video Analysis in relation to coaching behaviours

Within the needs of capturing, reviewing and observing video of coaches, in; ‘that which has occurred’ within recordings, video can capture aspects that may go unnoticed if reliant on other methods (Garcez, Duarte & Eisenberg, 2011). The Researcher views the inclusive reviewed literature relating to video analysis and education more meaningful than that which is only attributed to sports coaching and performance.

Video for analysis/observation should represent the sense of the filmed subject (as the coach in this research) being there within those whole and entire moments of the short segments of microanalysis. Jewitt (2012) added to this with; ‘chronological verisimilitude’ is to conceptualise how video shows ordered events, that are not necessarily completely chronological, but as a way to understand aspects as meanings in relation to the events. Video is necessary (or better, subjectively/objectively) ‘whenever any set of human actions are complex and difficult to be comprehensively described (by the observer of that video as it unfolds)’ Loizos (2008) in Garcez, Duarte & Eisenberg, 2011 p250), and ‘a fuller contextual view of action from multi-perspective cameras can be achieved (Pea & Hoffert, 2009 in Jewitt, 2012).

Recorded video as a real-time sequential medium can ‘preserve the temporal and sequential structure which is characteristic of interaction’ (Knoblauch, Schnettier & Rabb, 2006 p19). ‘Rationale and justification’ can be captured through video recording and analysis as; 1) real-time sequential record, 2) fine-grained multimodal record, and as 3) durable, malleable and shareable and describable record (Jewitt (2012), and to ensure misinterpretation or distortion in attempting to understand an interaction (Jewitt, 2012; Lemke, 2009). The participatory use of video in recording of coaching-based interactions could be verbalised (and re-viewed in post-event) to empower
participants with; ‘control of the process of making their experiences visible’ (Jewitt, 2012).

According to Jewitt (2012), a fine-grained multimodal video record can detail ‘gaze, expression, body posture, gestures’, focus the record in visual context, with events sequential yet reviewable (if required in review for stimulated recall). The addition of the audio with visual recordings and also the speech and voice; verifies and builds upon the identified aspects in review to validate multimodal records.

To avoid the overwhelming overload of (over) rich data, that can lead to over descriptive and weak or distorted analysis as sensory overload (Snell, 2011 in Jewitt, 2012), tools such as systematic observation frameworks or those that carry operational definitions can identify events or (coaching) behaviours that contribute to the data. To facilitate the process specific moments of video can be viewed in slow, normal or fast motion, freeze frame, with or without audio, to allow different examining viewing perspectives; raising micro clips of actuality to macro levels of analysis if required. The use of multi viewpoints video recording is objective enough in itself, then to add the data of stimulated recall serves to discover further data at a richer level.

In pursuit of validity, Jewitt (2012), claimed that partiality is overcome by the use of two cameras ‘in-situ’ that does not generate ‘new events’ as a contrived representation of naturally occurring events as reality status. This is considerate of the potential of the Hawthorne effect, as the presence of cameras is fully overt and acknowledged as to minimise or even negate any influence of behaviours of those being recorded. Jewitt (2012) argued it could be problematic to infer that camera presence could cause ‘reactivity’ that may be viewed or interpreted as to potentially distort or undermine video quality as a valid source of empirical data (Jewitt, 2012).

In recording naturally occurring data, the use of video as reflexive medium for linking the reflection, compounds the reality and objectivity of practice and experience. This is to better understand perspectives and values from the position (of the coach) to facilitate and build better understanding of that which is being investigated, with, as in the case of this project, emergent data as an
outcome that is ‘layered and saturated with interpretation’ (Goldman, 2009 in Jewitt, 2012 p10). Pink (2006) added to this to purport the reflexive process is necessary for things to become ‘visible because of how we see them rather than simply because they are observable’ (Pink, 2006 in Jewitt, 2012 p10).

Viewable video is processed into (richer) data through the way of looking at it.

Mehan (1979), identified three phases to analysing video in review; Initiation; Response, and; Evaluation (I-R-E). Within the/a subject under investigation these principally represent; exhibiting the identified micro clip (for macro elaboration) to the participant (coach), and prompting or questioning for stimulated recall as Initiation (deductive for video data set to systematically sample, as; frequencies of occurrences for statistical analysis). The action to verbally describe the identified aspect in stimulated recall is the Response (inductive to identify themes or events as relevant to research). Evaluation of the exhibited video phase with verbal description enriches the data, as ‘narrative-evolving’ to involve the participant coaches more. Potentially to select clips as collaboration for adding richness in identifying micro clips that are relevant with meaning for coaches and adding commentary to enrich the whole meaning-making process. From an exploratory perspective, a project by Bokhove (2016), analysed recordings and measures of educational (learning) effectiveness as interactions between teachers and students as a network approach was proposed by using forms of video analysis (with live and verbal aspects) to combine (mixed and) multiple methods approaches to cover different contexts (so could be applied to sports in this case and applied to coaches and players). Interestingly, research by Bokhove (2016) conducted within classroom environments (not in sport activities) utilised video analysis to include temporal aspects and sequential events. So, potentially as play events and coaching actions occur as a whole learning environment, and where entire teams or practices are to account for all involved – directly or indirectly. There is no finite distinction of individuals possibly as ‘distinct groups,’ [as] ‘network is subject to constant change (Bokhove, 2016).

In the main, much of the research of Bokhove (2016), was concerned with interactions as verbal directives/exchanges, but then in considering whether a reply is necessary or involved. The research in this thesis seeks to identify
and evaluate the interaction activity of the coaches’ behaviours perspectives
then also, both; the reply as a verbal action/interaction, and also as a
response as a physical action/interaction. Beyond a narrow dimensional
interaction between coach [behaviour] and player/s, this research will attempt
to consider individuals as a community of interaction working towards the
communicative aspects of tactical decision-making of social relationships in
terms of network theory (Bokhove, 2016). As an interesting perspective,
Bokhove (2016) conceptualised subjects’ involvements, referring to them
textually as ‘nodes.’ Thus, participants could take the forms and
references as; Nodal centrality- as actors most central in network; Degree
centrality – assumption that person with most nodes/interactions holds a
special place of influence/significance (possibly the coach or principal player –
ball carrier) (McCulloch, Armstrong & Johnson, 2013). Then, Between-ness
centrality – is frequency that a node/interaction occurs on shortest path (so
potentially parallel to coaching behaviour directed to ball carrier or at-action
moments inter alia) (see this Chapter & Chapter Three). Then, Eigenvector
centrality – nodes’ importance or significance; so ‘connectedness to
significant others’ – and could relate the coaching behaviours to
communicative tactical understanding and decision-making.

2.10 Questioning

‘Paradigmatic shifts’ in coaching (Kidman, 2008) and coach education (Nelson
et al., 2012; Piggott, 2011) have witnessed significant contributions to further
evolve the educational processes to develop players/learners as problem
solvers and critical thinkers within the concepts of Game-based Approaches
(GBAs) and, as it was contextually, in Game Centred Approaches (GCAs). A
main contributory proponent and component behaviour in this shift, is seen as
Questioning. Whist also positively evolving nature of these contextual
approaches the focus became aimed on learning instead of teaching (Harvey
& Light, 2015; McNeill et al., 2008). Fundamentally, McNeill et al. (2008)
identified three main perspectives within GBAs (and GCAs) to achieving these
objectives, 1) session structure – appropriate balance of inputs and active
learning time; 2) product – how the time balance of sessions is used, and, 3) process – nature of questioning used as delegated inputs and interactive learning (McNeill et al., 2008).

Tactical Games Approach (TGA) (Oslin & Mitchell, 2003) provided the basis to achieving such objectives to offer a time balanced and time structured format that can be complemented with facilitative questioning. The TGA ideas facilitate accommodating a practice task with a technical focus within developmentally sequential and contextualised practice which preceded a progressive or conclusive situational game scenario that could be debriefed with a closing plenary, all emphasised in ‘teaching sports concepts and skills [...] that developed a tactical awareness (McNeill et al., 2008; Griffin et al., 1997; Oslin & Mitchell, 2003). The required shift in the role of the coach from instructing, controlling and directing, to, accommodating, guiding and facilitating, realised the need for coaches to have the ability to design the learning, analyse the performance in learning and make adaptations to optimise development (Harvey & Light, 2015; McNeill (2008). Then also McNeill et al., (2008) proposed the use of ‘ideas, metaphors and/or buzzwords’ within session plans that would instigate and stimulate performance for learning and developing situations that link to opportunities for coaching interventions. Imperative and fundamental to accommodating learning, developing and performing opportunities to players was the consideration and use of questions, and the nature of questioning; the type, timing, target (McNeill et al., 2008; Turner, 2014).

In addition to purporting the requisite ability of coaches to design, analyse and adjust session plans, McNeill et al. (2008) proposed that; coaches should consider questioning as parts of the session. This should be conciliatory to the aspects of the session (explanation, checking understanding, intervention, progression, debrief), and coaches have the knowledge and skill to; develop productive and generative questioning (McNeill et al., 2008; Turner, 2014).

As an aspect that has been important within TGfU (Bunker & Thorpe, 1982) and Game Sense (den Duyn, 1997; Light, 2013), questioning as a social constructivist dynamic develops knowledge and ability through interactions
within teams/groups (Harvey & Light, 2014; McNeill et al., 2008). Questioning within social constructivism was recognised within the work of Dewey (1916) and Bruner (1966), but within GBAs for learning and development it is the notions of Vygotsky’s Zone of Proximal Development (ZPD) that are most relevant. Complex Learning Theory (CLT) (Davis & Sumara, 2003) conceptualises the appropriation and role of language and dialogue as verbal interactions (as questioning and answering interactions) that enact knowledge (Harvey & Light, 2014). Then that, CLT contextualises learning as (continuous) adaptation and interpretive, cognition as social processes, and within GBAs that learning, development and performance are process and product of conversation and interaction of the cognitive and physical, but all within a reciprocal interactive environment (Harvey & Light, 2014) as questioning provides the critical link between cognitive and social learning (Cazden, 2001 in Harvey & Light, 2014). This coupled with ZPD, more focus and purpose is achievable through questions and questioning for an ‘actual development level [as] determined by independent problem solving [as a higher level of] potential development as determined through problem solving’ (Vygotsky, 1978 p86 in Harvey & Light, 2014).

Coaches should have ability to construct a learning environment in order that players interact with others to; develop ‘game sense’ and ‘understanding in action’ (Light, Harvey & Mouchet, 2014; Lauder, 2001). Within the purposeful interactive environment, skilled use of appropriate and purposeful questioning empowers players with responsibility for their learning; individually, collectively and reciprocally, and for players to; learn how to learn (Light, 2014). It was found that such inclusive approaches with elite level coaching (in New Zealand) that the use of questioning promoted positive and stronger interpersonal relationships between players (and coaches) to empower and motivate players to; think, reflect, self-monitor, and to; best solve problems and make (correct) decisions (Evans, 2014 in Harvey & Light, 2014; Oslin & Mitchell, 2006).

‘Questioning is pivotal […] for stimulating high levels of thinking’ (Metzler, 2000), and the type of question and the why and how the questioning (in nature) is conducted is even more important (Harvey & Light, 2014; McNeill et
al., 2008). For the purposes of differentiation for individual players or
groups/teams, question types may range from closed (only requiring a ‘yes’ or
‘no’ answer) to open (requiring a more constituent answer). The former could
still only inquire and probe at a surface or inauthentic level, essentially heavily
convergent and fact-finding (factual/analytical) but not leading to meta-
processing or metacognition for higher level decision making and problem
solving (predictive/applied synthesis) (Harvey & Light, 2014; McNeill, 2008;
Kracl, 2012; Cazden, 2001). Relevant studies have evidenced high
percentages of; questions only requiring answers to a literal level of
comprehension (knowledge recall, fact finding; factual/analytical) 93%, and
only 7% being openly interpretive requiring deeper inquiry (predictive/applied
synthesis) (Daines, 1986), similar to McNeill et al. (2008) with only 6.7% of
questions being open-ended or divergent to develop understanding and ability
of tactical awareness (predictive/applied synthesis) (Harvey & Light, 2014;
McNeill et al., 2014).

Whereas (over-emphasis on) instructing players limits opportunities for
players developing decision-making and problem-solving, the necessity to
understand and use questioning as a facilitator-coach. Then as it has been
recognised in sports coaching that divergent types of questioning to effectively
develop decision-making and higher order thinking (McNeill, 2008; Ofsted,
1994 as a general quote relating to questioning). Less tactical knowledge and
ability is often required to make responses to convergent, fact-finding
questions than divergent types that require higher-order thinking for decision-
making and problem solving to generate interactive collaboration
(predictive/applied synthesis) that would build on the factual basis
(factual/analytical) (McNeill, 2008; Ennis, 1994).

It was inferred in the works of Harvey & Light, 2014, Kracl, 2012; McNeill et
al., 2008, which within session planning and execution to use a starter
question would be good practice, and if done appropriately would make the
process of questioning throughout the session easier and more effective. A
starter question may instigate or stimulate cognition or metacognition that,
from the affective domain perspective, may lead to players being more
interpretive and adaptive in understanding the practice environment and those
others, interactive individuals (McNeill, 2008). Siedentop & Tannehill (2000) identified in games sessions that high percentages (up to 70%) of time were lost to time-management, transition and waiting, and therefore small percentages (>30%) for participative activities. Then if this is compared to the similar high percentages of closed, convergent and low-levels questions to the lower proportion of open, divergent and probing questions (McNeill, 2008; Harvey & Light, 2014; Kracl, 2012; Cazden, 2001; Daines, 1986), then the potential for appropriate questioning can be justified.

Constructively, questioning should be clearly linked to objectives (Light & Harvey, 2015). If facts are to be established or ratified, then convergent fact-finding question types are ample. Then to objectively link questioning to objectives such as; decision-making, assessing, evaluating, drawing conclusion and inferring consequences, all that incur meta-processing, divergent, open-ended and probing questioning (Light & Harvey, 2015). For coaches it is to develop understanding and skill to design sessions within the detailed examples of GBAs, in; planning, implementing and reviewing. These are inclusive of questioning (in nature) and the questions (in type, timing and target), then within the question type and nature, the process should build with questioning to a sense of clarifying, summarizing and prediction, to establish and affirm comprehension and seek direction for progression in player learning, development and performance (McNeill et al., 2014; McNeill et al., 2008).

‘You have not taught until they have learned. You have taught when they have learned how to learn. They are learning, when, after you have taught, and they are learning through their learning’ (Francis Pollin, 2011).

Through appropriate use of the interrogative as a coaching tool and coaching behaviour, learning and development can be guided and optimised positively. In the next section (2.11), questioning is reviewed within the notions of Positive Pedagogy (Light and Harvey, 2015), as a facilitative intervention, questioning is key to generate dialogue (language) and thinking processes as player learning and effective coaching.
2.11 Positive Pedagogy

Positive Pedagogy is, in part, mentioned throughout this Chapter, but this section will focus specifically upon the ideas and notions, as the Researcher feels the pedagogical imperative is necessary to explain the important function within the proposed new orientations for football coaching. Positive Pedagogy was contextually encapsulated by Light and Harvey (2015), as a conceptual operationalization for sports coaching, and as a ‘pedagogically framed’ extrapolation for Game Sense (den Duyn, 1997; Light, 2013).

Inclusive around the tenets of dialogue, reflection and purposeful social interactions to facilitate learning that were evident in TGfU (Bunker & Thorpe, 1986; 1982), Game Sense (den Duyn, 1997; Light, 2013) inter alia, the notions of Positive Pedagogy conceptualised and contextualise how ‘the coaching’ can provide for ‘positive affective experiences’ of facilitative active learning (Cassidy & Kidman, 2010; Light, 2014).

In avoiding a purely functional coaching approach and to engage players in game-based (complex) practice, Positive Pedagogy can provide core pedagogical features as a framework to promote ‘positive learning outcomes and experiences beyond [just] team games’ (Light & Harvey, 2015 p2). Then it was as ‘merely’ a framework that Light and Harvey (2015) presented Positive Pedagogy in attempts to address the ‘confronting challenges’ of changing coaches’ attitudes and behaviours significantly (ibid., 2015).

Positive Pedagogy as an orientation within GBAs can avoid the coaching bias towards highlighting what players cannot do, or, intervening on mistakes as controlling devices that add (unnecessary) pressure (Light, 2013; Light & Harvey, 2015). Renshaw, Oldham & Bawden (2012), proposed that the aforementioned would incorporate and foster autonomy, competence and relatedness to the coaching perspective of such concepts as Long Term Player Development (LTPD) (Kay et al., 2008) and retention of players within the game or sport.

Light and Harvey (2015) defined Positive Pedagogy as an extension of ‘Game Sense pedagogy.’ Then, as the pedagogical premises of Game Sense notions (Light, 2013) to accommodate positive learning experiences, but Positive
Pedagogy for coaching further theory was drawn from Antonovsky’s (1987) Salutogenic Theory and Sense of Coherence, and also from Positive Psychology (Seligman & Csikzentmihalyi, 2000).

Salutogenic theory and Sense of Coherence (Antonovsky, 1987), promotes a positive and holistic approach of socio-constructivism, that within sports coaching pedagogy (context), the focus is upon providing a framework what is required to ensure the applied pedagogy is positive and produce positive learning, development [and performance]. Differently, Salutogenic Theory and Sense of Coherence principally purported the affective/social domain over the cognitive, comprising foci upon; comprehensibility; manageability, and; meaningfulness – all to promote positive learning experiences (Light & Harvey, 2015).

Comprehensibility is the sense of experience and learning, leading to understanding, that is more than the ‘how’ to do things, but more about the ‘why,’ ‘where’ and/or ‘when’ (Light, 2013); as a deeper engagement in the process of learning, or the player being the centre of their* learning; learning how to learn (* ‘their’ as opposed to ‘the’). The thought levels for coaches are reflective in a pro-active and metacognitive way. Manageability explains the learning and development opportunities and experiences depending on the resources that the player/s drawn upon. Within a socio-supportive environment the level of challenge and pressure are levied against the skills and intellectual (cognitive) ability to facilitate and develop learning in performance. Meaningfulness situates learning within the game to engage players affectively and socially, as well as physically and intellectually. Within Positive Pedagogy, purposeful objectives and tasks give meaning to tasks and activities promoting positive perspective upon all expectation (Light & Harvey, 2015; Antonovosky, 1987).

Positive Psychology (Seligman & Csikzentmihalyi, 2000), promotes the positive aspects and qualities, as ‘flow’ of wellbeing, satisfaction and happiness. The positivism of providing environmental opportunities for individuals to thrive is to fulfil objectives and nurture talent; within ‘flow and
Mindfulness as positive states that generate learning’ (Seligman & Csikzentmihalyi, 2000 in Light & Harvey, 2015 p4).

Pedagogical features of Positive Pedagogy; principles for making learning positive through being immersed and absorbed in the playing ‘experience of action through intense concentration as the [player] is lost in the flow of experience’ (Light & Harvey, 2015 p5). The deep intensity of concentration and cited ‘lost’ state could represent unconscious-learning-competence, or what Memmert (2015) in the context of Tactical Creativity and decision-making called ‘Inattentional Blindness’ Memmert, 2010), where the focus of attention is not apparent upon the object (as ball) or action directly but effective decisions and actions are made in an unconscious but perceptual decision and action. This type of evidence will only occur within GBAs when the coach ‘gets the game right’ (Bunker & Thorpe 2008 in Light & Harvey, 2015 p5).

To promote Positive Pedagogy, Light and Harvey (2015) identified Seligman’s (2012) five elements of the PERMA model. The acronym represents; Positive emotions, Engagement, Relations, Meaning and Achievement. As part of consideration of the coaching design and within GBAs, there is a consistency to engagement in learning, more socio-cooperative interactions and a greater sense of belonging (Light & Harvey, 2015; Light, 2008; Kretchmar, 2012; Wenger, 1998). The meaning within the learning and development is richer than in GBAs deliver opportunities to achieve objectives, individually and collectively as a team; for tactical strategies. Positive Pedagogy, inclusive of PERMA elements, reinforces what the player can do as a competence, then also how the player can utilise their interpersonal and intrapersonal socio-educative resourcefulness to resolve the progressions of learning through verbalised dialogue and reflective processes.

The framework of Positive Pedagogy, similar to Light’s (2013) derivation, used to conceptualise the ideas of Game Sense pedagogy and as Light & Harvey (2015) contextualised the notions to create an applicable practical framework, on which to shape and guide coaching. The proposed Game Gain orientations and principles present a formatted guide for coaches’ objectives, principles
and concepts. Then within practical representations of positive learning experiences that feature in GBAs such as Game Sense (den Duyn, 1987, Light, 2007) and as prominent content of the proposed orientation of Game Gain, there are four pedagogical features are presented as follows;

1) Emphasise (as much as possible) engagement with physical learning environment and learning experience; a realistic game with direction, opposition (pressure), ball (object) and target (goal, score zone, goal)

2) Questioning to generate dialogue (language) and thinking processes as facilitative intervention, coaching and reflection

3) Accommodate opportunities for players (individually/collectively) to be emancipated, experimental and creative, to try things, make mistakes and evaluate decision-making and problem-solving (individually/collectively) as cooperation and collaboration

4) Provide facilitative and supportive environment in which; being experimental, creative, take risks and trying things out that result in mistakes, harnessing them as learning and development opportunities, all within emotional commitment

Adapted from Light et al. (2015)

Questioning (see this Chapter and Chapter Three) is promoted within Positive Pedagogy as it is with Game Sense and other GBAs, which is purported within the proposed new ideas within this thesis. Questioning stimulates interrogative conjugations that form questions and answers of; the factual; analytical; predictive, and; applied synthesis (see Chapter Three). The use of questioning has evidenced challenges for coaches (Light & Robert, 2008; Light et al., 2015) as traditional and habitual interpretations have relied upon directing knowledge and instruction, transmitted from the coach to the player/s (Light, 2008 in Light & Harvey, 2015). In the truer sense of Positive Pedagogy, knowledge is not the object but rather the tool, but also knowledge should not represent power, nor be used to establish or implement control (Foucault, 1997). As Light and Harvey (2015) explained, knowledge can be strategized as 'problem posing' rather than 'problem solving,' and in referencing Freire (1993), Positive Pedagogy should accommodate emancipatory opportunity to
take risks, try things out, make mistakes and be creative and independent (see other sections in this Chapter and Chapter Three).

Within coach education as well as coaching in general, attempts to utilise Positive Pedagogy have been hindered by misinterpreting the theory or implementing inauthentic versions of positive pedagogies (Harvey & Jarret, 2014; Light & Evans, 2010). As a coach education example relevant to this research, the Rugby Football Union (RFU) used Game Sense theory (and thus inclusive of Positive Pedagogy) for coach education and coaching programmes. Review and research showed that the elements of Positive Pedagogy within the Game Sense ideas were inauthentic and quickly diluted as the intent objectives were disseminated and filtered through trainers, educators and through to coaching at a high level (Light, 2015).

Ultimately, Positive Pedagogy would be proposed as a contributor for ‘improvement of performance.’ With the inclusions of Antonovsky’s (1987) Salutogenic Theory and Sense of Coherence, and also Positive Psychology (Seligman & Csikzentmihalyi, 2000), there is a more than holistic sense of considering self-confidence, resilience, competence and creativity, within a very social natured learning environment. Inclusive of individual player learning, there are democratic processes of tactical and strategic enacted decision-making. Learning how to learn, with greater generic transference; from training to matches, across sports and across life. Light and Harvey (2015) identified that Positive Pedagogy ‘could make a contribution towards helping elite-level, professional players meet the challenges of developing post-playing careers and enhance well-being’ (Light & Harvey, 2015 p13).

Pedagogically speaking, the ideas around Positive Pedagogy fulfil the objective to ‘learn how to learn’ and that a positive psychological state can accommodate a greater interpersonal and intrapersonal learning, development and [improved] performance. Positive Pedagogy within GBAs can permit for practicing and playing at an emancipatory level, to experiment, try things out, make mistakes as learning opportunities. An authentic understanding of Positive Pedagogy within GBAs can permit for Creativity,
Autonomy (as independence and Independent Learning) and Tactical Sense (CATS).

Across the spectrum of coaching behaviours that can be conceptualised and contextualised within Positive Pedagogy, it is those that consider and accommodate player creativity, promote autonomy and develop tactical sense, and the framework of Positive Pedagogy can increase player problem solving and decision-making, and also player autonomy.

2.12 Context of Coaching & Coach Education

The imperative importance of coaching behaviours and perspectives is the key to providing for more creative and independent learning, development and performance. (Piggott, 2011; Smith & Cushion, 2006; Mouchet et al., 2014; Hall et al., 2016) This will potentially provide for resilience and permanence for coaches and their coaching philosophies, approaches and perspectives that will contribute significantly to their coaching environments and the culture that fills them.

Culture, philosophy and methodology in coaching football, has largely remained unchanged, as within other invasion team sports such as rugby union and field hockey, as examples. In the sense that; traditional coaching approaches are, in the main, based on; direct instruction, command based coaching inputs, negative re-modelling, then hustling and scolding in interventions. Then, the traditional approach as aforementioned, is; coach-centred rather than player-centred which exhibit; skill-based drills over game-based practices (Smith & Cushion, 2006; Memmert, 2014; Metzler, 1990; Wein, 2007; 2004; Mosston & Ashworth, 1986). The literature has recognised that coaches are often players that have had a career of the playing that sport that they come to coach, so little previous coaching experience, and what they do is inevitably based upon their experiences of being coached (Armour, 2011).

Through the proposals and implementation the new ideas, the thesis aims to address situations around how and why coaching and coach education has
been ineffective in providing for, a) sustainable methods and approaches for accommodating and considering player learning, development and performance in a tactically creative and independent way, and then, b) the manner in which such result has been sought.

In presenting the approach of new principles to positively shift coaches’ perspectives and coaching behaviours to accommodate, consider and provide for tactically creative and independent player learning, development and performance. Within coaching environments, that include the in-game playing aspect, coaching effectiveness, has, in the main, been based on in-practice performance gains of the players, and largely as achievements and success as winning or subjective in-game performance statistics (Smith & Cushion, 2005; Gilbert & Trudel, 2004; Potrac, 2002). Then also this view often carries win or lose at the top of that hierarchy (Smith and Cushion, 2005).

The need for this research, is motivated by this need to shift behaviours and culture, but not by loading coaches with pedagogical theory and exacting structure for coaching practice, but by presenting principles as framework to actively coach individuals, units and both) teams/sides, a paradigmatic shift perspectives in coaching behaviours is objectively sought to realise cognitive decision-making and actions that are inclusive of tactical, technical and skills aspects. In providing for positive affective experiences of learning for both coaches and players.

There is perceived (by the Researcher) a real need to ‘un-pack’ and ‘re-present’ a contextual and conceptual approach that can promote a positive shift in coaching as perspectives and behaviours that are more inclusive to the objectives of tactically creative play and player independence. Then also towards a shift in approaches to coach education

Thus, although players’ learning, development and performance has been reflective of taught and learned playing and practice progressions, and suitably substantiated by sports pedagogical theory, there is a need to offer principles of an orientation to coaches to enhance this further. Often, the pedagogically informed directives mainly have only provided for fulfilling the educational and pedagogical (Armour, 2011) remit and policy that has largely
been in the research context and has not (to-date) been embedded or implemented at a sufficient level within football (or other sports) environments to successfully effect the coaching culture.

Within National Governing Bodies (NGB) of the sport concerned, regional organisations, clubs, elite level and development, academies, grassroots (seniors-children) the coaching population’s mind-set is in large, based on their own experiences of playing and being coached as a player or witnessing others’ coaching. Prior experience will ‘exert a strong influence on what and how you learn,’ (Armour, 2011 p4) with such experiences not only effecting and influencing coaches own beliefs about what and how they learn, but having an unsubstantiated belief on how young developing players may learn, something Bruner referred to as ‘folk theories’ (Armour, 2011 p4), and although coaches ‘typically have a good understanding of the sport they are coaching,’ (Light, 2013 p8) that is not representative of an understanding of how best (young) players might learn and develop. As only a presumed tacit knowledge, folkloric in context; this is prone to influence what a coach or coaching system deems suitable or best for the (young) players in football and potentially other sports.

As a result of the concerted drive from the work of Bunker and Thorpe (1986), den Duyn (1997) and the Australian Sports Commission (ASC), Australia has seen a concerted drive both in coach education and approaches that educate coaches to be more knowledgeable pedagogically and able and effective in implementing the understanding in practice; particularly with Game Sense (Light & Robert, 2010; Light, 2006; 2004). Although the concept of Game Sense has been seen as innovative approach that has facilitated some coaches to rethink their practice, the sense of pedagogy as an understanding of learning and teaching has had little impact to effectively and positively shift coaches and their practice (Light & Robert, 2010).

Within coach education in England, efforts have been made to disseminate Game Sense methodology (den Duyn, 1997; Light, 2013) within Rugby Union coach education as a good example, and also (to a certain extent) in football. These examples exhibited game-based and player-centred approaches that
included pedagogical substantiation by using questioning methods and review tools that facilitate learning and development to place the player (as learner) and the game at the centre of the learning process (den Duyn, 1997; Light, 2013 *inter alia*). This pursuit of pedagogical understanding along with complex technical and skill based tactical approaches is where the conceptualisations are intended to emerge through this research and the ideas of Game Gain; aiming to fulfil more valuable meaning through practically theorising coach development.

Further trials that were trialled within the coach education of England Rugby (RFU) courses, review and research showed mixed responses (Reid & Harvey, 2014). As within Australian Rugby Union and New Zealand Rugby Union where there may have been more impact through the implementation and research extended to include Game Sense pedagogy (Light, 2013; 2011).

Independent learning theory is seen as key to substantiate coaching behaviour categories and definitions 6 to 14 in systematic observation tool (see Chapter Three). The independent learning theory and the coaching behaviour categories aim to accommodate and facilitate players’ un-predetermined opportunity to learn and develop, and to coach creatively and constructively and towards playing with autonomy and non-dependent of coaches whilst in game. Tactical Sense is seen as an understanding how players through learning and development apply a cognitive and physical action to the scenarios of the game (Gréhaigne *et al.*, 1999). The proposed ideas of Game Gain would offers a distinct coaching orientation as a framework of principles to facilitate coaches and coaches’ behaviours that would be supplementary or complementary to their experiences and influences of coach education thus far in their careers - to objectively accommodate coaching as learning, development and performance of CATS.

Coaches' practice effectively to change and shift coaching behaviours to be more aware and inclusive to the decision-making and action aspects of; perception, process and product and promote such notions as creativity in the tactical sense (Memmert, 2015), and pedagogically contextualise the player-centred learning and development opportunities within the ideas of
independent learning (Rinaldi, 2006; Edwards, Forman & Gandini, 1998; Malaguzzi, 1953) that will be more detailed further within this thesis.

Rasmussen, Glăveanu & Østergaard (2020; 2019) identified a lack of research on how creativity-nurturing activities are perceived and applied by coaches and how this affects the players’ [attempts at experiencing and developing] creative process and production. Rasmussen et al. (2020; 2019) designed and implemented in their research; creative exercises (CE) that were collaboratively planned in design meetings (DM), and then Rasmussen et al., (2020) derived creativity-nurturing approaches (CNA) to allow coaches and players to develop implicit beliefs about creativity; and how it [creativity] is ‘conceived, valued and developed’ (Rasmussen et al., 2020 p3). The evolved methodology of CNA addressed any pivotal concerns for development of coaches, empowering them to provide objective sessions for players in which they could accommodate and facilitate for; enabling solving in-game problems; stimulating engagement; facilitating learning; enhancing opportunities to win (Rasmussen et al., 2020).

‘Conceptual tensions are embedded in coaches’ beliefs and assumptions about creativity (Rasmussen et al., 2020 p16), as coaches habitually were adverse to innovative ideas as practical changes, difficult to maintain pedagogical shifts, and that players in elite environments (where performance as results is key) often prefer traditional coaching behaviours (to be instructed, scolded and corrected) (Rasmussen et al., 2020; 2019).

Within research, Rasmussen et al. (2020) identified a need to invent new ways to facilitate creativity […] and to explore the environment from the perspective of the coaches in relation to creativity. For which their pragmatic, future-orientated action philosophy to objectively advance the practical situation, challenged limiting structures to expanding future potentials for emancipatory experiences and perspectives (Rasmussen et al., 2020; 2019). There was also an intention to avoid confusing; ‘creative coaching’ and ‘coaching for creativity,’ and ultimately to purport that any coach education programmes should be focusing on how to nurture creativity rather than impose it.
In identifying that coaches may need to do the opposite of their normal practice, lose control, suspend judge, use alternative intervention methods, permit failure, in this sense and to align to Game Gain research, it is the coaching behaviours that would be considered key.

Deriving at the need for coach education on how to nurture creativity, the main points to draw from Rasmussen et al. (2020) [attempts] ‘that embracing creativity in soccer practice had the potential to revitalise curiosity in terms of the players’ desire to learn about particular nuances […] try new solutions’ (p10) but such ‘facilitation of creative actions was envisioned to contribute to de-robotization (p12) and to escape traditional approaches to coaching and shifting proposition and dissemination of coach education (for more literature on Coach Education see also section 2.15).

Essentially coach education could aim to better inform coaches about their Coaching, and then ultimately, Tactics and Strategy (see next section).

**2.13 Tactics and Strategy**

It was considered by Gréhaigne, Godbout & Bouthier (1999) that tactical approaches made it necessary to consider ‘constructivist’ versus ‘cognitivist’ teaching approaches and learning processes, as to what type of coaching orientations (as inputs and interventions) would be most effective for performance of tactics and strategy in team sports (Gréhaigne, Godbout & Bouthier, 1999). These aforementioned authors tried to formulate operational coaching definitions to categorise indirect and direct teaching and learning in the tactical and strategy sense. They proposed a number of variations: that a direct approach that would be objectively subject matter-centred, and could present a reproduction of tactical specific situations; a more indirect approach which can also be objectively subject matter-centred, and also player-centred, but to consider that (possibly) outside of tactical and strategic reproduction derived from direct instruction, that there is an external reality independent to the players’ cognitive understanding (Mouchet, Light & Harvey, 2014; Mouchet, 2006; Gréhaigne, Godbout & Bouthier, 1999). The former could be
better understood as being convergent, and the latter being divergent - where tactical understanding has been learned and established but there is opportunity to divergently and experimentally construct and (potentially) develop more cognitive ability. As with classic constructivism, Piaget (1896-1980) and Vygotsky (1896-1934) both upheld the notion that a process of disequilibrium is imperative to building learning and development through coaching (Jones, 2008). Differentiation in optimal task setting, accommodates the opportunity of the Zone of Proximal Development (ZPD) of Vygotsky (1978), with individuals challenged to optimise output levels, and additionally with facilitated and peer learning constructs through disequilibrium (Jones, Hughes & Kingston, 2008). The importance of appropriate language as verbal interaction as questioning is essential as a constructivist approach to provide appropriate guidance, facilitation and a non-prescriptive learning and development (Light, 2013; Light & Fawns, 2003).

Language, as verbalisation, was seen as very important within TGfU to bring practice and play experience to a conscious level, to discuss and reflect, to develop and articulate as knowledge in action (Light, 2013; Light & Fawns, 2003). Questioning was the most pertinent aspect within the language exchange, to ensure the active learning is player-centred and enquiry-based on a generative, discovery level. Thus answers (to questions), and decisions and actions (to situations and problems) are not pre-determined, allowing for more creative and innovative thinking and action on a more independent level.

Coaches who are engrained in traditional coaching approaches would be accustomed to setting structured objectives and delivering direct verbal instruction, often with at most, an interventional closed question. It has often been evidenced that it is a challenge for many such coaches to apply game-based approaches that would lend practice to being player or learner-centred (McNeill et al., 2008, Roberts, 2011), and even more of a challenge to initiate and facilitate active learning processes within players/learners with more open questioning methods (Light, 2013). Coaching interventions that involve closed questioning, that would warrant potentially only a ‘yes’ or ‘no’ answer from players are often followed by lengthy explanations from coaches that are effectively stoppages or at least passive interruptions that deny players (as
learners) of time and opportunity, not only of enjoying the game, but also learning and developing decision-making to applying actions, and also understanding the game *technically and tactically* (Light, 2013). Such actions can be autonomously contributory to notions of Creativity as Tactical Sense.

### 2.14 Context & Scene

The context for this thesis focuses on various coaching environments within English professional football club’s academy (CAT1). The purpose for Game Gain research in this context is levied against the traditional coaching methods that have provided for non-game-based approaches and non-player-centred coaching methodologies with high levels of direct instruction, command style inputs and repetitive drills (Martens, 2004; Metzler, 2000; Mosston & Ashworth, 1986). Thus towards the objectives of coaching and accommodating learning, development and performance of Creativity, Autonomy & Tactical; the purported principles will offer to frame the coaches game-based conceptualisations that are contextually player-centred and considerate of the individual player and all individuals within the team/s. The conceptual and contextual use of the proposed ideas will frame perspectives and attitudes to coaching behaviours that would ideally be converse to the reliance upon command style (Mosston, 1986) and direct instruction (Metzler, 2000) to accommodating and facilitative methods as an important part to changing the coaching culture within football coaching in England, and thus to improve accommodating player learning, development and performance to potentially produce more Creativity, Autonomy & Tactical Sense in players. This aforementioned is an annotated summary of informal discussions that have contributed to some ideas herein with persons that work with the game of football, to whom anonymity and confidentiality is extended.

### 2.15 Coach Education for coaching in football

From trials in Rugby Union and other implemented approaches to coach education around the notions of ‘Game Sense’ as an attempt to impart
understanding of pedagogy for coaching and teaching that put the player and the game at its centre (Reid & Harvey, 2014). This is to add to the changing formats for adapting and changing game formats as appropriate (age group specific). This is to adapt the number of players per team, size of pitch and fewer rules with technical aspects being added as players grow and develop physically and psychologically.

Game Sense pedagogy has been contributory to sports coaching resources and award courses in efforts to impart learner-centred pedagogy and game-centred approaches within coach education programmes (Reid and Harvey, 2014). This use of Game Sense is a pedagogically substantiated effort to challenge the traditional, skill-based and coach-centred methods, and to evolve towards game appreciation, tactical awareness and heightened decision-making skills and attributes (Reid & Harvey, 2014; Light and Fawns, 2003).

Beyond the focus of providing a ‘means of understanding learning in and through games’ (Light 2013, p3), principles should facilitate coaches’ practice and behaviours, as intended to be considerate in perspective, and accommodating in practice, to shift behaviours and perspectives beyond the traditional approach of didactic demonstration and instruction that is scolded and corrected (Martens, 1997). Principles could contextualise players’ learning in games and in practice, whilst coaching accommodates learning, development and performance towards greater decision-making, as; awareness and anticipation, and in actions, as; adaptations and applications, which constitute creativity in the tactical sense and independent learning.

The notions of independent learning are purported to pedagogically conceptualise the coaching approaches and contextualise learning, developing and performance of creativity in the tactical sense. The ideas of independent learning are presented from the ideas of the Researcher of this thesis of that which has been derived, and, extrapolated from the ideas around Reggio Emilia Approach (Malaguzzi, 1953, Edwards, Foreman & Gandini 1998; Rinaldi, 2008). Independent learning for Autonomy underpin pedagogical theory to substantiate the ideas of Creativity, Autonomy and
Tactical Sense for the decision-making aspects from sports coaching literature and research, that further examines the ‘how to do, instead of, just what to do. The creative approach that is exploratory and not pre-determined discovers the ‘why’ to develop a deeper reasoning for players as learners and (further) develops the dialectic between theory and practice’ (Light, 2011 p5).

The practical and tactical objectives of any sports learning plan provide for; coaching actions, observations and interventions of; individual, unit and team play, as both ‘in possession’ and ‘out of possession.’ ‘In possession.’ Conversely, the framework approach accommodates both the attacking and offensive aspects and phases of the offensive team in possession as the normally identified visions of creative play, which would be the player with the ball exhibiting flair of movement, touch and execution, but also of the whole of the team in possession, and also of the players of the team out of possession.

2.16 Game Gain; coach sense, game sense

Through the review of the relevant literature this research thesis presents and proposes the ideas of Game Gain, as an orientation to coaching (see Appendix 8) (See Chapter Three and Design Chapter). The opportunity for coaches’ better understanding and application will be through the review, stimulated recall, reflection and metacognition of post-session reviews (see this Chapter, Chapter Three, Four & Five).

Through the Literature Review chapter, the chronology of developing coaching approaches within game-based approaches (GBAs) such as Teaching Games for Understanding (TGfU) (Bunker & Thorpe, 1986) and then emphasising Game Sense (den Duyn 1997; Light, 2013) as the closest relative to the new proposed Game Gain orientation to coaching.

Referencing to the proposed concepts of Game Gain, this research is intended to explore within case study methods to ascertain coaches perspectives in reflection and analysis of post-session video reviews. Traditional coaching approaches and even TGfU and Game Sense methods often placed foci upon player/s in possession of the ball as skill and technique
acquisition and performance (Williams & Hodges, 2005; Williams, 2003) which are also instructional, didactic, traditional coaching approaches (Metzler, 1990; Martens, 2004). The intention of the research is to explore the considerations of participation of all players (potentially) in all positions and of both teams; with the ball and without the ball, at the ball, around or near the ball and away from the ball, in possession and out of possession, then through transitions and neutral ball situations, based upon the premises of totally active perceptual-cognitive decision-making and actions as psychomotor processes of any/all players in practice or game.

Game Gain will present principles as an approach to frame coaching behaviours, and also to increase and improve learning, development and performance in line with the notions of Creativity, Autonomy & Tactical Sense. Game Gain is principally presented in context to its use within football (and Game Gain has been evolved to potentially be utilized (to variant degrees; as applicable) across; any levels/standards of football (professional, elite, academy development); all age categories (children to adult, with no distinction to the male or female game). The project will present and review literature of coaching, education, creativity, tactical creativity and also ‘independent learning’ that is relevant and contributory to the developing and evolving of the approach of Game Gain to positively shift coaching behaviours and coaches’ perspectives.

Decision-making (for players) is pertinent and pivotal to the proposed notions within Game Gain of; Creativity, Autonomy and Tactical Sense (CATS), and thus a very important factor to the Coaching Behaviours that will relate to the aforementioned CATS. Beyond the focus of providing a ‘means of understanding learning in and through games’ (Light 2013, p3), principles that would align definitions and understandings for Creativity, Autonomy and Tactical Sense (CATS) would serve as a framework to facilitate coaches’ practice and behaviours, are intended to be considerate in perspective, and accommodating in practice, to shift behaviours and perspectives beyond the traditional approach of didactic demonstration and instruction that is scolded and corrected (Martens, 1997).
Game Gain; coach sense, game sense principles can contextualise players’ learning in games and in practice, whilst coaching can occur in both. Game Gain accommodates learning, development and performance towards greater decision-making, as; awareness and anticipation, and in actions, as; adaptations and applications, which constitute creativity in the tactical sense and independent learning (see Chapter Three & Appendix 8).

Game Gain approach will intend not to be overladen with pedagogical, or, sports science theory, as ‘simple, clear, purposeful principles give rise to complex intelligent behaviours’ (Hock, 2012), and that, ‘complex rules and regulations give rise to stupid behaviour,’ (ibid.) and such unnecessary convolution and overloading of heavy theory can complicate such purported notions (Light, 2013; Armour, 2011). Game Gain seeks to conceptualise and contextualise coaches’ practice with understanding; the characteristics of apposite coaching behaviours (through post-session video review, reflection, stimulated recall and analysis). Further contributing these coaching behaviour (changes) as characteristics and dispositions - towards innovations in coaching (Light & Evans, 2013).

Similar to but evolved from the ideas of Game Sense (Light 2004; den Duyn, 1997), TGfU (Bunker & Thorpe 1982; 1986), Game Intelligence (Wein 2004, 2007) as Modified Games (MG) (Siedentop & Tannehill, 2000), Game Gain includes objective learning tasks to accommodate the coaching behaviour of linking practice (in training) to game and match context. Relating to Activity Theory (AT) to incorporate related humanistic and social processes (Kuutti, 1996 in Lyle & Cushion, 2010) which reflect and relate situations of; subjects (players), objects (ball and target), actions (passing, receiving and movement) in ‘operation as a dynamic picture’ in contextualised relevancy (Jones et al. 2010 in Lyle & Cushion, 2010).

Game Gain; CATS, would differ from Game Sense (den Duyn 1997, Light, 2013 inter alia) as it presents principles (as a framework) for coaches to apply as tangible objectives of playing and practising, decision-making and applying actions as psychomotor processes. Objectives that relate to decision-making (cognitive) and actions as psychomotor processes within the framework, are
accommodating in coaches’ actions and behaviours to coaching approach of participant players; with and without the ball, players near, around and away from the ball, and of players of the team out of possession, as well as the team in possession. Essentially, Game Gain approach is designed to enable coaching of any or all of the participating players; with the ball, at the ball or action, near and around the ball and action, and also, away from the ball and action.

Coaching behaviour is considered implicit to the decision-making as cognitive processing and actions within practising and playing, as learning, development and performance. A prominent component and function of Game Gain as coaching behaviours is that of questioning. There is a pertinence and imperative to; enhance, change, shift or foster coaching behaviours within the positive guiding principles of Game Gain.

As a principle concept proposed within Game Gain, ‘questioning’ is a prominent dynamic that is conceptually presented within the design of Game Gain. Within the proposed design of Game Gain, the implementation and nature of the question is determined and simplified for use depending on the formation of the interrogative by using; *what, where, when, who, why or how*, and combining with; *is, are, did, do, can, would, should, will, might, or could*. Then depending on the contextualised combination, this would infer that the answer or discussion would resultantly be; *factual, analytical, predictive or applied synthesis*. More detail can be read and viewed as a diagram in Chapter Three.

In Game Gain principles, the framework accommodates emancipation to experimentation with permissibility for mistakes as learning constructs. Independent learning, as it applies to sports coaching, capacitates the conceptualised notions and contextualised content of Game Gain. An objective of Game Gain through the framework of Positive Pedagogy is increased player problem solving and decision-making, and also player autonomy (see also Chapter Three).

Independent learning, as autonomy in Game Gain exhibits the non-specific objectives for learners to have control and choice of un-predetermined
learning structure, expressionism, ownership of learning and a reflective ability - developed via their (learning) experience (Rinaldi 2006; Edwards, Forman & Gandini 1998, Malaguzzi 1953). Independent learning within Game Gain is understood thus; not as a shift from facilitated learning to an autonomous level, but rather a self-initiated, self-motivated and innovative cognitive process.

As such, Independent learning within Game Gain requires an appropriation of coaching behaviours to accommodate the player learning, development and performance, and it is to shift the coaches behaviours and also perspectives of learning how to learn through Game Gain principles, to capacitate the notions of autonomy (player independence) and independent learning that of a self-sufficiency in learning and positive pedagogy (Light & Harvey, 2015; Poerksen, 2005), as already mentioned earlier in this thesis.

Game Gain principles and notions could consider and propose that coaches do not coach or teach through high levels of coaching behaviours that exhibit direct instruction or in a command style. Players are not objects as ‘passive receivers of knowledge but instead, imagination and problem solving as active, inquisitive learners’ (Light & Harvey, 2015 p2). Game Gain, as a framework of principles, imparts objectives that initiate and promotes active thinking and decision-making as playing objectives in tactical position and movement, possession actions and what to do without the ball. In promoting players’ independence, Game Gain will aim to accommodate and permit players to be more creative, and therefore learning within ‘development activities (builds towards) the acquisition of superior anticipation and decision-making’ (Roca, Williams & Ford, 2012 p1).

Game Gain approach will aim to bring about ‘coach sense’ of the decision-making objectives as perception, process and product that, offensively and defensively’ are inclusive to any or all of the practice and game participants. Game gain thus will impart ‘game sense’ to players through the facilitative coaching inputs towards emancipation, experimentation and participation of independently initiated and applied processes of decision-making as perceptual cognitive skills that shifts beyond what has been referred to as
expert performance (Roca, Williams & Ford, 2012; Eriksson, Krampe & Tesch-Romer, 1993) that forms learning, development and performance. This is represented within the design of Game Gain as; Constant; Connectivity; Cognitive, and; Controls – as continuity or continuous flow of psychomotor and socio-physical decision-making and actions (see Appendix 8 and Chapter Three).

Game Gain will seek to redefine the ideas about creativity and autonomy (as independence) to contextualise creativity in the tactical sense, and, as Autonomy or independence sports performance, learning and development. Game Gain presents an orientation as an approach to coaching and facilitating learning, development and performance both in practice and in games that realises the decision-making as perceptual-cognitive and psychomotor aspects as the key to creativity in the tactical sense and also player independence. As a shift in coaching behaviour, practice and training sessions are essentially game-based (team games with; opposition (pressure), direction (target flow), ball and aim (score) plus conditions and manipulations to produce scenarios and situations that, without specific technical objective overloads; consider and accommodate active-decision-making of perception-process-product, offering tangible objectives that are contextually tactical in all aspects of active participation.

Game Gain aims to establish an understanding of creativity in the tactical sense context of decision-making and action (perception-process-product) which realises the creative sporting performance, learning and development as an uninhibited, experimental and un-predetermined pedagogical journey that is not a process or rote and repetition but leads to greater player autonomy and less in-game coach dependency.

Tactics and strategy are practical realities of learning and development to the operational definitions of the performance, as objectives for players. This brings to life the learning and development aspects of decision-making, cognitive processing and actions as these aspects are transferred to in-game performance. Game Gain comprehensively purports and promotes the perceptual-cognitive as decision-making and psychomotor as action, through
the participative perception, process and product of attacking objectives and options. Game Gain also can comprehensively enrich and extend notions by applying the Game Gain principles for out of possession decision-making and actions (as defending tactics and strategy). It is within these senses that Game Gain approach distinguishes itself and delivers uniqueness.

Game Gain approach presents a framework of principles that address the actualities of decision-making in conceptually framing creativity in the tactical sense with football. The framework of principles capacitates coaching objectives that address the players’ actions, both ‘in possession’ and ‘out of possession,’ then also; decision-making and actions relating to their position (movement) and space relating to the decision-making and actions involved with; ‘perception,’ ‘process’ and ‘product,’ via the cycle of decision-making.

The nature of Game Gain and CATS principles and coaching orientation facilitate coaching to address participation and involvement; ‘on the ball’ and ‘away from the ball’ (of team in possession), and also ‘at the ball’ and ‘away from the ball’ (of team out of possession), as; ‘at-action’ ‘prior-to-action’ or just ‘in-action.’ The wider opportunity to all participants being actively involved in the coaching process builds a greater sense of active engagement for players, whilst facilitating coaches to address the learning and cognitive processing of development and performance, without being over-whelmed with pedagogical theory (Light & Harvey, 2015; Light, Harvey & Mouchet, 2014).

Within Game Gain, CATS offers a distinct coaching orientation as a framework of principles to facilitate coaches and coaches’ behaviours that would be supplementary or complementary to their experiences and influences of coach education thus far in their careers - to objectively accommodate coaching as learning, development and performance of Creativity in the Tactical Sense. Game Gain is presented within this thesis with specificity for coaching football (and then, potentially other team sports such as rugby, field hockey inter alia), as principles, objectives and methods of approach, and it is the specificity of the principles that make CATS (from Game Gain) distinct (from Game Sense inter alia). Game Gain aims to
provide for that appropriation and consideration in affording greater definition and understanding to CATS, whilst presenting an orientation to coach the notions for optimising players’ learning, development and performance (see Chapter Three & Appendix 8).

2.17 Summary

In summary, more consideration is sought through the research processes to collate and present emergent conceptual themes from coaches’ reflection and analysis through post-session review of video. Towards pedagogical perspectives of coaching behaviours, whilst accommodating the coaching processes that would consider the implications of coaching approaches that are appropriate to the elusive achievement of understanding and coaching creativity with the sense of autonomy and tactical sense in football and sport generally. Ultimately it will be the coaching behaviours that have the most impact upon individuals developing, learning creativity in the tactical sense, and for independence or autonomy in performance of playing as well as practicing.

According to Lyle (2002), there has been a distinct need for examination of literature surrounding coaching concepts that highlight the potential innovative notions of behaviours in coaching within sports, and opportunity for pedagogical and curriculum shifts in those contexts (Lyle, 2002).

Behaviours, as coaching behaviours, can represent a considerate philosophy of beliefs, values and principles (Jenkins, 2010) for appropriate and considerate approaches within coached training and playing environments. These could be a composition of apposite behaviours that accommodate opportunity with a conciliatory blend of behaviours that are inclusive to all players’ learning, development and performance for Creativity, Autonomy and Tactical Sense.
Chapter Three

The Design Chapter

3.1 Introduction

The Design Chapter sets out definitions that depict the relevant functions and operationally actualities that are offered as Creativity, Autonomy and Tactical Sense (CATS); as they feature within Game Gain orientation. (As a note; the wording of ‘Creativity, Autonomy and Tactical’ will appear in full within this Chapter’s text to maintain its fuller sense and meaning, and will appear as ‘CATS’ when in direct textual relation to ‘Game Gain’ wording).

Within the research perspective these rationale and substantiated aspects that are featured herein to;

- Frame and form linkage to the qualitative emergent data that was produced inductively from coaches
- To conceptually present relevant aspects of the design for Game Gain as a commercial directive of the Researcher

This will depict the concepts and principles that have been devised/designed by the Researcher for Game Gain as a commercial directive for consulting to the sports coaching and coach education sector, the concepts and principles will serve also to align to the inductive qualitative emergent data from coaches’ reflection and analysis of post-session video reviews. The presentation of these concepts and principles is not representative of hypotheses for the research or as preconceived notions to relate to deductive approaches.

This chapter brings together all the relevant aspects that have been reviewed within Chapter Two, as; the innovative and creative coaching orientation framework of principles for coaching; Creativity, Autonomy and Tactical Sense as coaching and coaching behaviours for player learning, development and performance towards some sense of independence and game intelligence (Wein, 2004).
It is to emphasise that within this research, as a case study and the research methods and processes employed (see Chapter Four) that the focus is upon CATS as a featured part of Game Gain. Game Gain content is included where it is considered necessary and relevant to depict and explain CATS, but as the full and inclusive content of Game Gain is too expansive to include and to cover as research, in the main, this chapter will refer to the relevant Appendices for further information.

By offering new definitions for; Creativity, Autonomy and Tactical Sense as conceptualised and contextualised content of the proposed Game Gain, the design depicts and explains the operational definitions that constitute Game CATS. The contents of this Chapter chart the concepts, principles and objectives of in-practice and in-game strategies or concepts that belong to the proposed Game Gain orientation for coaching behaviours and for player learning, development and performance.

The inclusive (and referred to) design principles and perspectives are intended to engage participant coaches in a process of pro-active reflection and metacognition to; understand, process cognitively and develop coaching behaviours. Whilst establishing profiles of coaching behaviours in performance, the processes of coaches’ behaviours to effectively contextualise coaching behaviours and thus promote the notions of the proposed Game Gain orientation for coaching Creativity, Autonomy and Tactical Sense. In the contextual and conceptual presentation of CATS within Game Gain (see this Chapter and Appendix 8), the principles of the orientation for coaching methods is applied within the contexts and environments of football in England. Specifically at an academy of a professional football club in England of Category 1 (CAT1) status, relating to the Elite Player Performance Plan (EPPP) system affiliated to the Premier League (PL) and English Football League (EFL).

CATS within Game Gain design proposes the opportunity for coaching behaviours to recognise that all players within the field of play are active learners and participants, and also that the aspect of CATS within Game Gain orientation processes are; active, enabling and empowering for coaches.
Collectively for both coaches and players, the concepts and orientation are not designed for short-term gains and winning, but rather for longer-term learning, development and performance. Even within competing at any level, the philosophical understanding to be evolved through the whole of Game Gain (see Appendix 8) is more about; ‘competitive performance over competitive outcome, then everyone wins.’ Thus, the concepts, principles and objectives are provided for to; represent, enhance and build the Game Gain orientation as; philosophy - effective now and for the future.

‘Future Coaching for Future Players for the Future Game.’ (Francis Pollin, 2012, as vocabulary that is attributed to Game Gain literature).

3.2 Philosophies

Philosophies for coaches and for coaching will vary from coach-to-coach depending upon personal opinions, experiences, values, perspectives, beliefs, and may also be influenced by a coach’s role objective/s (Cassidy, Jones & Potrac, 2009). Philosophy, therefore could be viewed as; ‘a set of values and behaviours that serve to guide the actions of the coach’ (Wilcox & Trudel, 1998); ‘a personal statement that is based on the values and beliefs that direct one’s coaching (Kidman & Hanrahan, 1997); ‘a comprehensive statement about beliefs that [...] characterise a coach’s practice’ (Lyle & Cross, 2002 p88).

Therefore, as not to inhibit coaches or (pre) determine their philosophical comportment or perspective, CATS and Game Gain orientations within this research will seek to enhance and enrich the coaches’ philosophies through the objectives, principles and concept as inclusive research processes of the proposed Game Gain.

Within the design purported herein, the over-arching philosophy for, and, of Game Gain incorporating CATS, is a fulfilment of coaching behaviours (change) that will aim to afford longevity and sustainability, potentially attained through the practice of Game Gain as a philosophy itself.
3.2.1 Concepts

Lyle (2002) posed the question about; what are the most appropriate set of concepts to [best] describe the range and variability in coaching behaviour and practice? To bring the philosophical beliefs and values to life ‘with purpose;’ a conceptual framework ‘is a necessary part […] to have a conceptual model with which to demystify practice’ (Lyle, 1996 in Lyle 2002, p24). Lyle (1996) goes on to imply that a conceptual framework can ‘create a template for education and from which ideological approaches and (individual value) frameworks can fashion [their] contextual significance’ (ibid. 2002). The proposed CATS and Game Gain orientation framework design is intended to be inclusive of such conceptual aspects purported by Lyle (2002) as; language and terminology, fundamental elements, modelling, values and evaluation, that bring forth purpose of; communication, development, analysis, behaviour, application and performance (Light, 2013; Lyle, 2002).

Game Gain is designed and modelled herein to promote the elements of; ‘coaching practice, coach education, professional development, coaching effectiveness and [the] research’ as promoted by Lyle (2002). In doing so, CATS and Game Gain conceptualises the new definitions and understandings for coaching Creativity, Autonomy & Tactical Sense within contextualised, authentic and real game-like environments.

3.2.2 Principles

The designed principles of Game Gain (see Appendix 8 for more detail) are the operationally defined components that conceptualise the orientation for coaching Creativity, Autonomy & Tactical Sense. The principles facilitate both planning and delivery of coaching objectives, and (change of) coaching behaviours to accommodate to more effective coach CATS as the objective principles Game Gain; coaching Creativity, Autonomy and Tactical Sense.
3.2.3 Objectives

Coaching objectives relating to coaching performance with player learning, development and performance will vary from coach to coach, ultimately to improve the effectiveness of the coaching.

The objectives that the definitions of Creativity, Autonomy and Tactical Sense within Game Gain are to positively enhance (and/or change) coaching behaviours through the conceptual implementation of Game Gain principles to evolve a coaching philosophy for coaching such notions as Game Gain, as; Creativity, Autonomy and Tactical Sense.

The principles as operationally defined herein that form the concepts that contextually define the operational functionality of; the coaching orientation; coaching behaviours, and; player learning, development and performance. Then within the intention of fulfilling these objectives, the orientation of Game Gain (with positive pedagogy) to coach Creativity, Autonomy & Tactical Sense, provides opportunity to contribute to a positive coaching philosophy as an objective.

The Design Chapter therefore sets out, and depicts the principles, concepts and objectives as functions and operationally actualities to Game Gain for coaching Creativity, Autonomy and Tactical Sense as a coaching model and learning philosophy for football practice and playing.

3.3 Game Gain; coaching CATS – a GBA type session

Principally, Game Gain concepts that comprises Creativity, Autonomy and Tactical Sense (CATS), suggest or propose a Game Based Approach (GBA) as a simplistic format to follow that is contextual and real to the subject game, this is the case of this research; at an academy of a professional football club in England of Category 1 (CAT1) status, relating to the Elite Player Performance Plan (EPPP) system affiliated to the Premier League (PL) and English Football League (EFL).
The GBA coaching session scenario can vary in size of area/pitch, numbers of teams/players and conditions as rules, as well as being dependable upon age (grade) and ability (level), and the variants can change according to objectives, Game Gain purports that the GBA practice should include:

1. Direction
2. Opposition
3. Object
4. Target/s

This simplistic framework should provide to accommodate the Game Gain principles and examine concepts for CATS coaching within a realistic game context that exhibit;

- Direction – players and teams attack forward towards target (goal)
- Opposition – pressure is present to provide for objective problem-solving and decision-making
- Object – a ball is present as a real game focus (as part of problem-solving and decision-making objectives)
- Target/s- a purposeful objective of scoring with the ball (as the object)

Essentially this format is very common practice at the participant club and is written within their philosophy (see Appendix 8).

Whilst there is scope for coaches to exhibit provision for these principles as a volitional action, within the design and implementation of this research, the focus will remain with the principles and orientation of Game Gain; coaching Creativity, Autonomy and Tactical Sense, as explained and operationally defined within this chapter and Appendix 8.

Therefore, the dispositional challenges might be for coaches to adopt (more) or build a GBA coaching practice game or part of, that includes; Direction; Opposition; Object; Target, and to establish objectives to accommodate/coach the objectives based upon the orientation and principles of Game Gain; coaching Creativity, Autonomy and Tactical Sense. The research is interested in the extent, to which, coaches could recognise, evaluate and demonstrate
apposite coaching behaviours that accommodate concepts and principles (as objectives) within their delivery (and planning) towards understanding of operational definitions. The research method of exploratory case study of coaching behaviour (originally in systematic observations) through post-session video review for stimulated recall where the research collates data of reflection and analysis of coaches’ perspectives and attitudes of their coaching behaviours. For a research perspective, such as the method described in this research (see Chapter Four), coaches would potentially be identifying in key/indicative moments that may feature using the principles, concepts and objectives of the proposed CATS as Game Gain orientation and conceptual framework set out herein to use coaching behaviours to; coach not just those player/s with the ball or at-action, but also to coach players near and away from the ball, in and out of possession as teams, and to provide types of coaching behaviours that is necessary to accommodate decision-making objectives that would relate to in-game actions of Creativity, Autonomy and Tactical Sense.

It is to point out that there are many [general] coaching strategies that approaches such as TGfU and Game Sense *inter alia*, that tend to focus more upon the attacking aspects, especially in pursuit of creativity as performance objectives (see Chapter Two). Again, such approaches have had a tendency to gravitate towards *non-game-based* (drill or block practice) concepts that are [often] not contextual to the real game (Light, 2013). It is also to reiterate Game Gain’s inclusiveness to accommodate decision-making principles of both; attacking and defensive objectives for players of either team – in, and out of possession. The Researcher often uses the following discourse in practice to emphasise the aforementioned; ‘possibility is the ‘what’ [of sometimes] being an over-rated statistic, it is about the ‘how’ of being positive without the ball or possession and ‘why’ player/s and a team can do that.’

‘Invincibility lies in the Defence, the possibility of victory in Attack. Attack to Defend, and from the Defence the Attack; Invincibility and Victory will be ours’ (Michael Francis Pollin *inter alia*, 2014)
3.4 CATS; the concepts, the principles and the objectives

This Design Chapter and more specifically the following sections, present the relevant principles; concepts; contextual objectives - that offer descriptions, explanations and operational definitions to the vocabulary, terminology and notions that constitute Game Gain orientation coaching relating to Creativity, Autonomy and Tactical Sense, as the proposed orientation for coaching football. The fuller detail of Game Gain can be found within Appendix 8. Within this chapter, and that of Game Gain content included in the Appendices, the vocabulary and detail is intended to support the research process and the participant coaches through being participants in this research, and potentially to provide meaning and purpose to the coaches’ own thinking (for their pro-active reflection and metacognition), and for their own learning, development and performance.

The content of this Design Chapter is intended to chart the proposed Game Gain and concepts of Creativity, Autonomy and Tactical Sense are contextually intended to be; facilitative for understanding the processes reflection (and possibly metacognition) that coaches will experience through stimulated recall in post-session reviews. The research process will seek insight into any rich data that could be linked or framed in reference to the words and definitions afforded to the proposed Game Gain within this Design Chapter. Then within the analysis of data collection of post-session video review for stimulated recall, the research will also be alert to any new inductive conceptualisations or emerging themes (see Findings Chapter).

3.5 Positive Pedagogy in Game Gain

The framework of Positive Pedagogy (Light, 2013) derivation used to conceptualise the ideas in Game Sense (Light & Harvey, 2015) has been adapted and extended within the proposed Game Gain to present simplistic format as a guide to coaches’ objectives, principles and concepts that will offer to support fundamental understandings for:
1) Considering and delivering objectives for players’ learning, development & performance for Tactical Sense Strategies that accommodate opportunity to

2) Considering players’ cognitive engagement within the game/practice, so that they are thinking and making decisions - with and without the ball - and in and out of possession - individually, and collectively as a team. This will also consider players processing information to make decisions in relation to the actions of opposition, and also as players and team out of possession.

The Positive Pedagogy framework as adapted from Light (2013 and Light and Harvey (2015) for the proposed Game Gain orientation will be as follows;

1) **Engagement**: emphasise (as much as possible) engagement with physical learning environment and learning experience; a realistic game with direction, opposition (pressure), ball (object) and target (score zone, goal)

2) **Questioning** to generate dialogue (language) and thinking processes as facilitative intervention, coaching and reflection

3) **Creativity**: Accommodate opportunities for players (individually & collectively) to be emancipated, experimental and creative, to try things, make mistakes and evaluate decision-making and problem-solving (individually/collectively) as cooperation and collaboration

4) **Support**: Provide facilitative and supportive environment in which; being experimental, creative, take risks and trying things out that result in mistakes, harnessing them as learning and development opportunities, all within emotional commitment

Adapted from Light (2015)

‘Possession’ and ‘non-possession’ are a constant of cognitive participation, as individual players, and collectively as a team that exhibit connectivity (with awareness of opposition) to enact cerebral and physical decision-making controls (see Appendix 8).

Within Game Gain approach, players of teams are defined as ‘in possession’ as a team or, ‘out of possession’ as a team. This perspective would relate to the attacking or defending principles as decision-making objectives, and so to
the players’ participation that correlate to their decision-making and actions relating to tactical aspects of; possession, position and space.

3.6 Questioning

The Researcher considers ‘questioning’ as a key and principle coaching behaviour in connection to the concepts of Creativity, Autonomy and Tactical Sense through the review of literature in Chapter Two. Therefore questioning (see Chapter Two) is featured in this Chapter to demonstrate the use of the interrogative or questioning as it is intended to assist coaches’ behaviours to guide and facilitate the delivery of objective coaching sessions. It could be a challenge for coaches to include questioning to initially set out the session and the objectives, thus players may be discovering (and verbalising); the objectives; the potential problems linked to the intended learning and developing, and also; how they might solve those problems. These aspects as perspective are more likely to produce the factual and/or analytical questions and answers. The interrogative questioning perspective is more probing and investigative in the present tense than instructive inputs, and then also can be formulated to provide for a higher level of enquiry and analysis as predictive and/or applied synthesis through the conditional and/or future tenses (see Figure 1).

Here, the Design Chapter sets out a taxonomical table that depicts the use of questions and questioning within understanding of CATS (Game Gain), as the formation of the interrogative by using; what, where, when, who, why or how, and combining with; is, are, did, do, can, would, should, will, might, or could. Then depending on the contextualised combination, this would infer that the answer or discussion would resultantly be; factual, analytical, predictive or applied synthesis.
Facilitative & Reflective Interventional Questioning

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**Figure 1:** Conceptual table framework formed from informal ideas that the Researcher has developed and from within coaching network

**Questioning - Choose:** What, Where, When, Who, Why, How

**Then link to:** Is/Are, Did/Do, Can, or; Would, Should, Will, Might, Could

Within the process of post-session interviews, the research

- How coaches can engage with the principles and objectives of the proposed Game Gain vocabulary in Questioning matrix (see Figure 1)
- What questioning might be utilised (trends/tendencies)
- Through observation of the practical videoed session; how coaches use questioning related to; coaching players of team in possession; with the ball or at-action; near, around and far away from the ball, and then also; players of the team out of possession; at action, near and around ball/action and far away from the action.
- This could be evident within stimulated recall, in reflection and also in evaluation for the ‘why’ and the ‘how’ for; What Went Well (WWW), Even Better If (EBI) and Change Next Time (CNT) (see Figure 3 Appendix 6).
3.7 Players and teams; in possession and out of Possession

This sub-section outlines some of the principle concepts as individuals within team/s), and teams of; being with the ball (possession), without the ball (of team in possession), and then players’ and teams’ positionality to the ball or action (see Appendix 8 for fuller detail).

Player/s

- Player in possession of the ball, player out of possession, of team in possession
- Player/s out of possession (team out of possession)
- Player in Possession (PIP) Player out of possession
- If not in possession, is a player in position?

Team

- Team In possession
- Team out of possession
- With ball, at ball, near/around ball, away from the ball
- At ball/action, near/around ball, away from ball

Within Game Gain approach, players of teams can be defined as ‘in possession’ as a team or, ‘out of possession’ as a team. This perspective relates to the attacking or defending principles as decision-making objectives, and so to the players’ participation that correlate to their decision-making and actions relating to tactical aspects of; possession, position and space (See Appendix 8 for detail).

Anticipation, Awareness, Adaptability, Action

- Anticipation – active scanning, accompanied by cognitive perception and exhibited as; preparedness to foresee; as ability to perceive - in order to process information
- Awareness - perceptive scanning and ability to readily identify a perceived situation
- Adaptability - ability to read, process and produce changes to decisions and/or actions (macro, meso or micro levels)
- Action - the psychophysical product of perception and processing

(See Appendix 8 for detail on Game Gain design)
3.8 Post-session video review for stimulated recall

This section depicts how the proposed design would align with research method, but for more precise detail on the exact application of research methods within this entire research, please refer to Chapter Four.

In the very early stages of Pilot work, it was identified that prompting coaches with cues to stimulate recall was not necessary to pre-identify moments to reference and that coaches readily identified and throughout. Coaches reflected and analysed on key moments with meaningful description (see Pilot work Chapter Four & Appendices). Appendices 6 & 7 represent the post-session video review and gaze sheets that were to facilitate coaches to stimulated recall for narration that would link to Creativity, Autonomy and Tactical Sense. This would represents identifying with key or indicative moments for reflection and/or analysis within the processes of coaching that would relate to the ideas of Creativity, Autonomy and Tactical Sense.

Through the research processes outlined within this section and detailed in Chapter Four, research data was collated, and inductively analysed to obtain emergent data on developing coaching actions and coaching behaviours. The intention of this part of the research process (see Chapter Four) was to serve reflectively for coaches to change or shift coaching behaviours to objectively coach any or all of the following; Possession players (with ball) and Position players (without ball, in and out of possession); with objectives derived and founded with consideration of Perception (cognitive anticipation and awareness), Process (decision-making) and Product (adaptability and action of psychomotor processes) (see Appendix 8).

Coaches were also to be asked to comment upon about their coaching behaviours in relation to: Creativity, Autonomy and the Tactical Sense (as open-questions with WWW, EBI & CNT, see Chapter Two), where then coaches can objectively rate or score their perspective of accommodating or coaching Creativity, Autonomy and the Tactical Sense (withdrawn).
Any relevant content or keywords in comments through coaches’ reflection would be recorded within the interview sheet or within the data collection, possibly as emerging themes.

3.9 Summary

The Design Chapter defines, explains and formulates the relevant proposed concepts of CATS whilst referring and directing to Chapter Two and the Appendix 8 for further details of Game Gain terminology and vocabulary as a glossary reference for the proposed orientation. This is intended to represent the principles, concepts and objectives to relate to the context for coaches and their coaching behaviours within the proposed orientation that will be known as Game Gain.

The content of this Design Chapter is not to be seen as a structure of imposition that has to be followed or imposed, verbatim, and there is no necessity of conformity for its use. To do this would surely inhibit, restrict or distort the coaching behaviours intended for learning, development and performance of Creativity, Autonomy and Tactical Sense.

The content of the Design Chapter is for outline reference and for resource, as complementary, supplementary and auxiliary to the proposed concepts, principles and objectives of the proposed Game Gain, as an original orientation for coaching Football, and also as purposeful Research process (see Chapters Two, Four & Appendices 6 & 7). Please read Appendix 8 for expansive detail of Game Gain©
CHAPTER FOUR

THE RESEARCH METHODOLOGY

4.1 Introduction

Chapters Two reviewed the relevant literature and research topic areas to cover; coaching, pedagogy, philosophies and learning theories associated within Football (Association Football or soccer) as sports coaching and pedagogical themes. Collectively this has brought together the relevant elements reviewed within the Literature Review Chapter (Two), the Design Chapter (Three) to present the design of the proposed concept of Creativity, Autonomy and Tactical Sense (CATS) as the principle concept that contextualises the framing content within the research processes.

The intent of this research is to present case study data of two \( n=2 \) coaches working within a professional football club’s academy in England. Through the functions and processes of the research methods (as applied) the proposed orientation intends to gain perspectives and attitudes upon coaching behaviours as they could be aligned to, or framed within the pursuit of coaching Creativity, Autonomy and Tactical Sense (CATS). Through methods within an exploratory investigative case study design, the project intends to explore and investigate coaching behaviours, as they would be identified as indicative or key moments by coaches in video review as observations in reflection and analysis. The initial intent would be that coaches are stimulated to recall by observing the video.

This project will intend to investigate coach positionality in relation to the concepts of CATS within the scope of the research methodology, and to align (some of the) specific literature aspects explored within Chapter Two with the notions and principles explored within the ideas of Creativity, Autonomy & Tactical Sense, potentially as an emerging paradigm in the context of coaching behaviours; and in any emergent themes towards future understandings in coaching and playing. The intent is to form rich dialogues that could facilitate greater awareness and ability of coaching behaviours that could contextually and conceptually contribute to the understandings that
potentially align with the pursuit of coaching Creativity, Autonomy & Tactical Sense.

Such case study approach to investigate such notions was previously used by Reid & Harvey (2014) with Rugby Football Union (RFU) coaches’ understanding and use of Game Sense Pedagogy (GSP). These researchers previously sought coaches’ attitudes and perspectives on; understanding the notion of ‘Game Sense Pedagogy (GSP)’ and then based on that; coaches developed and applied GSP, with support to understanding and implementing a functional shift to GSP (Reid & Harvey, 2014).

This Chapter outlines the assumptions of relevant research philosophies, ethical considerations and implications, to describe the intentions of how this research was carried out. The sections within this Chapter set out the methodology, methods of data collection and procedures for data analysis. The chapter also addressed matters relating to validity and reliability, and summarises in covering any other issues within the design and execution of this primary research that seeks to explore and investigate the following research questions.

Firstly, do coaches identify with indicative/key moments in review of video observations (as the medium of stimulated recall) to reflect and analyse upon their coaching behaviours?

Secondly, as a function of post-session video reflection and/or analysis; can coaches construct better understandings of their coaching behaviours that would align to the notions of coaching Creativity, Autonomy and Tactical Sense?

The innovative aspects of this case study research, intended to focus upon the use of multiple perspective video recordings (merged and synchronised to one screen). Then the coaches reviewed the footage, to ascertain observation to identify with indicative and key moments to create case study representations of the coaches’ perceptions and understanding of their own coaching behaviours.
4.2 Case Study

This research proposes an exploratory case study as an investigation in real-life context of coaching behaviours of coaches working at a professional English Football League (EFL) club’s academy. The academy is a Category 1 (CAT1) level academy according to the Elite Player Performance Plan (EPPP) that is affiliated to the Premier League (PL).

The case study (or studies) focuses the methods (to be explained in this Chapter) to a small number \( n=2 \) of cases to be studied in detail, which identifies with the premise that such exploratory case studies are generally better suited to very small numbers or even single case numbers; to explore and develop as fuller understanding as possible (Punch, 2009). The choice of utilising a case study was based on the position that the inductive approach to explore coaching behaviours in video-review is an area yet to be studied in this exact way, and thus is (thought to be) unique as original ideas and concepts (Punch, 2009).

This exploratory case study sought to intensively, and inductively, investigate coaching behaviours, that originally intended to use observations that were to be both; direct as observation of video, and, indirect as review of video; both of actualities and activities as (reported and purported) phenomena (Cohen, Manion et al., 2011). This, as an exploratory nature, rather than, an exploratory tool, was intended to seek data as to be more representative of processes related to phenomena and richly descriptive through the analysis of identifying and coding, rather than just any one or two-dimensional qualitative data measurement. Observations in reflective review, and/or analysis, (that were facilitated by the Researcher) were to be used as case study strategy to portray, analyse and interpret uniqueness of individuals’ complexities and situated of behaviours (Cohen, Manion et al., 2007; Yin, 1984).

The Researcher aligned with Brewer and Hunter’s (1989) points of particular study pertinent to rationalising the use of a case study. Brewer and Hunter (1989) listed; individuals, attributes of individuals (perspectives, understandings, behaviours), actions and interactions, residues and artefacts of behaviours, setting incidents and events as singular focus or multiple foci.
for case study research. The case for the case study as a more intrinsic approach was therefore to be more representative of a strategy than methods (Punch, 2009) in order for the Researcher to gain and present as best understanding as possible (ibid. 2009). The unique ideas and notions relating to concepts of CATS and Game Gain that were sought to align and frame the (ultimately) inductively produced data. The intention was then to address misunderstandings in coaching and player learning, development and performance as explored herein (throughout), as to justify the need to understand this (research] case ‘in its complexity and entirety, as well as in its context (Punch, 2009 p121).

Ultimately this research may or may not propose or suggest possible generalizability, which is not, as Denzin (1983) inferred, the objective of all [case study] research projects. Although within the strategy (of methods) within this case study, the processes of data collation and analysis aimed to conceptualise rather than just be descriptive. Such studied conceptualisations, as sought in this research, were intended to evolve or develop propositions or (any) potential hypotheses (Punch, 2009). Therefore, although there may be similarities with the sporting context in which this research case study was conducted to other sports, it could be only on subjective logic that generalizability could be inferred. Rather this research suggests that ‘putting forward [the investigated] concepts or propositions’ (Punch, 2009 p122) as applicable or testable to other sports ‘in future research’ (ibid., p122).

It had been strongly stated that case studies have ‘an ambiguous place in education and social science research’ (Reinharz, 1992 in Punch, 2009 p123). Punch (2009) outlined three points in support of using case study strategy that relevantly substantiate this research; 1) originally can contribute to literature and education research, and learn much from a particular; in its own right, 2) new understanding to new or unique concepts or propositions, and 3) case study strategy research that is conceptual and contextual can make important complimentary contributions to existing research and literature (Punch, 2009).
The following sections set out and explore the philosophies, paradigms and strategy of methods for this Research's Case Study.

4.3 Philosophies for research

There are a few philosophical research perspectives that were considered for this research, as they would link methods that were (to be) used. In the main, focus was placed upon the most inclusive philosophies for this research, but there is also mention of other philosophies that would have overlapped or would be related to the main philosophies, or are also mentioned herein (just) for the purposes of review and comparison as to why they were not relevant or included.

From a positivist perspective in case studies; the world is external and objective, with the focus on facts, which as data, can be reduced to the smallest denominator to represent facts, laws or generalisations, formulating hypotheses and to test proposals (Cohen & Manion et al. 2011; Punch, 2009). Phenomenologically, this case study approach; examined the subjective, socially constructed world, with focus upon a multiplicity of interpretivist perspectives – with inductive interpretation of the cases and data being studied as the inclusive totality of experience in the active participation (Cohen & Manion et al. 2011; Punch, 2009).

Within the methodological definitions; positivism – as the scientific objective would account for, and develop; the explanations, universal laws and (any) generalisations within the specific case study without alluding to other subjective transferability (Punch, 2009). Then as interpretivism to examine the ‘meanings’ that participants would impart as to ‘bring to situations and behaviour’ (O'Donoghue, 2006 in Punch 2009 p18). The constructivist paradigm affords that realities are constructed through social and experiential basis, and these realities depend upon individuals (coaches) or groups (coaches in social coaching environments) (Punch 2009).

In this thesis, case study phenomena drew descriptors of perspectives and attitudes from the coaches’ lived natural setting and experience, which was
driven by development by their own autonomous participation relating to their own behaviours. Such descriptions would present the essence of coaches’ experiences (on a deeper philosophical level) with a ‘reductionist approach [...] necessary for any [positive] change in attitude’ (Lichtman, 2010 p80). Then for philosophical inference that drew upon the opinions and actions of the coaches as perspectives and attitudes in reference to that which they observed/exhibited in coaching behaviours that they would; observe, reflect upon and/or analyse. This research was inclusive to methods of positivist and interpretivist approaches, to ensure both objective and tangible data production could be reliable and consistent (van der Mars, 1989).

4.4 Selection of Participant Coaches

The researcher selected two (n=2) from an identified purposeful and selective sample that were willing to participate in the research. The Researcher identified a further two coaches as reserves in case of dropout. The Researcher considers this number of participants manageable, and this also sits within the need as an exploratory case study to focus on (only) one or two single cases, as there was no specific link to previous theory (Punch, 2009). Then, although phenomena description was to be emergent, the need for multiple cases was not deemed requisite. That was be subject to, or deemed most appropriate for this research from their coaching profiles; coaches’ understandings, attitudes and perspectives of some generalisations of coaching, and an expressed understanding or interest in coaching such ideas relating to Creativity, Autonomy & Tactical Sense as leaning, development and performance (see further in this Chapter and Design Chapter). Other considerate factors included; coaching position and experience (years), hours per week coaching, other qualifications, current coaching environments, thus to provide for an appropriation of perspectives and that the standard is of high enough standard.

The Researcher briefed participant coaches prior to research commencement, as to what procedures would look like whilst explaining; Participant Information sheet, Consent forms and other relevant paperwork.
The Researcher also briefed participants on what they could expect during filming of video for reflection and analysis in post-session (stimulated recall) review. The briefings were undertaken without giving participants a level of insight that might risk distorting the processes for data collection, as to reciprocally establish understanding. This was not intended to impact or influence coaches’ behaviours within the research, but rather, to guide coaches towards potential thinking cognitively and metacognition, possibly as appreciation and consideration of the CATS principles purported herein.

Logistic factors, geographical proximity and organisational limits were other considerations. It was thought that this number of coaches (n=2) to be observed, video recorded and interviewed would provide a manageable workload of recording, editing, analysing interviews and administration. These factor identified that research requiring such considerations involving qualitative ‘generation of rich data, often uses a sample of less than six participants’ (Gratton, 2010, p168), and as with Potrac et al., (2002) with as few as one (n=1) participant.

Coaches in this research were then inducted into the research by invitation to participate in data collection (case studies) comprising of; video recording for observation, coupled with reviews (in reflection and analysis) that constitute post-session reviewing video footage (for stimulated recall). Initially it was thought that the referenced video aspects of coaching actions/interactions would form the points of discussion in post-session reviews based upon the interrogatives of ‘What?’ ‘How?’ and ‘Why?’ This was to potentially understand the nature of the processes taking place, whilst the Researcher recognised that this specific formula (of case study research) had not previously been undertaken in this (exact) sense, so an exact standard did not exist in justifying a need for such an exploratory case study.

4.5 Consideration of Implications

This case study research dictated the philosophical approaches required both as positivist and interpretivist (phenomenological) perspectives of human
behaviour that could be ‘influenced’ or ‘rule-governed’ by the science or theory-base within (any) hypotheses or phenomena. To offer a multiple methods constructed case study; value-laden inquiry, and, theory-laden facts as a constructed reality (taken from Tashakkori & Teddlie, 2009, but not alluding to mixed methods). These points in italic related to the technical and tactical objective demands that are often the criteria in many forms of coach education and development. The positivist philosophy intended to identify correlative and objective realisms as coaching perspectives, whilst a realistic idealism sought to address the fact that ‘perspectives and attitudes within the culture of different’ [coaching] ‘environments could be construed in different ways’ (Cohen & Manion et al., 2011). This is, in the main, has been due to coaches shaping their own behaviours based upon various factors such as; role objective, own experiences, philosophies and/or beliefs ((Lyle & Cushion, 2010; Armour, 2011; Potrac, 2006; Lyle, 2002).

The positivist approach produces tangible data representative of coaching behaviours as ‘reality and objectivity’ represents objective perspectives, values, practices and experiences to generate objective data (Jewitt, 2012). The phenomenological approach aspect produces qualitative data from the purposeful sample to yield ‘rich’ and ‘subjective’ results, which, in turn; would generate richer theories or hypotheses (for future directives). Thus producing reliable objective contextual content with significance that could possibly be seen being higher in the positivist approach to the interpretivist (with the phenomenological as a consideration), but with validity as interpretative, could be potentially higher in the latter than the former (Cohen & Manion et al. 2011).

Thus, within the methods of the case study, a balance of approaches will became imperative to; achieve the depth of understanding required, to provide universalities and generalisations that could represent the interpreted reality to substantiate subjective data and to construct realities within the coaching context (Cohen & Manion et al., 2007). Validity is in part subject to the approach that both; paradigm-driven and the pragmatic could be part of the approach that collected and analysed data, and integrated the findings [in analysis] (Punch, 2009; Cohen & Manion et al., 2007).
Ultimately, as a rich but very small-scale investigative and exploratory case study, there may be no claim for generalisation with the resultant data from this research, but there could be suggestion to future research in any relevant direction (see Chapters Five & Six).

4.6 Participants and Settings

Coaches from the Researcher’s professional and operational network as acquaintances who were willing participants in the research were invited to take part (as introduction and face-to-face invitation) according to the applicable University of Southampton protocols. Whilst avoiding the randomness or subjective claims of generalisations of a sample where participants could largely be void of particular research objectives, compromising any results (as validity and reliability) and incurring unnecessary logistic and expense factors. As well as not intending to represent or generalise about an entire population of coaches, purposeful (selective) sampling accommodates the meta-focus upon the coaches whose roles that are perceived to potentially provide a rich (in-depth) case study insight into the research area.

Below the table shows the original network pool denoting the participant coaches C1 and C2, the two reserves and the two other redundancies.
Table 1: Outline Profiles of Coaches with some brevity, as it is not deemed necessary to publish details of all coaches (some with high profile positions). The participants were chosen from within the sample in Table 1.

Table 1 shows the profiles for coaches C1a to C6f of the purposeful sample of coaches who were initially approached to potentially participate in the research. The initial scope of coaches that was identified within the networks of professionals known to the Researcher would permit a purposeful selection, and also allowing for dropout, still leaving a sufficient sample of selected coaches, which would produce a purposeful sample for research measures and produce reliable and valid data (with consistency). The selected participants were then referred to as C1, C2 etc., rendering the tabled references C1a – C6f redundant.
Coaches understood that in agreeing to take part in the research that they were free to withdraw their participation at any time without any obligation to give defined reason, and there would be no penalty for this. This purposeful, non-probability selection of participants provided the positive qualitative yields as specific and detailed case study scenarios.

4.6.1 Setting Context

The context for this research thesis was within football coaching environments at a professional football club’s academy in England and of Category One (CAT1) status affiliated to the Premier League (PL) and English Football League (EFL). The C1 status is the highest level accredited to professional clubs’ academies in line with Elite Player Performance Plan (EPPP).

The game of Football (as Association Football or Soccer) is the subject in a (realistic) game, as a competitive game or training, with; opposition, direction, objective and the ball; there is always a pitch or field of play to accommodate the aforementioned; the coach is there to facilitate the learning, development and performance.

The football club’s academy has a very strong philosophy that, in the opinions of the Researcher and Club’s personnel, correlate with the ideas around Creativity, independence in learning as Autonomy and consideration in all aspects of the Tactical Sense. The academy of the participant Club is subdivided into three sections; Foundation Development Phase, Youth Development Phase and Professional Development Phase, providing learning and development from Under 9s to Under 16s, then Under 18s, U21s and U23s.

The playing systems, learning and development philosophy principles within the academy are considered by the Researcher to be very pedagogically considerate and unique, as the Researcher within this research project was in attendance and in some form of collaboration with personnel at the Club when the philosophy was created. To maintain anonymity and confidentiality the Researcher has decreed that none of that detail will be included within this
thesis as the material is so unique and distinct. There is also a very strong Values & Vision statement that holds staff, players and the environment in high respect. Again, the Values & Vision detail is unique and specific to the Club, which may also identify the setting for this thesis and so this also will not be included herein. On both these counts, the information is withheld, to; protect the identities of the Club and Coaches, and also so the intellectual property of the Club’s philosophies, playing systems and Values & Vision materials cannot to plagiarised.

Coaches hold various qualifications with a typical minimum for coaches working with younger age categories in Foundation phase and to a certain extent the Youth phase of UEFA B or The FA Level 3. Then within the U18s through to U23s, coaches will hold the UEFA A Licence or even a Pro Licence. This is (to a certain extent) support with League Managers Association workshops and/or The FA Youth Coach Development scheme via The FA is a coach is going through a qualification (see Appendices).

All coaches working within the Club’s Academy have an Individual Development Plan (IDP) and are obligated once a week to attend a meeting to discuss all development. Generally, coaches working at this level (as is the case at this Club) are very busy with high role objective workloads and pressures. It is therefore difficult to engage some even with development plans in place to ensure on going continuous professional learning and development. For the previous season 2018-19, no more than 30% of this engagement had been achieved, according to Club’s personnel, and this was also the projected trend for the 2019-20 season.

4.7 Methodology

Methodology will deliver theory on the methods (see 4.7.1), and the paradigms as the ontological (form and nature of the depicted and described realities), with epistemological derived emergent rich data forms relationships between concepts of knowledge and actual realities (as coaching behaviours). This could methodologically influence how this research will explore that
which will be known (Punch, 2009) as a Case Study in investigating derived perspectives and attitudes of coaches and (potentially) linking to the phenomena and concepts of CATS.

4.7.1 Methods

The intention to employ a qualitative approach inductively derived emergent rich reductions of codes, concepts and categories and to arrive at contextually conceptualised high-level themes that have presented ‘objective accounts’ (Punch, 2009) of the practical realities of (football) coaching behaviours. This has yielded the *priori of veracity* of the constants and variants of phenomena; yielding measurement, comparison and [...] objectivity (Cohen & Manion *et al.* 2011). Thus to have ‘developed as full as an understanding of this case study as possible’ (Punch, 2009 p119) as the qualitative data from the phenomenological approach was interpretive, social and constructed as ‘a set of beliefs that guide[s] action’ (Guba, 1990, in Creswell, 2009 p236).

The implementation of the methods and approaches ultimately utilised presented a complimentary compatibility in a rich and natural setting; working (primarily) within the pragmatic paradigm. The case study methods produced reflection and analysis in interpretation of results that represented both; *reflective products* and *analytic data* drawn from the post-session video reviews; stemming logically from the research directives (Reinhardt & Rallis, 1994; Howe 1988).

The exploratory focus upon the rich and natural settings permitted the convergence of results with complementarity and developmental expansion (Cohen & Manion *et al.* 2011). This exploratory approach that was not *experimentally controlled* or *manipulative* to thus constrain coaches perspectives or behaviours. Thus was not limiting to the boundaries of phenomena, to produce the [consistent] validity to the results (Campbell & Fiske, 1959) and has avoided threats to validity from a ‘say-do paradox’ - coaches saying or verbalising one thing, but doing something else.
*Purposively*, the purposeful sample from the network of coaches known to the Researcher was examined to consider a strategy that led to the collection of data that focused on the qualitative properties in post-session video reviews and accrued attributes from narrations in observations (potentially in line with CATS concepts and Game Gain principles).

To meet the aforementioned the following methods were employed;

- The researcher identified within the known network potential participant coaches’ attitudes and perspectives based upon; knowing their coaching ideals, coaching behaviours attitudes and perspectives. From the identified known group, this yielded the more specific (in the view of the Researcher) smaller, purposeful and selective sample that presented the specific coaches as case studies involving;
  - Video recordings from multi-perspective angle cameras, merged and synchronised to one screen
  - Analysis of coaches’ behaviours operationally defined within this research and subjected to systematic observation (this was removed near to commencement of actual research as deemed not appropriate or necessary)
  - Complementary field notes (informally not used)
  - Reflective post-session reviewing of video recordings of the coaching (interpretive and exploratory un-structured as far as; what, how and why facilitation)
  - Collation of post-session review narrations for (inductive) analysis

All these points are described and justified in the following methods that will constitute the case study of perspectives and attitudes relating to coaching behaviours, and (potentially) in relation to CATS.
4.7.2 Technology

The video camera technology used comprised two cameras; Camera 1 (Cam1) – Sony Handycam HDR PJ620 as fixed wide-angle HD on fixed Sony VCTVPR1 CE1 remote controlled tripod mount or Garmin adhesive mount for complete practice recording, and; Camera 2 (Cam2) - Garmin VIRB Ultra 30 (4K capable) as a strap-fitted chest-mounted camera on the coach centrally upon upper chest. The fixed wide-angle Cam1 captured the whole area of the training session with all players and the coach in the (full as possible) scope of view frame. The mobile chest-mounted Camera 2 captured a narrower-angle frame of the attention view of the coach’s focus of vision as gaze-direction (i.e. at the ball/action, near/around action or away from ball/action) (see Design Chapter). Cam1 could be remotely operable from small control pad or via the remote arm of the tripod. Cam2 could be operated directly or remotely via Apple iPad mini, Apple iPhone 5S, and also via Garmin Fenix 5X wrist wearable watch device.

Both cameras were subjected to some general testing in a natural setting. No human subjects were filmed. This activity preceded pilot work (see later in this Chapter). The Researcher founded that the best method of operation is to synchronously start recording Cam1 and Cam2 at the same time manually, and stop recording manually. Also from naturalistic environment testing the initial thought of mounting Cam2 upon the coach’s head was changed to be chest mounted. The Researcher discovered that even a subtle change of gaze direction inflicted very erratic changes in the frame across vertical and horizontal axis, not to mention every other degree of possibility. Even with the highest definition and frames per second (FPS) settings at 60 FPS, the video images were not viewable. The two streams would then be uploaded to a programme called Final Cut Pro (which has been tested with footage from naturalistic environments), and then further synchronised by clipping and editing micro clips from the inert frames at the start and finish of the videos. Footage can be uploaded via SD card adapter from Toshiba micro SD card to any laptop or desktop computer.
In order to capture the entire scope of the coaching session the use of a wide-angle action camera (fixed) and a mobile camera (positioned on coach’s chest) that the full collective peripheral video views were captured, and then merged and synchronised to be viewed on one main screen. Cam1 and inset smaller screen that is overlaid the main screen so that both perspective views of Cam1 and Cam2 could be viewed at the same time; to be observed and analysed. The simultaneously viewed angles of perspectives (from fixed and mobile cameras) generated the points and direction of enquiry for post-session reviews. This represented the sense of coach being there within those whole and entire moments of the short segments of microanalysis. Jewitt (2012) added to this with; ‘chronological verisimilitude’ is to conceptualise how video shows ordered events, that are not necessarily completely chronological, but as a way to understand aspects as meanings in relation to the events. ‘Perspectivity’ should be entire within the captured video across the two cameras’ use, and thus with a complete panoramic view a fuller contextual view of action from multi-perspective (and wearable) cameras is achieved (Pea & Hoffert, 2009 in Jewitt, 2012).

From the observation and analysis of the video the (initially proposed) systematic observation tool is applied to gain a basis and profile of coaching behaviours. Then also the Researcher (initially) selected segments/aspects that identify variant coaching actions and interactions (as various behaviours); coaching in possession with the ball, near the ball or action and away from the ball or action, then also the similar position of the team out of possession (see Chapters One, Two and Three for more details).

As explained throughout various segments and sections, the application and use of systematic observations (and any data) was limited to pilot and very early research stage, and apart from its usefulness (as explained herein), was not part of the data collection process.
4.8 Theory

To achieve the richness of data for these investigative and exploratory case studies, video recording and reflective/analysis methods had many advantages. It enabled the study of complex aspects and processes; increasing the efficiency of observational data and produced effective coding from different perspectives. It was easily storable, enabled revisits to re-analyse later; and there was opportunity for integration/utilisation of multiple methods and data analysis, and was thus easier to describe and evidence as data/results (Jewitt, 2012).

In relation to CATS within the research approach, video as a real-time sequential medium ‘preserved the temporal and sequential structure which was characteristic of interaction’ (Knoblauch, Schnettier & Rabb, 2006 p19) (see Chapter Two for more detail). Then within video review, the exploratory case study brought together; speech with conscious and unconscious movements of an individual (coach) and between both (coach and players) in conversation or instruction as coaching interventions as extended social interaction, producing data that represents the relationship of speech (in reflection and analysis) to visual actions and events (video) (Jewitt, 2012; Lemke, 2009 in Knoblauch, Schnettier & Rabb, 2006) (see Chapter Two for more detail).

The context of the deployment of video recording for reflection and analysis focused on coaches’ behaviours within coaching practices for football at an ‘elite-development’ level (see Chapter Two). The sequential stages as verified for validity and reliability of selection, identifying and analysing recorded video (clips). This involved; the coach being briefed for identifying coaching behaviours (as they related to operational definitions and CATS); and to establish validity with a reliability and consistency to verify the process and product of the research intentions. This was exemplified by the early-stage demonstration of the profile of coaching behaviours obtained through (early-stage) systematic observations. Video aspects were also identified in video of coaching sessions in early-stages as the micro clips for macro analysis in
post-session video reviews (reflective stimulated recall), as the qualitative compliment to enrich data collection.

The following sections will describe the evolution of the consideration, inclusive aspects and non-inclusion of systematic observations within this research. The reader may take the opportunity to read Pilot work 4.10 Note and in more detail in Appendix 5.1 prior to continuing from this point.

4.9 Systematic observation (original proposal and shift of paradigm)

It is deemed (by the Researcher) necessary and appropriate for conceptual and contextual relevancy and accuracy to amend the existing systematic observation instrument amended by Francis Pollin (2011) from the original established and used by Lacy & Darst (1984), whereas Francis Pollin had communication with Alan Lacy (Illinois State University) and had sought some concordance that amendments could be applied to the instrument for use within coaching behaviour research. The use of the systematic observation tool yields validity, reliability and consistency (as accuracy) within the original implementations by Lacy & Darst (1984) and subsequent uses. Then more currently, the implementation of an adapted version that is in line with the systematic observation tool to be used in this research was applied to the study by Francis Pollin (2011) set within similar scenarios.

4.9.1 systematic observation framework; how it was (to be) applied to video reviews (in analysis)

The inclusion of systematic observation definitions and the processes that it underwent is still included as it had value to linking and framing the eventual inductive emergent qualitative data and also authentically afforded operational definitions to the coaches in the post-session video content that they reflected and analysed upon (see Appendix 5.1).

A framework for the systematic observations was devised from Tharp and Gallimore (1976), Williams (1978) and more recently modified as the Arizona
State University Observation Instrument (ASUOI) attributed to Lacy and Darst (1984), and then adjusted by Smith & Cushion (2005). That version of the systematic observation framework was revised to be more inclusive of coaching behaviours that considered and accommodated playing and learning creativity and autonomy in developmental performance (Francis Pollin, 2011).

Then as coaching behaviours, Francis Pollin (2011) expanded the category of silence, sub-dividing it as ‘active’ and ‘non-active,’ but in both instances noting that it was the highest accommodating coaching behaviour for creativity and autonomy. In Smith and Cushion (2005), the study (and instrument model) aimed to identify instruction and modelling of coaching performance, whereas this research using video analysis sought to identify behavioural factors that fitted within the identified categories of behaviour derived from perspectives and attitudes, as philosophies and objectives. The coaching behaviours, as operational definitions, were described and discussed, and agreed upon with no amendments to that written by the Researcher.

The video for review and analysis will be simultaneously recorded from the 2 cameras (Camera 1 (Cam1) - wide-angle and fixed to cover whole coaching area, all players and coach, and; Camera 2 (Cam2) – narrow-frame and chest-mounted (mobile) to capture gaze-direction of coach) to viewable devices.

The following was initially applied in pilot and early-stage research, but as a process was not all deemed necessary.

The Researcher and assistants observed the video with audio (merged and synchronised from Cam1 and Cam2) whilst also during recording being in visual and audial range of seeing and hearing coaches and players in the training session. From the observations reference points were identified to denote the coaching behaviours as to where, when and who as the; in possession of the ball, at action, near or around ball/action or far away from ball/action (see Appendix 5.1). This was fully considerate of teams being both, in, and, out of possession. Table 3 represents the devised systematic observation 14-category framework (14 behaviours + sub categories with 7, 10, 13 & 14) would be used to analyse coaching behaviours within the video.
recording. This would allow enrichment and examination to the experiential, situational and contextual content of the coaches’ behaviours (Smith & Cushion, 2006).

4.9.2 Coaching behaviours and definitions

The ‘silence’ category, as Lombardo (1989) framed and defined silence differentially as, silence: on-task – with the coach not talking but still involved in the actions and participation of players within the practice, and, silence; off-task – coach is not talking, is involved in tasks not directly related to the practice, such as changing practice area, moving cones etc., but where players continue to interact (playing or communicating) and still learning (Lombardo 1989, in Smith and Cushion, 2006). Although Smith & Cushion (2006) found silence to be the most predominant coaching behaviour in systematic observations, this research allied the occurrence of silence to the actualities of other coaching behaviours such as points 6, 7, 8 & 9 (incorporating 6 & 7) in which silence (active & non-active) is almost a prerequisite, then within 10, 12, 13 & 14; as active silence which is also an active listening. Smith and Cushion (2006) did acknowledge silence as a coaching opportunity to monitor and analyse both the players and the game, whilst accommodating aspects such as decision-making and problem solving.

For a study in 2011, Francis Pollin preserved the behaviour categories and operational definitions, points 1, 3, 4 & 5 as correlated adaptations from Tharp & Gallimore (1976), Williams (1978), Lacy & Darst (1984) and Smith & Cushion (2006) with definitions slightly altered according to that research content. The remainder of the points are the products of this Researcher to meet the criteria of the observations, and operationally defined for this purpose of the research. Although specifically, points 10 & 11 had been expanded further to cover more permutations of questioning (see further in this Chapter) as, what turns out to be a pertinent part of CATS and Game Gain.
The deliberate omission of ‘first name’ category as used by Lacy and Darst (1989) has been the case (Francis Pollin, 2011) was considered by the Researcher that it cannot be seen as an ‘independent’ category since its recording is too often linked to other categories’ coding, thus would distort the categories’ values throughout (Smith & Cushion 2006, Potrac et al. 2002). As the emphasis and focus was upon the coach rather than the players, it was deemed an unnecessary category. And even though Potrac (2002) produced dual measurements, one with first name and one without, the Researcher decided from previous experience (Francis Pollin, 2011) that the first name category inclusion was not necessary. Especially, as more so these days, when coaching players, this category is used in conjunction with most other categories at a very high frequency, thus yielding its observation point inert and/or inaccurate. Silence, as an actual category, and its sub-definitions evidenced (through the presence of silence as a behaviour, active and non-active) facilitating the other (player-centred learning and development) observation points and ultimately data from post-session reviews (that could align to CATS).

**Operational definitions of coaching behaviour categories**

1. **Demonstration;** specific instruction demonstrated to be actualised by players and/or with facilitated reinforcements

2. **Drill-based-practice;** aspects of rigidity based on drills, skill and techniques practice that do not reflect real game scenarios.

3. **Hustle;** statements/actions to intensify efforts of players (Pass! Tackle! Press! Support! Keep going!)

4. **Scold;** statements/signs of displeasure or Negative (Re)-modelling; correction of practice or play based upon instruction

5. **Direct Instruction** *(Tell, Stop-Tell-Show)*

6. **Provide Game Gain opportunity for Decision-making & Problem-solving; linking realistic, contextual practice and play*

7. **Position, Space, Time**

8. **Encourage Experimentation & Risk;** allowing players to invent/have a go, mistakes as learning opportunities

9. **Positive Encouragement & Reinforcement;** praising and recognising aspects of points 6 & 7, and as answer to points 9 & 10
10. **Questioning** *(Factual - Analytical; allowing, managing and harnessing mistakes as learning opportunities – differs from point 6 in that; allows the player to identify, and construct correction to mistake)*

11. **Questioning** *(Predictive – Applied Synthesis)*

12. **Coaching or Recognising** *(using Pts. 6-10) to Coach player away from ‘at-action’ or ball (in possession/attack – out of possession/defend)*

13. **Silence (Active)** *Signing/gesturing as non-verbal body language communication (6-12)*

14. **Silence (Non-active)** *permissibility to players’ decision-making/problem-solving/playing/experimenting (6)*

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**Table 2** Systematic observation of coaching behaviours (adapted from Lacy & Darst, 1984, and Tharp & Gallimore, 1976)

Lacy & Darst (1984), emphasised that specifically defined categories would have face validity, (as in reference to the specifically observed real-time data), and because behaviours (observed and recorded and played back in entire form) were very specific with narrow and focussed definitions, [then] face validity would be present (Lacy & Darst, 1984). Also, there was a rational basis for these categories as the behaviours, as they would implicitly be representative of coaching behaviours affording the instrumentation content validity (Smith & Cushion 2006, and Lacy & Darst 1989).

In this research, video perspectives, as whole practice and coach camera were merged and synchronised with Final Cut Pro for analysis. It was deemed more realistic to be able to view recordings as real-time *(as it would run live as full version and not cut)*, as it would better avoid [unreliable] reflective inputs (Cohen & Manion *et al.* 2011), which may be induced if reviewing the recording as temporal time intervals. *Initially this applied to the original proposed systematic observation (withdrawn) and resultanty applied to the coaches’ post-session reviews of video footage.*

Validity and consistency of the behaviours’ definitions between researcher and additional trained observer was achieved during the process of Inter-Observer Agreement (IOA) (Siedentop, 1976 in Lacy 1985) (see Appendix 8).
Training comprised of demonstration of how the hardware (cameras) were to be used and how (technically) the video would be used with the software to view the collated videos. Demonstration showed how aspects (coaching behaviours) were to be identified and linked in the post-session reviews.

For each occasion, four categorised (predefined) behaviours; two from categories 1 to 5 and two categories 6 to 13, see Table 2) reflecting perspectives and attitudes (also predefined) were observed, and within discussions that accompanied this process, a full agreement upon the behaviour categories for systematic observations was reached. Across the recordings by the Researcher and additional observer, the agreed definition of each category was validated. The total number of observed behaviour agreements, was divided by the sum of agreements plus disagreements and multiplied by 100. The results by means of IOA method in testing the ‘operational definitions,’ relate to the systematic observation category points, will yield between the determined ideally of 85% - 90% (van der Mars (1989).

Validity, as ‘accuracy’ (Darst, Zakrajsek & Mancini, 1983) was the aim of ‘measurements to approximate as closely as possible [to] the true value of events as they occur’ (Johnston & Pennypacker 1980 in Darst, Zakrajsek & Mancini, 1983, p53), with reliability as the capacity of instrumentation to yield consistency and stability through the agreements of IOA, thus validity (Johnston & Pennypacker, 1980, in Darst, Zakrajsek & Mancini, 1983).

Recording the entire practice is in opposition to types of (time sampled) event recording (Smith & Cushion 2006; Rushall 1977, in Cohen & Manion et al. 2011), where specifically timed periods were recorded with intervals of non-recording.

Across the preliminary observations a measure of 88% was reached in accordance with Siedentop (1976), van der Mars (1989) and Potrac et al. (2002). The inter-observer agreement percentage averaged 90% across all IOA observations. If a minimum percentage was not achieved, or there were inconsistencies, the researcher intended to re-address the training and demonstration and the to re-test for IOA see Appendix 5.1).
Again to note; the inclusion of systematic observation definitions and the processes that it underwent is still included as it had value to linking and framing the eventual inductive emergent qualitative data and also authentically afforded operational definitions to the coaches in the post-session video content that they reflected and analysed upon. Systematic observations were originally intended for full use in this research but were withdrawn after initial use in pilot work and early-stage of research (see throughout this Chapter and Appendix 5.1).

4.10 Pilot work

Pilot Work and continuation of the research was conducted to investigate the intended methods to be deployed, explore potential hardware and software (as applications for devices that could be used), and as much what system could be best to use, or whether investment is required to develop systems to better suit the needs of the research methods and processes, plus addressing relevant ethics and protocols (to University and participants and the participants’ organisations). Experimental pilot work was undertaken during the second half of football season 2019-20 as early part of 2020 (see Appendix 5.1).

4.11 Video review, reflection, analysis (stimulated recall)

Originally, a specific objective in observing the video footage in this case study research was intended to identify key moments of video that cross-correspond the wide-angle static view with coach chest-cam video, to depict coaching observations/interactions; without ball (in possession), away from ball or action (in possession) and out of possession actions, all as micro-analytical subject matter for stimulated recall. In early stages of pilot work it was realised that although watching either the entire video or segments of it served the purpose to attain (the initially proposed) systematic observation data, to just run the video for coaches to review did not require aspects to be cut or time-referenced to stimulate the coaches’ recollection. Instead, they
naturalistically added descriptive narrative and commentary to their coaching behaviours relating to the video which was only required to be facilitated by; what? how? and why?, as what is being inferred to as; an un-structured interview/review. The assimilation of the video review process with naturally produced narratives yielded the need to pre-select and prepare video (with systematic observation data of coaching behaviours and gaze direction) for coaches redundant.

Then reflecting as a participatory (type) observational study, the video observation in reflection, and for potential analysis, would produce opportunities to note ‘rich non-verbal cues’ (as coaches’ actions or non-actions). The coaches’ verbalisation in reflective review (as stimulated) adds a rich narrative upon the indicated moments of gaze-direction and coaching behaviours from captured video in reference to the main focus of action and player/s being coached which could relate to the proposed CATS principles and behaviours.

Basing the premised source within the recalled data (as narrative) that is triggered through the observed cues identified (by the researcher and ultimately) the participant coaches, ensures the case studies (would) maintain the objective research directive intended through the case studies, and also that subjectivity would be overcome through adding the language of the participant coaches (Jewitt, 2012). Video recording (as perceived micro clips) for analysis (in stimulated recall) are not subjected to potential distortion to higher degree statistical data as aspects for review and are only identified by coaching behaviour interactions with players or playing moments in relation to the video recordings from the two cameras (Bokhove, 2016).

From a fieldwork video perspective, captured video represents naturally occurring data. It offers visual descriptions of (coaches’) structures of interaction order [...] and behavioural mechanisms and regularities to coordinate and organise their activities with others’ (Jewitt, 2012 p4). The naturally occurring data could be subject to variants of production and interpretation, and this could influence camera choice or positioning; fixed or mobile (ibid.), and also considerations from the settings and options on the
camera devices and auxiliaries. For the purposes of identifying coaching aspects to form enquiry direction for stimulated recall in post-session interview, both fixed (whole game practice in view) and mobile (positioned on coach’s chest) are used in this research of CATS and Game Gain video analysis to capture; where the action/ball is, and; where the coaching action/interaction is. Then the image aspects instigate the enquiry direction in reflective stimulated recall in order for the coach (through observations and interviews) to verbalise their coaching actions, intentions and interventions.

In pursuit of validity, Jewitt (2012), claimed that partiality is overcome by the use of two cameras ‘in-situ’ that does not generate ‘new events’ as a contrived representation of naturally occurring events as reality status. This is considerate of the potential of the Hawthorne effect, as the presence of cameras is fully overt and acknowledged as to minimise or even negate any influence of behaviours of those being recorded.

The work of Li, Shouhui, Xinying (2011) and Bokhove (2016) inter alia focus, and, base research heavily on verbal interactions (as depending factors), this research focuses upon coaching behaviour interactions as they relate to the proposed categorisations and definitions within this research, as; reciprocal and cyclical (inter) actions. The processes employed in this research thus allow for; identifying and analysing actual behaviours for a more fine-grained exploration of the actual coaching behaviours (Bokhove, 2016), which are principle features of the proposed orientation to coaching that sits at the heart of this research thesis.

This section on Video Analysis and Observation links in with relevancy to the sections 2.7, 2.8 & 2.9 of Literature Review as an important component of this Research (see Chapter Two).

4.12 Video: post-session review and analysis towards stimulated recall

Video review and analysis represented the principle data collection method for this research of coaching behaviours in relation to the ideas of CATS (Game Gain) project.
Each of the participant coaches was involved in video recording at a frequency of once per week for six weeks. Each video session had a duration of approximately forty minutes, with the aim to capture thirty minutes of a session, and there was a whole seven days between each videoed session thus allowing ample time to collate and process recordings as two camera perspectives that were merged and synchronised to one screen for the review process. Video recordings for Coach 1 (C1) were conducted on Mondays, and for Coach 2 (C2) on Tuesdays. Recording were processed within the two subsequent days, so for Monday’s recordings by Wednesday, and for Tuesday’s by Thursday. This allowed time for the post-session review to be conducted and data collected prior to next session being recorded. Application of the inductive analysis was also commenced in the very early stages.

Within the following sections, this Chapter will describe the themes and methods for Video recording, processing, review and analysis, which are pertinent to the post-session reviews. In was considered that theses were sufficiently explained within these sections and then reference and signposting is inserted to direct to more detail.

The post-session reviews (interviews) were exploratory in this case study nature, using the stimulation of video review to recall and to reflect and ‘develop ideas’ as well as, ‘to gather facts, [that would be] concerned with trying to understand how people think and feel’ (Oppenheim, 1990 p67). It was recognised that quantitative methods have dominated scientific (sports) inquiry (Light, 2013), but it would be the type of exploratory interview that would be suited to the qualitative data collection in relation to the research question in order to increase understanding of human behaviour (Potrac et al. 2002; Jones 1997, in Potrac et al., 2002). Coaches’ opinions and thoughts elaborate on specific areas of importance and provide perceived causal inferences (Yin 1994) from the participants’ perspectives rather than a researcher’s (possible) bias. Such comprehensive perspectives lend themselves to richer social meaning and human actions or re-actions based upon human intentions, motives, attitudes and beliefs (Potrac et al. 2002). In a social context, coaching is a complex and dynamic interaction, and here the
imperative of interpretive, qualitative methods facilitated a deeper understanding of the experiential, social and contextual factors that could impact upon the process of coaching or instructing sport (Potrac et al., 2002).

In this research case study of coaching behaviour, reflective (and metacognitive) engagement enabled coaches to express their experiences in their own words, as; ‘attitudes, opinions, beliefs and values’ (Potrac et al. 2002 p186), or as ‘feelings, thoughts and intentions’ (Patton, 1990 in Smith & Cushion, 2006 p358). This acknowledged that not every aspect is observable to tangibly represent qualitative or quantitative hard data.

The research process was intended to provide through a beneficial metacognitive and reflective experience with a meaningful data dimension with clarity to identify and thus develop coaching behaviours. From a coach in reflection (of stimulated by visual recall) perspective, focus of points for review emphasise away from (solely) in-action game-play, de-emphasising skill/technique focused practice or play. Then within the review process (of stimulated recall) and reflects as; reflective practice as a dialogue of thinking and doing through which one becomes more skilful (Schön, 1983), and probes for cognitive (self) regulatory thinking-about-thinking (Flavell, 1979), and coaches can establish metacognitive (or thinking about thinking) knowing as declarative knowledge, which is the ‘what’ part of their understanding. Further questioning of ‘how’ contextualises the understanding procedurally to levels of the know-how and know-why; engaging coaching in future or forward-thinking metacognitive strategizing (O’Leary, 2019; Flavell, 1979)

The format of the post-session review was designed to allow coaches to respond with audio recording by the researcher, allowing audio records and direct transcribing of the important data in responses (Lichtman, 2010). It was decided to label the post-session review or interview as ‘unstructured,’ as although coaches are naturalistically narrating and adding commentary to the reviewed video, there is still a requisite to facilitate input and response with; what, how and why (plus other incidental prompts/cues) to guide descriptions to be succinct and precise, but also remain emancipated and uninhibited – to be organic and naturalistic as possible.
This considered design ensured all intended issues and topics were explored, avoiding ‘massive data- loss distortion and reduction of complexity’ (Cohen & Manion et al. 2011) and steered away from post-session interview recording and transcribing verbatim, to avoid becoming ‘solely a record of data rather than a social encounter,’ with words that were not necessarily as solid [...] ‘in the social setting of the interview’ (Cohen & Manion et al. 2007 p365). Data was drawn from the narrative of reflection in situ (Cohen & Manion et al. 2011) based around the context and nature of each coaching session to enrich the experiential aspect within the coaches’ perspectives and attitudes. Any facilitative questions and prompts were purposely open-ended ‘to elucidate the experiential, contextual, and situational’ (Potrac et al. 2002 p187) (as pertinent factors), that the coaches could have perceived ‘to influence and impinge upon coaching behaviour’ (ibid., 2002 p187) and ultimately as an enrichment to this research content.

Audio recordings and hand written notes were neatly transcribed/typed for easier coding across any languages or cultural language codes (as a consideration of football-speak and/or jargon), thus a framework guide of vocabulary words was established by the Researcher to supplement and complement the data analysis process (see Chapter Three and Appendices).

The nature of the post-session review guided investigation of the appropriate topic areas and any new or emerging themes will be further probed and explored within the case study (Oppenheim 1990). Thus, the sequencing remained open-ended to ensure inclusive, systematic collation in coding, categorising and conceptualising (Lichtman, 2010) and did not restrict scope and depth of perceptual responses as the participant coaches’ reasons, meanings and perceptions, as significant factors reflecting their coaching behaviours. The post-session reviews were ultimately thematic (ibid., 2010) in the sense that the un-structured schedules were based around participants’ observed and identified coaching behaviours. Any emergent main themes were to be based upon the premises of their coaching behaviour perspectives from the responses within the post-session video review.
Post-session review transcripts were member checked (as informant feedback or respondent validation) by Researcher and verified by participant coach. This is prior to; being examined for interpretive accuracy and completeness, then identified aspects of perspectives and attitudes are to be code-tagged, followed by data reduction (Cohen & Manion et al. 2011) to produce itemised and categorised themes (Cote et al. 1993) that will sit within the conceptual framework of behaviours (as perspectives and attitudes) as correlated to the proposed principles of CATS and Game Gain orientation (identifying with Lichtman, 2010).

Review data was subject to inductive analytical theory (Cohen & Manion et al. 2011; Lichtman, 2010; Potrac et al. 2002; Saury & Durand 1998; Manning 1991, and Goetz & LeCompte 1984) to broaden and deepen meaning of data in this research, and produce a store of attitudinal and perceptual expressions (Oppenheim, 2002) as themes and concepts coded (descriptive and topical) (Punch, 2009) by meaning and classified with categorising and ordering of the coding units (Tesch, 1990), whilst monitoring frequency (Miles & Huberman, 1994; Kerlinger 1970, in Cohen & Manion et al. 2011). Themes that related to objective behaviours and based upon perceptions and attitudes in the participants’ coaching, were represented by the; objectiveness/situational, experiential, epistemological/philosophical and contextual/conceptual perceptions and attitudes (Potrac et al. 2002) that identified the behaviours being explored within the context of coaching environments.

4.13 Stimulated Recall

The post-session review and observation of the merged and synchronised video recordings were to ‘direct [coaches] to the past […] to view past actions,’ (Rissanen, Kuusisto, Hanhimaki & Tirri, 2018 p68) as stimulated recall and investigate ‘concurrent cognitive activity’ (Lyle, 2003 p861) when ‘prompted by a video sequence’ (ibid., p861). Lyle (2003) had previously identified that there was relatively very little literature on stimulated recall (particularly in sports coaching), and that there were potential limitations to the use of stimulated recall as coaches could reorder events and exhibit biases of
control. When [coaches] view themselves in the video recordings used to stimulate their memory, they are able to recall or articulate their thoughts with greater validity (Rissanen et al., 2018; Tochon, 2009). As in the work of Rissanen et al., (2018) video recording in this research were viewed post-event with additional supporting notes (if they were required) with the aim to identify with critical incidents as Rissanen et al. (2018) termed it, or key or indicative moments as it is termed within this research, and this was in line with Flanagan (1953 in Rissanen et al., 2018) purporting that stimulated recall is ‘the aim is to collect certain important facts relating to well-defined situations’ (Flanagan, 1953 in Rissanen et al., 2018 p68).

4.14 Qualitative research method

Prologue

The early stages in the development of this thesis saw the planned methodology including a quantitative element removed. However as methodology would be, or, include a quantitative element; it evolved through the processes of pilot work that the Research Methodology would ultimately be qualitative, inductive, and conducive to emancipatory emergent data.

It prevailed, following much consideration and initial application of quantitative method of systematic observations of coaching behaviours that would relate to other quantitative methods to collate data on coaching behaviours relating to gaze direction and attention to on-the-ball or off-the-ball, and also proximity to the ball/action (see Chapter Two and this Chapter).

In time, the systematic observation data of coaching behaviours became the examples of operational definitions for participant coaches whilst exhibiting a profile of their coaching behaviours within the multi-perspective video in review. Gaze direction sheets were also to provide some quantitative purpose to facilitate the post-session review and representation of gaze directions, and to what (see Chapter Two). In turn, the information from systematic observations of coaching behaviours and that specifically relating to gaze direction, was to contribute to; a) identify timeframes of video to focus upon,
and, b) form a guiding/facilitating interview sheet to help focus the coach to those identified timeframes, and within that, to stimulate recall with supplementary questions to further probe for more information from the coach.

Within the initial post-session reviews, it was determined that the systematic observations of coaching behaviours, gaze sheets and interview sheets would not be used. As it quickly transpired that participant coaches naturally produced considerable data as narration and commentary in reviewing the multi-perspective camera video recordings.

‘There are no formulae […] for the best way to analyse the stories we elicit and collect […] such approaches enable us to think beyond our data […] in stories socially and culturally managed and constructed’ (Coffey and Atkinson, 1996 in Lichtman, 2010 p80)

The Researcher would point out that, due to the erratic and unpredictable nature of the academy featured in this Research where the participant coaches (both in pilot and main study) work, that the timetable for conducting research unpredictable and despite provisional arrangements, these could be cancelled or postponed at any time. That said, last minute opportunities arose to conduct research and collect data, and accidently because of the aforementioned, the timings and the way things did run allowed for the post session reviews and interviews to being very soon (normally 2 to 3 days) after the session. This also permitted the post-session narrations to be transcribed and the inductive analysis process to commence (to a number of the 3Cs steps, see throughout this Chapter) which meant that the recording of sessions, post-session reviews and analysis (accidentally) run concurrently (see 4.12).

In the pilot study 2 coaches were recorded in video as per method explained in section 4.7.2 (see also Appendix 5.1) for 2 sessions per coach of 40 minutes each, this was allowing for between 30 to 60 minutes to be possibly captured. The recordings were conducted over 3 week period due to erratic and unpredictable timetabling of training sessions within the Club. From the 2 cameras as a collated format (coach camera and whole practice perspectives,
see 4.7.1), this accumulated 4 x 40 minutes of footage, yielding a total of 160 minutes or 2 hours and 40 minutes.

*The processes of (testing) the research processes are the same as per the main study, although more refined within that. Therefore, refer to the collation, analysis and presentation details in the following paragraphs and also see Appendix 5.1 to save repetition.*

For the main study, the participant coaches \((n=2)\) were recorded for 6 sessions each for 40 minutes. Two or three sessions showed activity of a few minutes (*no more than 3 minutes*) less than the full 40, but in post-session review the collated images were still viewed, and time was still filled with active viewing and narrative. Overall, in consultation with the Club’s academy and supervisors, the Researcher determined the number of sessions to be manageable and sufficient for purposes. With the collated video footage of the two camera perspectives (*‘a’ coach camera 40” + ‘b’ wide angle 40”*) equating to one quantity \((a + b = 40")\), the total amount of recorded and collated video footage was 480 minutes (8 hours).

The coach camera and whole practice recordings were collated to one screen using Final Cut Pro software (provided in agreement and in accordance with Licence by the Club), where the two recordings could then be viewed in synchronicity for post-session review and reflection as stimulation for recall. In this case study research, as in the work of Rissanen *et al.*, (2018) the post-session review of video by coaches used the observation and identifying of critical incidences as key or indicative moments as stimulation to recall thoughts (of actions) as ‘opportunity to reflect’ (*ibid.*, p68) in reflection.

Ultimately, the presentation of the video for post-session review avoided being overly structured (with selected timeframes, questions, cues and prompts) which could cause the coaches restructure events or exhibit biases in their accounts. Instead, any stimulation to recall was opportunity to exhibit ownership of the video within a comfortable environment that could be termed ‘naturalistic’ (Lyle, 2003).
The stimulated recall that contextually ensued to evidence a shift from reflection to analysis, as coaches were descriptive with meaning, narrating upon, ‘reasons for actions, interpreted behaviour and how they reacted’ (Rissanen et al., 2018 p68); this follows the paradigmatic shift as a conceptual leap from reflection to analysis in coaches. The manner in which coaches reacted to being ‘stimulated’ to ‘recall’ in post-session video reviews is expressed in Chapter Five.

Post-session narratives (as the coach explaining and commentating upon the video being reviewed – if an operational definition is required) were the source from which the constructs and composites of emergent data were derived with reasoned interpretation applied by the Researcher (Lichtman, 2010). The transcribed narratives and commentary was recorded on a generic (non-branded) dictation device, on Apple iPhone (various series) and iPad (various series) devices and supported by notes taken by the Researcher. Post-session narrations as recording were transcribed using a small variety of dictation and voice to text applications, then copy and pasted to Microsoft Word, before being proof read by Researcher and checked by respective coach. This was conducted for all transcripts before they were printed.

The resultant transcripts collated from the coaches’ constituted the raw data that underwent several rounds of coding to attempt to establish coding commonalities that existed within the raw data transcripts. ‘In keeping with the iterative nature of the process’ (Lichtman, 2010 p197), the transcripts were scanned (by eye) with notes added and initial coding undertaken to highlight areas to revisit.

The codes, often single words, were grouped as categories which were then extended to higher-level categorisations, from which concepts and conceptualisations were ultimately produced from the coaches’ own voices; the rich reduction of inductive emergent data led to a number of conceptual high-level themes (see Chapter Five for explicit examples).

The presented ideas of Creativity, Autonomy and Tactical Sense (CATS) (as part of Game Gain) are not pre-determinant (as themes) but are to be essentially linkage for the ultimate findings. The conceptual high-level themes
were then referenced where applicable to the ideas related to Creativity, Autonomy and Tactical Sense as it is explored within Literature Review and further presented in Chapter Three.

As each post-session review narrative/commentary was transcribed and analysed (by at least one level) before the next post-session review was conducted, as Lichtman (2010) advised, ‘it [analysis] must begin early in your project’ (Lichtman, 2010 p195). Thus to ensure the analysis would not be superficial with (possibly) erroneous or flawed concepts or conclusions.

The step process for Lichtman’s (2010) 3 Cs approach was used for inductive coding was implemented as explained here. Examples or the actualities are best viewed by referring to Chapter Five (section 5.2, Tables 2 & 3) on how the process analysis process functioned.

1. Initial Coding; each post-session review narration was transcribed (via dictation devices and iPad and iPhone, this was transcribed via dictation application (see earlier in the section) and checked and proof-read and printed to Microsoft Word document. Each transcript was initially coded in several rounds by manually underlining and highlighting with added notes, prior to the next post-session review being undertaken.

2. Revisiting Initial Coding; each initial coded transcript of narration was re-analysed to verify underlined/highlighted and noted codes in order to eliminate any that were not considered relevant, to check for new ones or any that were missed, and to consider commonalities in those selected codes (see Chapter Five for examples of this process).

3. Initial draft List of Categories; the identified and re-examined codes were then organised into categories, whilst being aware that some may form major sets, and others subsets or minors. Whilst some codes maybe absorbed into the categories, words that would be presented as quotes were preserved in their most entire form (see Chapter Five for examples of this process).

4. Revisiting/Modifying Initial Lists; continuing the iterative process transcripts codes and categories were checked (to be valid, reliable and consistent), that
they stood as distinct categories and/or they may need to blend with others or be eliminated.

‘Remember that your goal in the 3cs analysis is to move from coding initial data through identification of categories to the recognition of important concepts’ Lichtman, 2010 p199)

5. Modifying Initial Lists; process to identify critical elements that needed to be enhanced by following-up with, possible revisiting of prior points, and/or to remove considered redundancies or by considering prior points, to search for and offer them some verification.

6. Constructing Categories to Concepts; identify key concepts as the presented high-level themes ‘that reflect the meaning to the data’ (Lichtman, 2010 p200). A smaller number of concepts would be the aim within this research, five to seven according to Lichtman (2010); to present as high-level themes that are ‘well-developed,’ ’supported concepts’ and, ‘for a much richer analysis’ (Lichtman, 2010) (see Chapter Five for examples of this process).

From the ideas of Caulley (2008) in Lichtman (2010), the presentation for communicating the ideas as Findings and Discussion, a) ‘used realistic details’ of what coaches reviewed and interpreted in details that formed narratives of video observations, and then, b) presented ‘captured conversation’ that used the words of participant coaches, whereas to interweave quotes and words with relevant references and points (in Literature Review and other Chapters) that needed to be emphasised and discussed.

To avoid the prescription of any preconceived premises and inevitable ‘bias to conclusions’ (Cohen, Manion et al., 2007 p6), this research process was intended to be permissible to data from individual cases without dependence to preconceived hypotheses. Thus accumulative emergent data was significant in meaning to form relationships, building to the presentation of original conceptual high-level themes, without a demand for traditionally perceived empirical evidence. Then ultimately the process of constructing and conceptualising as high-level themes evolved through the coding and categorising process of analysis to the point where the researcher was ‘not
learning anything new’ (Lichtman, 2010 p194) within sufficient data as a ‘theoretical saturation’ (Glaser, 1978 in Lichtman, 2010).

The number of sessions to film and review was set within the allocated timeframe, which was dependent upon the participant club’s timetable and has been detailed further as much as conditions and events permitted within this Chapter.

The research process that involved the recording and collation of multi-perspective video cameras’ footage, along with the presentation for observation, review and analysis by the coaches in post-session reviews; evolved to be an eminent aspect of this research. It evolved and developed that the whole aspect/process should be named for the purposes of this research and also for the purposes of becoming an integral service to the Researcher’s commercial directive project of Game Gain; coach sense, game sense © The revealing of this is left to, and, can be seen in Chapter Five)

Recording and presentation of video observations and post-session review leading to the inductive qualitative analysis processes for data collation was substantiated by the methods by cross-checking accuracy of data as by multiple sources (LeCompte & Preissle, 1993 in Cohen & Manion et al. 2011). There was evident convergence of results with complementarity (ibid., 2011), and; development and expansion to exhibit an initiation of fresh perspectives with added depth and scope’ (Green et al. 1989 in Tashakkori & Teddlie, 1998, p43) of ‘multiple perspectives, multiple interests and multiple realities’ (Patton, 2002, p575). This provided trustworthiness to this primary research with the data obtained from coaches’ pro-active reflection and analysis recorded in post- session reviews and to add understanding to definitions; [and] to make speculative inferences objective (LeCompte & Preissle, 1993 in Cohen & Manion et al. 2011).

Therefore, it was the naturally produced narratives that represented the emergent data as inductively derived to produce the codes, categories and concepts as high-level themes that were referenced and where relevant, linked to CATS. The deductive approach was fully considered where the pre-existing research and literature (as reviewed) would pre-exist to potentially
pre-determine the coding, categorising and conceptualising, in this case that would (have) related to CATS. In the case of this research, the considered preference was for inductive methods for emergent data as a less inhibited and more emancipatory approach, which would be more relating to coaching behaviours that could arise as conceptual high-level themes (see Chapter Five for examples).

It should be reiterated that more information upon how data was collected and collated with technologies (hardware/software) see sections 4.7.1, 4.7.2, 4.11, 4.12, 4.13, Appendix 5.1) and for more insight into methods (in theory and practice) see throughout this Chapter and Appendix 5.1. It is suggested that the detail presented is not necessarily a prescription that should be followed verbatim, and that he methods as technology, theory and practice explained and detailed herein are as much about the philosophy of research methodology, as the application. The Researcher has learned much through this research process, and would certainly consider doing things different next time.

4.15 Ethics

Participants were purposely selected as being freely willing to actively participate within the research as set out herein. The identified selection provided for a purpose selective sample of willing participants for this research chosen from a group known to the researcher from football coaches that are within the known network of the Researcher.

The Researcher of this project utilised his professional and operational position within the coaching community network and fraternity to purposefully identify and access coaching participants from within the professional club environments. All participating coaches were consenting adults, both as an ethical consideration and criterion as a requisite to participation within the research. The content of the research processes and products did not relate directly to any of their players (as minors or otherwise as they are were not
the subjects), but emphasis was based purely on their coaching behaviours, perspectives and attitudes.

Only coaches working with players of 18 years of age and older were involved within this research, with checks (having been) carried out to ensure that; the coaches have qualifications and no adversities existed that would limit their participation. Also that the club/s, the facilities and appropriate amenities were in line with insurance, health and safety, and also that they met with requisite and appropriate risk assessments.

The Researcher held a valid (clear) Disclosure Barring Service check through the University of Southampton and additional observers were also held valid (clear) Disclosure Barring Service, Criminal Records Bureau (CRB) Disclosures, and this was also enquired about regarding the coaches being observed. It is to note that that DBS/CRB have often been organisation/job specific, and thus were not regarded as imperative requisites from a research protocol, ethics or safeguarding perspective. Both the coaches and players were informed that only the coach would be observed, and that no direct interaction involving the researchers/observers and the players would take place.

With potentially (such) a volume of players being subject-bystanders to coach observations of video recording and analysis procedures, ethically it was considered less problematic to observe and record coaches of eighteen years of age or older (non-minors) (Cohen & Manion et al., 2011). It was considered that within ages of players being image-recorded but not subjects or participants of the video analysis, that within any likelihood of an insignificantly small number (of minors via parents/guardians) not consenting to being image-recorded, that validity, reliability and consistency could therefore be considerably compromised within video methods. Thus, all observations of all coaches used during video recording of adult coaches and adult players, then if and when necessary where any player may fall under the age of eighteen years (as a part of a recorded session but not as participant-subject to the research video analysis process) - a right to be excluded can be expressed.
This was an absolute consideration and ultimately there were no known cases.

Consideration was also given to the Hawthorne Effect, whereas subjects as participant coaches would act knowingly that they are effectively the guinea pigs, under some scrutiny. Observational collations could be viewed as a form of assessment which could potentially distort or disturb their performance, possibly to be perceived as better, worse or indifferent, but the key part of the observations as video analysis in this research process, aimed to identify coaching behaviours, rather than being pinned to performance objectives and coaching and playing measurements. Any considered practical aspect to reduce any impact on the research process, video filming and the presence of researcher/s was made to avoid any reactivity from the participant to; avoid, impress, direct, deny or influence the researcher or the processes of the research (Cohen & Manion et al., 2011).

There was be a sense of (ongoing) negotiation between the Researcher and coaches whilst in the field to normalise research presence and also positional presence of video cameras. Then after considering all (other) ethical measures and conducting the observations and recordings (completely) overtly, it was considered by the researcher that behaviours (as a variant from the norm) of coaches and players; would not be affected sufficiently to distort the process of the research in observations, video (visual and audio) recordings or other research methods of review, interview or stimulated recall as recorded or transcribed. Consideration was also afforded to the halo effect, which could have otherwise been a threat to validity in this research.

Particularly from a coaching or coaching observation perspective, assessing observers (possibly in other circumstances) could exhibit tendencies to identify only the good or bad parts of coaching performance. A preconceived understanding or belief of what should happen on the part of the observed coaches could also influence behaviours as a self-fulfilling prophecy effect (Cohen & Manion et al. 2011) was the nature of the research process in observation, as to; identify only the aspects that relate to coaches perspectives and attitudes of their coaching behaviours.
The position and presence of researchers as observers and recording equipment was conducted consistently with overtness; minimalized and non-intrusive to the actualities of the coaching session. Any addition agreements with clubs, organisation, (line) managers and also individual coaches (where necessary) were (where required) obtained prior to conducting the research.

All relevant Ethics, Research and Governance Online project (ERGO2) aspects including insurance was completed and approved by the University of Southampton, and Consent and Information forms distributed and completed by participating coaches and organisations where appropriate.

The participants’ data, information and identity used complied with the General Data Protection Regulations (2018), Data Protection Act 1998, and associated University or Southampton policy. The information and data were stored on password protected computer and memory devices (all locked). Anonymity was afforded to all within the published and printed research and (has) remained completely confidential. The data will only be stored for the time required by the Research and no longer, whereas it has (or will) be completely erased; all in accordance with University of Southampton ethics and protocols.

The Researcher understood the expectant responsibility to be aware of, and, compliant as required before commencing any project. This involved; seeking (other) specific ethics approval where there was an institutional, company or national policy or system to support this. Seeking any management approval from any organisation that may have hosted the research, such as other federations for sport, clubs, parents, players and coaches (where necessary and applicable).

In addition to complying with any relevant requirements, the Researcher understood that the University of Southampton expected that the Researcher, additional researchers affiliated with the research and the research processes to abide by University of Southampton standards as a minimum. And as such, that the research study complied within the scope of the University of Southampton Ethics Policy, which was submitted for applicable ethical review.
and governance oversight (i.e. registered on the University online ethics and governance service ERGO II).

4.16 Summary

Research philosophies, as a positivist perspective can influence the approaches to be undertaken as specific aspects of coaching behaviours or perspectives and attitudes were sought to be understood and verified with validity and reliability (Darst, Zakrajsek & Mancini, 1983), rather than just yielding data generated generalisations.

The purposeful sample selected formed a valid and reliable data source in relating the inductively derived qualitative emergent data to the principles of Creativity, Autonomy & Tactical Sense (CATS) from Game Gain. As a pragmatic approach, with constructed knowledge based on the realities of the experienced and lived world and within the realms of phenomena; the qualitative data became the focus through the case studies' methods of interpretative and exploratory post-session video reviews (and stimulated recall). This is in line with the identified changing perspectives and attitudes to provide concurrent validity, and also the critical reality that is drawn with reliance; thus avoiding ‘simple artefacts of (just) one specific method of collection’ [and analysis] (Lin 1976, in Cohen & Manion et al. 2007, p141).

Narratives were the primary source of data that underwent coding to establish coding commonalities that existed within the transcripts. ‘In keeping with the iterative nature of the process,’ (Lichtman, 2010 p197), the transcripts were scanned several times and thoroughly from which the constructs and composites of emergent data were derived with reasoned interpretation and applied by the Researcher (Lichtman, 2010).

The presented ideas of Creativity, Autonomy and Tactical Sense (CATS) (as part of Game Gain) are not pre-determinant (as themes) but are to be essentially framework and linkage for; coding and categorising of the inductively emergent to conceptualise to high-level themes. The high-level
themes are then to be referenced to the ideas related to Creativity, Autonomy and Tactical Sense.

As mentioned earlier in this chapter, and from the ideas of Caulley (2008) in Lichtman (2010); the presentation for communicating the ideas as Findings and Discussion, a) ‘use realistic details’ of what coaches review and interpret in details that form narratives and commentaries of video observations, and then, b) present ‘captured conversation’ to use the words of participant coaches, whereas to interweave quotes and words with relevant references and points (in Literature Review and other Chapters) that need to be emphasised and discussed.
Chapter Five

Findings and Discussions

5.1 Introduction

The purpose of this chapter is to present and discuss the qualitative data that this research produced. The findings are structured around a set of conceptual high-level themes that emerged as a consequence of the inductive approach of the exploratory and investigative case studies of coaches’ pro-active reviews of video analysis employed within this thesis. The proposed ideas of Creativity, Autonomy and Tactical Sense (CATS) that sit within the proposed orientation of Game Gain form linkage to conceptualisations to house the inductive and emergent themes.

The high level themes emerged inductively through the qualitative inductive research methodology processes (3cs, Lichtman, 2010) from coaches’ narrative (commentaries of their observations) content of in-depth descriptions. These represent their understanding and interpretation of coaching experience and to contextualise and substantiate the phenomena of interactions as a participant within this research thesis as Game Gain.

The research raised two questions as the research directive, within the form of an exploratory and investigative case study approach that comprised the qualitative inductive research methods (see Chapter Four).

Firstly; in post-session review of video and through stimulated recall, what indicative and key moments do coaches identify that provide the basis for reflecting and analysing upon their coaching behaviours?

Secondly, as a function of post-session video reflection and analysis; to what degree can coaches construct understandings of their coaching behaviours that align with notions of coaching Creativity, Autonomy and Tactical Sense?
In providing almost exclusive narration that covered exhibition of coaching behaviours 6 to 14 (see Chapter Four and this Chapter), coaches were stimulated to recall in articulation through the Game Gain video review method; that which they were noticing or noticed.

Through the coding, categorising and conceptualising phases of the inductive qualitative process, the content predominantly presented words, phrases and sentences that expressed use of the senses as in seeing or hearing when observing the video.

5.2 Inductive 3C’s

The process of qualitative coding, categorising and conceptualising (as emergent high-level themes) was evolved through inductive process of analysis according to Lichtman’s (2010) 3C’s approach (see Chapter Four), which, as per Research Methodology is depicted across the following six points. This sub-section ‘outlines’ how that was conducted.

1. Initial Coding; each post-session review narration was transcribed then each transcript was initially coded (by manually underlining and highlighting with added notes), looking for frequency and commonality, which initially yielded individual words.

2. Revisiting Initial Coding; each of the Initial Coded transcripts that has been initially coded were re-analysed to verify underlined/highlighted and noted codes, possibly to eliminate any that are not considered relevant, to check for new ones or any that were missed, and to consider commonalities in those selected codes.

3. Initial (draft) List of Categories; the identified and re-examined codes were then organised into categories, whilst some (coded) words were considered to be absorbed into the categories.

4. Revisiting/Modifying Initial lists; continued the iterative process to check codes and categories were valid (reliable and consistent), that they stood as distinct categories.
5. Modifying Initial lists; identify critical elements that might need to be enhanced by following-up with, possible revisit of prior points, remove (considered) redundancies or look for other relevancy (using prior points).

6. Constructing Categories to Concepts; identify key concepts (high-level themes) ‘that reflect the meaning to the data’ (Lichtman, 2010 p200), and to present as concepts (high-level themes) that are ‘well-developed,’ ‘supported concepts’ and, ‘for a much richer analysis’ (Lichtman, 2010 p200).

Table 2

<table>
<thead>
<tr>
<th>Initial Codes;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
</tr>
<tr>
<td><strong>2</strong></td>
</tr>
<tr>
<td><strong>3</strong></td>
</tr>
<tr>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

Table 2 represents samples of the initial coding that were produced from several scans (as per points 1 and 2), and have been grouped here with relevancy to the categories and concepts (as high-level themes) that they would constitute.
These were rechecked as a process of points 1 and 2, then the following categories were established, as a process of points 3 and 4 with some consideration to point 5.

### Categories;

<table>
<thead>
<tr>
<th>Observing</th>
<th>Accommodating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td>Permitting</td>
</tr>
<tr>
<td>Reviewing</td>
<td>Mistakes</td>
</tr>
<tr>
<td>Analysing</td>
<td>Independence</td>
</tr>
<tr>
<td>Reflecting</td>
<td>Risks</td>
</tr>
<tr>
<td>Reflection</td>
<td>Opportunity</td>
</tr>
<tr>
<td>Questioning</td>
<td>Sense of actions</td>
</tr>
<tr>
<td>Problem-based Learning</td>
<td>Noticing with Attention</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>Awareness</td>
</tr>
<tr>
<td>Silent coaching</td>
<td>Anticipation</td>
</tr>
</tbody>
</table>

Table 3

Upon revisiting initial codes established through processes of points 1 and 2 that led to produce categories through point 3 and 4, point 5 was considered, then point 6 was applied. The following is the list of Concepts (as high-level themes) that have evolved as a rich reduction of the inductive emergent data of Lichtman’s (2010) 3 C’s approach.

**Concepts (high-level themes);**

1. Video-reflection to video-analysis
2. Noticing
3. Silence
4. Questioning
5. Decision-making

From the ideas of Caulley (2008) in Lichtman (2010), the presentation for communicating the ideas as Findings and Discussion will, a) ‘use realistic details’ of what coaches review and interpret in details that form narratives and commentaries of video observations, and then, b) present ‘captured
conversation’ to use the words of participant coaches, whereas to interweave quotes and words with relevant references and points (in Literature Review and other Chapters) that need to be emphasised and discussed. To avoid the prescription of any preconceived premises and inevitable ‘bias to conclusions’ (Cohen, Manion et al., 2007 p6), this research process is representative of accumulative emergence data significant in meaning to form relationships; building to the presentation of the concepts, without a demand for traditionally perceived empirical evidence.
5.3 Paradigmatic shift – Conceptual leap

There was also a change or paradigmatic shift that was noted. Coaches’ initial narrations noted aspects that they saw, and then as the noting became noticing (as will be explored more later in this Chapter), the reflecting (of happenings/events) in narratives and commentaries shifted to descriptions and meanings as a conceptual leap from reflection to analysis (self and critical). Within the contextual content to which coaches attached their reflection that built to analysis and self-analysis, the cognitive became metacognitive.

The initial research methods were intended to depend upon stimulated recall through the observation of pre-selected timeframes that would be supplemented by facilitative prompts and cues, with additional questions to further explore the stimulated recall (see Chapter Four). Coaches were stimulated to recall by the observational review of video, but more in the sense that they were comfortable to be autonomous of the video and the process.

Coaches’ narratives instantly shifted from noting and noticing of happenings and events as cognition and reflection, to; descriptions with more meaning, as metacognition and analysis. This represented a paradigmatic shift, as a conceptual leap in the post-session review; from reflective to analysing, from; cognition to metacognition.

5.4 Concepts as High-level Themes

The following section presents and discusses the concepts as high-level themes that emerged following an inductive analysis of the qualitative data gathered from the participant coaches. This will be described as they relate to Creativity, Autonomy and Tactical Sense (CATS), Game Gain (GG) and the literature explored within Chapter Two. Themes comprise the rich reduction of coaches’ narratives as an organic source of their perceptions and interpretations of the video review/reflection/analysis.
As described in Chapter Four, the initial intent was to use systematic observation to generate quantitative data. However, this was changed to conduct the functions to; a) provide a background profile of general use of coaching behaviours, b) demonstrate to coaches how (their) coaching behaviours would appear (to be seen/heard/sensed) in video review.

This initial planning and preparation was afforded to systematic observation of video footage, physical gaze direction data, use of a questionnaire to guide and/or prompt the post-session review as a quantitative measures. As explained in Chapter Four and within this Chapter, apart from (unofficially) representing a background profile of coaching behaviours, the aforementioned were not required and were no longer considered. As a result of the initial post-session reviews with coaches considerable qualitative data emerged that was then analysed inductively.

5.4.1 Video-reflection to Video-analysis

The processes used in this research of the post-session video review method that is perceived to be original in its format (see Chapter Four). Through the processes, a paradigmatic shift represented a conceptual leap that evidenced coaches’ reflection in identifying happenings and events, and that, which quickly shifted to more meaningful descriptions and to analysis (see Section 5.3). For the purposes of presenting this concept or high-level theme, this will be referred to as video-review, or, video-reflection to video-analysis. Considerate of the context of this research, the content and conceptual positioning and commercial direction; this method will now be called Game Gain, Reflective Observational Video Analysis or GG-ROVA.

In reference to GG-ROVA, new technologies, or methods to use technology as within Game Gain research, can initiate, stimulate, broaden and expand how we think about creativity systematically (Henriksen et al., 2016 p35). In a reciprocal way technologies [have] supported creativity, even as creative approaches create new ways to use (repurpose) technologies for pedagogical purposes (Henriksen et al., 2016 p35).
This section explains the evolution of the method of the post-session video-review method (see Chapters Two, Three & Four). The use of video recordings was originally considered to produce quantitative data representation within this research, but as explained in 5.2 and within Chapter Four, a change of approach evolved during piloting and very early research work. Thus, as mentioned in previous section, any aspects of systematic observations became a profile-like background profile, which served as a meaningful reference point for defining what coaches would identify as key or indicative moments in post-session video review. The method of recording video in this research comprised the coach camera and the wide-angled field camera, and then merging and synchronising the images to one screen became pertinent and pivotal within coaches’ narratives about what they ‘noticed’ (see Chapter Four).

The method of video to review (for reflection and/or analysis) was original in the format used within this research, and it has served to generate rich and meaningful commentaries from coaches that have formed the inductively derived concepts as high-level themes.

It was evident that coaches understood the representation of the full spectrum of operationally defined coaching behaviours within the systematic observation definitions, and also seemed to identify a conciliatory and balanced blend of use of all coaching behaviours. It could be suggested that the profile of data from the (four) conducted systematic observations could be used as constant comparative piece of some sort, as coaches (almost totally) exclusively provided narrative and commentary to 6 to14 (those not based upon demonstration, drills, telling, instruction and correction 1 to 5) (see Chapter Four & Appendices 5 & 5.1). The consideration could be to whether the coaches felt they needed to fill these sections of the video in review, to explain and give detail that sections that (maybe) did not seem so apparent to someone as a ‘viewer?’ To consider that the richer qualitative data of the inductively produced content and context of video-reflection (as review of post-session which) led to video-analysis that would be more meaningful where review sessions’ narration was only facilitated with an occasional ‘what,
how or why’ question to look for clarity or extend on the narrative given (see Chapter Four).

The post-session reviews with coaches allowed them to commentate and provide narrative in reflection of what they saw from the wide-angle camera video perspective and of what they saw of themselves from that wide-angle field camera video perspective. They also reflectively commentated to provide narrative of; the coach camera angle perspective and field camera angles separately, but very much in the main, narration related to cross-referencing of these two angles perspectives merged and synchronised to the one screen, and within the merged and synchronised video, the reflection of happenings and events became analysis with descriptions with more meaning. This applied to reference where the action or ball was, with the ball in possession, duelling for possession of the ball, and also to where coaching behaviours or attention was being applied in relation to other reference points such as; off the ball, away from the action *inter alia* (see Chapter Four). The video in review preserved and presented a temporal and sequential structure in order for coaches for a fluid review and reflection in real time with no need to cut or isolate segments, or time reference (Jewitt, 2012).

‘Communication was often non-verbal’ said C1, as he filled with commentary the time frames that in video appeared silent, and silent coaching behaviour appeared to ‘cue’ narration of silence (in video-reflection). C1 stated as he viewed an instructional behaviour that finished and a time frame of silence begun, ‘that’s my cue,’ as he commented upon what he noticed about his (in video-analysis) *noticing*.

Within the video-review method two cameras perspectives produced ‘rich non-verbal cues’ as observational empowerment to stimulate recall. Although within this research it has been stated and thus purported that the stimulation to recall was overridden by the coaches’ being autonomous with the video, as in reflection of the captured multi-perspectives that, in it’s self, represents naturally occurring data (see Chapter Four), coaches leapt from reflection of video, to, analysis of the video.
‘I could see there when looking there, but was also looking there […] and seeing there,’ stated C2 (in video-reflection), adding, ‘does that make sense?’ in looking for understanding and affirmation, which the Researcher confirmed, ‘Yes, it does.’ C2 then added as a comments (in video-analysis), ‘even when I’m not barking (verbally instructing etc.), I am coaching […] I am noticing more when not saying something […] seeing it like this […] I notice that, and am more aware of the noticing whilst coaching.’

In line with the perspective of Jewitt (2012) the multi-perspective camera angles represents a fine-grained multimodal record that can exhibit such aspects of ‘gaze, expression, body posture and gestures’ to stimulate recall in post session review. Although it was suggested that within such a fine-grained multimodal video that the supplementation of audio (in recording) verifies and validates the video (Jewitt, 2012), it was the absence of audio of instructive coaching behaviours that represented silence (passive and non-passive) coaching behaviour that stimulated or accommodated C1 and C2’s narration of video; in reflection and then analysis. The filling of these video segments (of silence coaching behaviours) with rich qualitative descriptions ensures that those portions of the video are not misinterpreted or distorted, and that the descriptions are naturally occurring within the flow, with no need to adjust (slow, fast-forward or pause/freeze) the video to capture its essence (Snell, 2011; Jewitt, 2012). The merged and synchronised (to one screen) video perspectives flowed without the need for use of editing tools (slow, fast-forward or pause/freeze), whilst the observational reviewing allowed for commentaries within real-time sequencing (Jewitt, 2012).

The potential to partiality (Jewitt, 2012) was overcome by the implemented video-reflection with the use of ‘two cameras in-situ’ (Jewitt, 2012) that did not (actually) generate ‘new [perceived] events’ as contrived representations of the [actual] naturally occurring reality. C1 commented on how he, ‘felt comfortable whilst doing it [filming during coaching], and surprisingly even more comfortable’ (C1). Overtness was apparent and acknowledged, with the sense of comfort of the cameras presence that did not cause ‘reactivity’ or potential Hawthorne effect (see Chapter Four), and therefore, the interpreted
contextual content richly added to the naturally occurring data layering, provided a reliable and valid source of empirical qualitative data.

In videoing that which naturally occurred, the footage provided the reflexive medium (video) with the reflective narration stimulated through post-session review produce emerging data that was [with video] ‘layered and saturated with interpretation’ (Goldman, 2009 in Jewitt, 2012 p10). The narrations of C1 and C2 further processed the cumulative data of video in reflection and supplemented audio of reflective commentaries to represent something that is more ‘visible because of how we see them rather than simply because they [the videos] are observable’ (Pink, 2006 in Jewitt, 2012 p10), which could have also facilitated the conceptual leap from video-reflection to video-analysis.

‘With enhanced awareness and ability to think about players’ performance differently, I have been able to add richer detail to players learning and performance profiles,’ C2 said. The Researcher then clarified that C2 was adding information to speak more about creativity and how that looks as something more cognitive than physical in representation.

‘I can’t just see more, I can sense more – if you know what I mean?’ ‘I am seeing a true image of what I sense […] again and again’ (C1)

During the initial analysis for coding categories identified that coaches spoke more about what they ‘sensed;’ seeing, hearing, observing and towards the high level theme of ‘noticing.’ Which, in turn related to coaches mainly or in the majority of instances upon behaviours more in the less instructive end of spectrum (see Chapter Two). ‘I am able to see more with the two views’ (2 cameras cross-referenced) ‘but I can see from my (chest mounted video footage) camera that I am not focusing on exactly where the ball is or who has the ball…. what I can see in that video [the coach camera footage – coach points to that part of screen] is I am observing things that (I) was not so aware of at time’ (C2).

C1 and C2 both used terminology that was identified within coding that described ‘network’ or ‘networks.’ C2 said, ‘I can see there (pointing to screen) that I am connected to the action and also to the centre back (away
from action), and am connected like a silk of a web to there and there [...] it’s like a network.’ In alluding to network, there is a sense of awareness, noticing what is important (to him – the coach), seeing things, sensing things; the ball, the action, around the ball and action, away from the ball, ‘it’s like strings of a web, a connections network,’ C2 further added in analysis.

Networks of interactions were depicted as the coach noticed and interacted with players, and if a diagrammatical representation was constructed based upon one player (Bokhove, 2016) ‘the competing (action) for ball was right in front of me, but I can see that I was more conscious of what was happening right over there [...] seeing how that player and that player were engaged, anticipating their [making] decisions’ (C1 in analysis) (see Chapter Two).

‘With the advantage of being able to see the whole area/pitch, I can also see what I am doing, or more so, where I am looking [...] that’s my attention, yes it’s more attention’ (Coach 1).

Networks were variable and flexible with the coach as a possible denominator for interactions (as exchanges of learning) which within this research apparentness that coach-players interaction as a network went far beyond any narrow dimensional interaction understanding (Bokhove, 2016) to discover richer and more complex communities of interaction within the realms of communicative aspects of tactical decision-making of (more) social relationships and networks.

Coaching behaviours are many things, with definitions (see Chapter Two), operational definitions (see Chapter Three) and variant perceptions. It has been apparent and evident that in post-session video-reflection and video-analysis that a greater realisation and deeper understanding was gained through coaches reviewing the multi-perspective merged and synchronised video. They identified non-biased attention to intentionally and unintentionally ‘pay attention to what is important (Walker, 2019). They reflected on the reality of saying nothing as silence can both readily recognise situations and players in engagement and connectedness, and thus accommodate their ‘perceiving, processing and producing’ as decision-making and action. This realisation of both C1 and C2, was ‘not always being drawn to the action and ball [micro] and equally being aware of other and all things [going on],’ and C2
built upon this in saying, ‘noting what is going on away from the ball is giving them opportunity to be creative […] thinking and cognitive [cognitively was meant here].’

Culture, philosophy and methodology in coaching, or the perceptions of these aspects has largely remained unchanged (see Chapter Two, 2.11), and even with the aid of video (in review) the behaviours of; direct instruction, command-based, re-modelling, along with hustle/scold – all possibly with an attention bias to action and ball aspects; as what was referred to as a traditional coach-centred approach (Smith & Cushion, 2006; Metzler, 1990; Wein 2007; 2004). C1 and C2 realised within dialogue of commentary in reflection as purposeful social interactions to facilitate learning (Bunker & Thorpe, 1986; den Duyn, 1997; Light, 2013; 2007) that just to recognise and engage through a coaching behaviour different to the traditional coach-centred ones mentioned. The accommodating nature was repeatedly mentioned as; ‘allowing them [players] to make decisions […] to see and think independently […] to try to be creative.’

It has appeared that the post-session video review method conceptualised (through codes and categories) as video-reflection to video-analysis is an emergent high-level theme and has been key. This has not just been for coaches to identify and understand coaching behaviours such as silence, but also to conceptualise and contextualise their coaching behaviours ‘in reflection’ to happening and events, but also with more meaningful descriptions and towards analysis. Going beyond reflection to identify with happening or events, in analysis C2 identified ‘awareness and anticipation’ (C2), with ‘abilities to adjust’ (C1), and ‘actions and decisions that are creative in a cognitive way’ (C2) to provide for analysed aspects that, in referring to awareness and anticipation are intrinsically linked to creativity.’

‘When recognising players far away from the ball [and action] there I can see in the video, there’s not such intensity to coach them […] they are more independent to learn, and perform […] those players are equally, possibly more tactically involved also’ (C2)

The wider breadth of attention (Memmert, 2011) is realised and apparent as non-specifics of play concepts to offer opportunity for creativity and tactical
decision-making. The wider breadth of attention overcomes attention-bias to the ball/action as foci, as is more permissible to noticing aspects for engagement and connectedness in coaching behaviours that accommodate opportunity for players to be creative (see Chapter Two).

In addressing the research questions, coaches identified with indicative/key moments in review of video observations as the medium for stimulated recall, thus to reflect and analyse upon their coaching behaviours.

Through reflective review of the video in analysis coaches developed narratives in observation and the use of this research’s post-session video-reflection (leading to video-analysis) has facilitated Coaches’ understanding of what they do in coaching sessions as coaching behaviours and developed understanding and perspective of players learning and development within the proposed ideas of Creativity, Autonomy and Tactical Sense.

There will be scope as a commercial concept for GG-ROVA as post-session video-review, which evolved through the paradigmatic shift. This realised a conceptual leap represented by coaches shift from video-reflection to video-analysis as a function of participating in this research. GG-ROVA will be mentioned further to explore limitations, implications and utilisations within the Conclusion Chapter.

5.4.2. Noticing

‘When you actively notice new things, that puts you in the present…as you’re noticing new things, it’s engaging, and it turns out […] it’s literally not just figuratively, enlivening’ (Langer, 2014)

The words ‘notice,’ ‘noticed’ and ‘noticing’ were frequently used by coaches that contributed to noticing becoming a concept and high-level theme within the coding, categorising and conceptualising of the inductive method. This wording to define this high-level theme emerged inductively also through other frequently occurring coded vocabulary such as ‘saw that the full-back was… [when referring to the coach’s attention to a player far from the action/ball and of the team out of possession], ‘I (the coach) saw the player that was not like
(necessarily) my focus but was my attention’…..adding…’people might not think I am paying attention to them (referring to the player far away) but I am.’ See also section 5.2 for (non-exhaustive) range of codes, which represent significance to this concept of noticing.

‘Noticing what you don’t (ordinarily) pay attention to’ (Walker, 2019) is what can happen around and away from what you might focus upon. Noticing is drawn from paying attention and from the things that you may not be paying attention to, as C1 expressed in reflection, ‘I was aware of that (which) I wasn’t paying attention to […] it was my focus of being aware or aware of it, like something subconscious, not intended but I now (from observing video) know I do it’ as C1 shifted to analysing. C2 alluded to these ideas when analysing to state, ‘I have a wider attention and field of vision,’ and also on another occasion went on to refer back to this statement, ‘sometimes my attention [focus] is on the peripherals, and sometimes I can have more than one focus point […] I can see [in video] I focus more away from the ball than I think I was aware of’ (C2).

This sense of subconscious noticing with paying attention aligns to the ‘inattentional blindness’ paradigm (Memmert, 2016; then, Most, 2005; Simons & Chabris, 1999; Memmert, 2006 - cited in Memmert, 2016). The non-intention to focus upon something is accommodated within the inattentional blindness paradigm, as a more apparent focus upon something also accommodates perception of an unexpected object within the [coach’s] field of vision or in range detection of peripheral stimuli (Memmert, 2016) (see Chapter Two). C2 related the ‘noticing the whole field there must be creative thinking going on […] that (points on screen to a player far away from the ball) This would link to Creativity, and to Tactical Sense (as creativity), the sensing and perception as attention or noticing performance of discovering and decision-making based upon the unexpected, original and organic objects and outcomes (Memmert, 2016; 2006). Coaches’ coded narratives support the theory that within blindness through perceptual inattentionalness is a universal occurrence, and is present and not dependent upon specific players’ positionality. Noticing can be unintentional in the inattention of what you pay
attention to as the perceptual non-constant of inattentional blindness (Memmert, 2016; Memmert, 2006; Walker, 2019).

Bokhove (2016), spoke of the ‘positionality of interactions as learning (coaching) dynamic,’ which related to entire teams’ situations in practice. With no finite distinction of an individual or individuals as ‘distinct groups, networks [of interaction] are subject to constant change (Bokhove, 2016). The emergent qualitative data goes beyond any ‘narrow dimensional interaction’ (see Chapter Four, p136) as a network only between coach and player/s, and this research is fuelled by the emergent inductive data to identify with a more dynamic community of networks between coach and players towards aspects of tactical decision-making of social relationships in terms of network theory. Here C1 said, ‘I had a network connection to players [...] even far away,’ and added words such as, ‘engagement,’ ‘connectedness’ and ‘interacting individuals as a team.’ C2 spoke of his ‘interactiveness with this player and that player, and all as a network.’ This identifies networks of coaching behaviours that ‘connect’ coaches’ and players’ interactions. This was what Bokhove (2016) explicated as; the centrality of significance of that interaction as a positionality to the [coaching] behaviour. Described further by Bokhove (2016) as ‘nodal centrality or that which is most central or degree centrality; the significant place (or position) of influence for the coach as significance for ‘connectedness.’ The related findings demonstrate the descriptive depth and meaning in analysis that C1 and C2 have exhibited that goes beyond (just) reflection.

The positionality of coach to player as a connectedness represented; with the ball, at-action, near and far away from the ball and action, as focuses, but constant engagement for applied decision-making (Light, Harvey & Mouchet, 2014; Mouchet, 2004) [...] identified coachable moments can conversely and equally be off-the-ball and away from the action. Then coaching behaviours that can identify with this then act accordingly to accommodate these instances that encapsulate; Creativity (cognitive processes that lead to the affective and physical domains), Autonomy (independence and originality), and Tactical Sense (sensory perception of involvement in the whole game).
Contrary to the purported effect that attention-bias to ball possession and at-action would negate most if not all decisional background [...] as complex entities (Light, Harvey & Mouchet, 2014), coaches have evidenced that ‘attention-bias’ is not only avoidable, but that attention is intentional and unintentional, with no bias to preconceived foci. C1 and C2 both did ‘notice,’ were ‘noticing’ and ‘noticed’ in recognising and engaging with players; on-the-ball and at-action (micro) and/or near the ball (meso), also away from the ball and action (macro), and also in and out of possession as a team.

‘I’m not completely focussing attention on any one thing, C2 stated, and added, ‘I see them [players] in the perception stage [well-before-action], before the decision-making [...] in their time-to-action’ (C2). ‘I am more aware of, but maybe not actually looking at something, I realise that I can see it,’ C2 expressed, as he narrated in video review, as he called them ‘noticing moments.’ Moments that he (C2), noticed on the collated video perspectives that he was noticing within the actual session. C2 added that; he thought the wide-angle field camera was showing him and his coach-cam was telling him. He stated, ‘my camera is speaking although I’m not recorded as saying anything,’ meaning that in silence (behaviour) the image from the coach-cam still spoke volumes.

The ‘well-before-action’ and’ time-to-action, that would come before the [potential] at-action, and this was conceptually referenced to the cognitive engagement of perception, process and product through decision-making and action (Light, Harvey & Mouchet, 2014; Mouchet, 2006). C1 ‘noticed that that time before the action [as away from the ball] is the players present and when they’d have made decisions it’s about their future [they’re thinking ahead,’ and added, ‘and if we coaches notice and think ahead as well, how are we supposed to understand our players fully.’ These aspects relate to the creative processes around decision-making and the perceptual and cognitive properties of Creativity, which aligns to Tactical Creativity of Memmert (2011) as Tactical Sense. The data gathered demonstrates that coaches who participated in this research consistently ‘noticed’ in reviewing the video that they were ‘noticing’ within the filmed training sessions. This did not represent distortion of the naturally occurring data, but rather the interaction of
behavioural mechanisms [possibly silence also] that relate to the activities of players (Jewitt, 2012).

Noticing is, paying attention, and noticing does not need to be dictated by pre-set objectives or the perceived remits of traditional coaching and coaching behaviours. Coaches in this research have verbalised in their references to noticing what they noticed to describe their coaching behaviours. The narration produced a rich reduction of emergent high-level themes and ‘making their experiences visible’ (Jewitt, 2012). The narratives of both C1 and C2 both alluded to attention in relation to noticing, in that you, ‘pay attention to what you pay attention to’ (Rosenthal, 2016 in Walker, 2019) as being the important part of the process of noticing. Linking the video-review method to the concept or high-level theme of Video-reflection to video-analysis, coaches were ‘noticing’ (as a conceptual high-level theme) via that original post-session video review method. In relation to the research questions, the participant coaches identified with indicative/key moments in video review as they ‘noticed’ they were ‘noticing’ whilst reviewing the video, and in reflective narratives they related to ideas; Creativity, Autonomy and Tactical Sense (CATS) as part of Game Gain.

Through noticing in reflective review of the video in analysis ROVA- coaches developed a narrative commentary in observation. The use of ROVA as an original format of video analysis has facilitated Coaches’ understanding of; noticing and paying attention whilst being able to experience and develop understanding of the; intentional and unintentional ways to pay attention and notice. Noticing, as a high-level theme, could possibly be described or depicted in variant ways that could align to some existing coaching behaviours (see Chapters Two & Three), or Noticing could now be a coaching behaviour in itself, and as a subject for suggested future research could the require its own operational definition? Coaches were ‘noticing’ what they ‘noticed,’ and also ‘noticed’ what they were ‘noticing.’ Whilst doing this, they conveyed in narrative commentary what they do in coaching sessions as coaching behaviours and developed understanding and perspective of players learning and development within the proposed ideas of Creativity, Autonomy and Tactical Sense.
Anyone interested in thinking creatively needs to notice what has been overlooked or ignored by others, to get beyond distractions (Walker, 2019)

5.4.3. Silence

‘Silence is visible,’ Coach 2 stated. Data gathered from the coaches indicated that silence was passive and non-passive (Lombardo, 1989; Cushion et al., 2010), and ‘[silence] is clearly active when I can view [it] like this,’ C1 goes on to add. C1 stated now he could see he was paying attention to ‘networks’ (his terminology) of players that he was aware of that were not those with the ball or in [the immediate] action. Analysis of these data indicated that C1 was also referring to being in silence but actively aware of players of the team out of possession, and on being asked (by the Researcher) to describe what he meant by ‘networks.’ C1 explained that ‘it was network connection like mobile coverage on your phone,’ and went on to explain, ‘there’s a signal but doesn’t have to actually be hear-able (coach’s term as in audible) or visual, but there is a connection.’ C1 added to this when referring to it later, ‘that network connection is active even when it’s not obvious, it is a signal that is active and can become more active like verbal to instruct or question and with action to instruct.’

Silence has been identified as a significant and prominent coaching behaviour accounting for some 40% of all coaching behaviours, which when viewed or reviewed, could appear to be a significant amount of time of no verbal interaction (Cushion, 2010, Smith & Cushion, 2006 and Potrac, 2002).

C2 commented on ‘the time he spent not saying anything [in silence] but [felt] actively aware of players’ actions,’ also adding,

‘being aware and not saying anything [in silence] is engaging them [the players] in decision-making, the decisions they make without being told or asked, so they are more independent or allowed to be…more free, and you can see that in what they do. I would say I am quite aware of that when coaching, but seeing it on video afterwards (at that moment in review), I am aware of my [coaching] behaviour, my stance, my glance, my awareness, attention to all that’s there which includes the players’ thinking processes – anticipating, aware and decision-making,’
and added ‘that's decision-making that is them being independent and also creative’ (C2)

This alludes to; not saying or verbally interacting with players, not instructing them (with action or words) but being aware in silence (as a passive and non-passive coaching behaviour) that could recognise their [the players] freedom to decision-making, and more importantly; that coaches can recognise the cognitive part as integral to being creative.

Silence can be accommodating by ‘allowing players to find solutions without being told they have made a mistake, or even asking them how something could be better, which does only suggest that a decision made or something [an action as a result of a decision] done is wrong or not as good as it should be. C1 and C2 also expressed, as summarised by the Researcher, that; silence is never inactive or completely passive, there is awareness [as coaching behaviour] that recognises ‘players’ engagement with a tactical sense’ and ‘(C1), and, ‘players are showing they are sensing the tactical situation all the time, regardless of being far [away] from the ball’ (C2).

C1 used the following statements or expressions in his approach to a sense of ‘what happens when not verbally instructing players,’ or otherwise, in silence. ‘It's not inhibiting,' ‘I'm allowing opportunities' [...] 'and allowing experimenting and trying things,' ‘they [the players] have mistakes.'

The evident manner in which coaches narrated upon the video recordings in reflective observation filled the silence [of coaching behaviour apparent in video footage] that would probably be overlooked from a layperson looking on as a coach saying nothing and/or doing nothing.

Silence, as a coaching behaviour, passive and non-passive, was deemed to be an alternative and unavoidable behaviour to being ‘active’ all of the time (Miller, 1992 in Lyle & Cushion, 2010) (see Chapter Two). Francis Pollin (2011) found that Silence was the biggest accommodator to uninhibited player learning and performance, and also for experimentation for creative behaviours. This was founded contrary to Lyle & Cushion’s (2010) inferences that silence was not seen as a purposeful enactment to accommodate other aspects of coaching.
In the unintentional-ness of coaching that includes silence, both C1 and C2 filled their videoed silence coaching behaviour moments with narration. Beyond what would be seen as active coaching behaviours such as direct instruction, demonstration, hustle and corrective inputs, coaches felt the need to explain what they saw.

‘Where I’m not saying anything as I do on purpose sometimes and still focussing and paying attention, it allows them [players] to not be narrowed in choices and decisions […] Silence is sometimes golden’ (C1). Here the coach identifies intentional interaction on-task aspects in observation, analysing, monitoring and to accommodate player-centred-ness and creativity (see Chapter Two, 2.8). C1 stated that he does this (is silent) on purpose, acknowledging silence as an intentional mode of coaching behaviour that can complement and facilitate other behaviours for ‘permissibility for independent learning opportunities and decision-making (Smith & Cushion, 2006; Potrac et al., 2007 in Lyle and Cushion, 2010). The continued identification that coaching behaviour is a social process of dynamic interactions, relationships that are inter-related with inter-connected [ness] (Cushion, 2010), this does not negate silence from this categorisation and definition. The evident and identified presence of silence (with the accompaniment of commentary and narration) suggests a trend to shift away from traditional instructional coaching bias (Lyle & Cushion, 2010).

Identifying silent (or in silence) coaching behaviour moments within video-review stimulated C1 and C2 to narrate and commentate to describe what they were noticing. Conversely, where participant coaches were viewing moments of other coaching behaviours that mainly involved verbal interactions with players, as; demonstration, direct instruction, hustle or scold, and also questioning (see Chapters Two & Three), coaches were mainly silent or did not narrate or commentate.

In reference to the research questions, the coaches identified with indicative and key moments through stimulated recall to recognise the silent time frames and silence as coaching behaviour to provide commentary and narration to that. Coaches described how silence accommodated learning, decision-
making, independence and the sense of being creative (as described in Chapter Two). Within realising that accommodating nature and potential of saying nothing as a coaching behaviours, coaches afford opportunities for players’ capacities to; be creative; to independent, and; to make decision that would relate to tactical aspects.

Through reflective review and descriptive analysis, coaches produced a narrative in observation that through the inductive methods produced a rich reduction of emergent themes that included silence. This is recognised as; codes, categories and concepts, with the silent time frames on video has provided the platform for coaches to narrate rich explanations and descriptions. In this way, the use of video review as an original format of video analysis has facilitated coaches’ understanding of what they do in coaching sessions as coaching behaviours and developed understanding and perspective of players learning and development within the proposed ideas of Creativity, Autonomy and Tactical Sense.

5.4.4 Questioning

Questioning, as a format of conjugated interrogatives, was a further concept that emerged from analysis of the qualitative data. Coaches brought-forth questioning to become a high-level theme as they identified with that behaviour to facilitate and prompt to build and extend learning and developing objectives within the practice (see Chapters Two & Three).

Identifying with McNeill et al., (2008) the process of decision-making (of cognitive and physical process) can be accommodated depending on the nature of questioning used as delegated inputs and interactive learning, as the focus is aimed more upon learning instead of teaching (McNeill et al., 2008; Harvey & Light, 2015). The conciliatory blend of coaching behaviours afforded a time-balance and time-structure to be complemented with facilitative questioning when attention is applied to player tactically involved, as indicated in narratives to be further from the ball or action (Oslin & Mitchell, 2003). 'I always try to use questions with players […] in objectives I say things
like ‘can you’ or ‘could you’ or ‘would you’ [to players], rather than ‘what did you do’ or ‘why did you not do that,’ C1 expressed, and explained further in saying, ‘I use questions more that anything else, [in describing how they interact with players] and I can see lots of my questions are for players not directly involved in action.’ Questioning is pivotal […] for stimulating high levels of thinking’ (Metzler, 2000) and the type of question for the ‘why’ and ‘how’ is even more important (Harvey & Light, 2014; McNeill et al., 2008).

It also to consider variations in the language, as verbalisation, would be used by participant coaches to facilitate tactics and strategies (as within TGfU). To bring practice and play experience in the moment, to be in-tune at a conscious level, and to be able to be adaptable through the awareness, and to articulate the products of those processes in actions (Light, 2013). Where coaches’ verbal inputs say, ‘can you drop?’ (C1), which means; can player go back towards own goal, or ‘could you push up or press?’ (C1), which means; could player go further up the pitch and maybe put pressure on the ball or opposition player. Less tactical sense or knowledge could be required to respond or react to convergent, fact-finding (and analytical) questions, whereas the divergent type that probe the predictive (and applied synthesis) require higher-order tactical sense and thinking (McNeill, 2008; Ennis, 1994).

Constructively, questioning should be linked to objectives. Within this study the emergence of questioning as the main identified verbal coaching behaviour and action drew the focus towards the predictive and applied synthesis interrogatives, over the factual and analytical line of inquiry (in relation to this study see Chapter Two).

Coaches’ questioning, as an inductive emergent theme, was strongly identified through the post-session reflections. Questioning complemented silence in accommodating players’ thought processes to the notions of Creativity, Autonomy and Tactical Sense, and in identifying players to apply the questions to that were; off or away from the ball to address higher-order Tactical Sense (and knowledge). Thus questions that were noticed and commented upon drew the attention to; decision-making, assessing, evaluating, drawing conclusion or inference consequences, this sought to incur meta-processing and divergent thinking, processing and responses from
players, recognising that disposition as the creative opportunity with independence with a higher level of tactical sense (see previous paragraph for two examples of the referred to type of questions).

C1 and C2 both spoke and referred to the use of ‘Questioning’ as the most frequent intervention as a coaching behaviour. C1 said that, ‘beyond setting up session with instruction to explain aims with demos etcetera, I praise and reinforce ‘n’ make concrete good learning and performance. I can see, and am aware when coaching that I use questions to prompt and probe.’ C1 went on to add, ‘the style of question I use that I recognises that if questions are factual they only refer to what has happened or is happening and that which relates more directly to being more involved at the action or with possession of the ball.’ C1 was referring to using a ‘what,’ ‘when’ or ‘where’ type question, as, for examples; ‘what did you do there?’ ‘When is it ok to drop into the space?’ ‘Where could you support your teammate?’ Questions can vary from being quite factual based, as in ‘what, where, when, how and why,’ and would relate to an aspect that has been identified and requires response that indicates what was, is or will happen.

Whereas, C1 also provided commentary that questioning was used in a different way with when engaging with players away from the ball and action, with more ‘how’ and ‘why’ and ‘would, will and could’ as questions alluding to potential predictive-ness or application of synthesis which is more considerate and accommodating to the thinking part of perceiving and processing. C2 stated that he noticed in the post session review that he had said to a player (who would have been of the team out of possession and far from the action/ball) ‘how would you provide cover or support if there’s no pressure [on the ball]’ and then C2 also referred to another video timeframe that was not being directly reviewed at that time but he was reminded of it in this instance, when in a similar scenario the question was ‘why would your centre mid need support there [in that moment]’ (C2) and the response came in the form of decision-making to form an action. ‘I intervened then [‘as I did in the last session,’ the coach referred to) as to monitor his [the player’s] understanding in that situation […] and it needed to be then,’ C2 stated. This aligns to the nature, type and timing of question as being important for sense of clarity,
summarizing and prediction; to affirm comprehension and progression direction (in learning and development) (McNeill et al., 2014; McNeill et al., 2008).

C1 commented, and was evident in his narration, ‘I always try to start [a session] with a question […] it’s a good habit rather than telling them [it sets the scene.’ This is in line with Harvey & Light, 2014; Kracl, 2012 and McNeill et al., 2008) purporting that a starter question to a session promotes and aids subsequent questioning, and that this instigates and stimulates cognition, that can lead to players being more accurately interpretive and adaptive in practice (McNeill et al., 2008).

Considering the ideas of Positive Pedagogy (Light, 2015; Light & Harvey, 2015), questioning generates and maintains dialogue and cognitive processing as a stimulating and facilitative intervention in coaching (behaviours). It is supportive in such an environment where promoting creative and experimental objectives are required. It sustains engagement within a physically dynamic and changing environment to accommodate opportunity for decision-making and problem solving (Light, 2015). The use of questioning strategizes knowledge, as; problem-posing rather problem solving where knowledge (as in competence or ability) is not the object but rather the tool (Light & Harvey, 2015; Foucault, 1997).

C1 stated, ‘with [using] questioning it’s still them (the players) doing the learning […] they are independent in thinking and processing information way-a-way from ball, time before they might get there or they get ball [to them].’ Around the ideas of Positive Pedagogy, players are afforded opportunities to objectively ‘learn hot to learn’ (see Chapter Two) to promote a more positive psychological state with a permissibility for emancipation and experimentation for Creativity and Autonomy (as independence) (Light & Harvey, 2015; Light, 2013).

C1 identified that, ‘questioning was engaging and acted as engagement and support to players, even in [their] doubt, and the right question is not posing more dilemma[s] but they are more positive [in learning, decision-making] and creative.’ C2 noted that, ‘engagement is pushed more with a question, we use
questioning a lot at the club [...] it's always a positive thing [...] used in a positive way.' Again these quotes from the coaches align questioning to accommodate problem-solving, decision-making, emancipation experimentation, with independence and within the realms of creativity. The supportive and facilitative nature can help players to feel comfortable with emotional commitment to being bold and brave in decision-making and action, whilst there would be continuity of engagement with progression as appropriate (Light, 2015).

To address the research questions, do coaches identify with indicative/key moments in review of video observations (as the medium of stimulated recall) to reflect and analyse upon their coaching behaviours? Coaches provided narration [as they noticed and generally commented] that questioning was the main verbal tool in the reviewed coaching sessions. Whilst silence was still the most predominant coaching behaviour that emerged as a conceptual high-level theme, coaches commented on how ‘we are big on using questioning at the club,’ and that, ‘we aim to start all sessions with a question, it sets the tone,’ (C1 & C2).

Then, as a function of post-session video reflection and/or analysis; can coaches construct better understandings of their coaching behaviours that would align to the notions of coaching Creativity, Autonomy and Tactical Sense? Coaches narratives as coded and depicted in this conceptual high-level theme sub-section have related to the ideas to; Creativity, Autonomy and Tactical Sense (CATS) as part of Game Gain. C1 and C2 concordantly cited statements such as;‘how would you [the players] aim to attack centrally today [before session]?’ or collectively to one team or the other or both, ‘what tactics could you use […]’ or questions that included, ‘how aware do you need to be of […]?’ or ‘can we [the coaches] allow you to be independent, anticipate the problem and creatively work out a strategy […]?’

Through identifying with questioning in reflective review of the video in analysis, coaches developed a narrative commentary of what they recognised as their most (exhibited) non-silent coaching behaviour, but also the most prevalent as to accompany and complement Silence (as a coaching
behaviour). The use of the post-session review as an original format of video analysis has reiterated and reinforced coaches’ understanding of how questioning, as part of the club’s philosophy, is an important coaching behaviour in its own right, and also how supplementary and complementary questioning can be to silence (see this sub-section and 5.2.3). Questioning as a concept (high-level theme) has been linked to, and is also an integral part of Positive Pedagogy (Light & Harvey, 2015; Light, 2015), which in itself promotes notions that facilitate and promote the coaching of Creativity, Autonomy and Tactical Sense, as related in the previous paragraph.

5.4.5 Decision-making

Within the narratives and commentaries that coaches produced during post-session video reviews, a further conceptual high-level theme that inductively emerged was decision-making [and decisions]. Whereas the inference and reference was general in relating to questions asked and noticed players’ actions, most of the coded comments around decision-making focussed upon the player-centred-ness and their independence and autonomy in tactical situations, whether with the ball, at-the-action, time-to-action, with or without possession as a team, and other permutations (see Chapters Two & Three). The narratives that were inductively coded, categorised and conceptualised produced statements such as; ‘awareness [of position] to make a decision,’ ‘anticipation [of the long ball over the top] to make the decision [to drop or not],’ ‘adaptability [to press/cover] in decision-making,’ and, ‘action is the decision-making, and it’s process’ (coach’s words) (C1 and C2).

C2 narrated, 'the competing [action] for ball was right in front of me, but I can see that I was more conscious of what was happening right over there [pointing on-screen to position away from the action] seeing how that player and that player were engaged, anticipating their [making] decisions.' With decision-making based upon perception of a situation, and, processing of what to do, then leading to an action, decision-making is much based upon players’ awareness and anticipation. ‘I am [was] aware of their awareness that there’s anticipation, it’s like they are looking into the future of what they will do.
[action]. So I need to be aware of how relevant I intervene or interrupt, even as feedback.’ The researcher then asks ‘Why?’ here, and the coach replied, ‘it’s like our present if we notice something, the intervening is what we going to do, but they’ve (the players) have already seen and done it [...] it’s their past, so telling or asking them something is not appropriate…they’ve moved on.’ Recognising that players, not just with the ball or at the action, can exhibit the ability to have awareness, anticipation and be adaptable which happens all or any of the time, and that is occurring cognitively as processing and decision-making, which leads to the action, possibly? Decision-making occurs within the ‘flux and flow’ of the continuous changing environment (Light et al., 2014; Light, 2013), and in the context of ‘at-action,’ ‘well-before-action’ and ‘time-to-action’ as reference points for decision-making that would relate to cognitive engagement of perception, process and product (Light, Harvey & Mouchet, 2014; Mouchet, 2006). This also is inclusive as; awareness, anticipation, adaptability for decision-making in action (see Chapter Two).

By filling the silence, or that time when coaches were not instructing, demonstrating or challenging with questioning, silence was afforded much inference to decision-making of the players. Narratives referred to the noticing of players away from the ball and/or action, and became the predominant factor as a constant that filled their narratives, which constantly referenced the decisions that could or should be made.

C1 and C2 both frequently used and linked the words (in narration) ‘awareness,’ ‘anticipation,’ ‘adaptable’ which all relate to perceptual-cognitive expertise for effective decision-making in predictive what may occur in tactical scenarios (Roca, Williams & Ford, 2012). The accommodating nature of coaching behaviours to afford opportunity of independence to players through the coaching behaviour silence, allows for more autonomy and self-organisation for interpretation and adaptation for decision-making at-action (Light, Harvey & Mouchet, 2014).

‘I am allowing the player to perceive what’s around them, to be aware of the tactical situation [...] there, and it [the tactical situation] changes. The players sense it [the tactical situation],’ C2 explained. This recognises the myriad of
constantly changing scenarios within the environment where integration between player and (game) environment is required for Decision-making of the cognitive and physical kind (Light, Harvey & Mouchet, 2014; Light, 2013). Pedagogical consideration is afforded here in accommodation to learning and performing decision-making as a dependency upon the environment, or as players are connected and engaged with it, with decision-making according to contextual [tactically] or environmental [tactically] specifics, and with possibilities to make decisions, but consequent too the laws of motion and time (Araújo et al., 2006). ‘We do not educate directly, but indirectly by means of the environment,’ (Dewey, 1916/1997, p19).

‘The player’s tactical vision is obvious […] even from far away from the ball-play, he (in this example – pointing to player on screen) is reading what he sees, and even feels in that moment for him,’ C2 elaborates, ‘then [he] is making crucial decisions, but the decision-making has happened then I only see the action – result of that.’ This statement conceptualises decision-making as an ability or competence of Tactical Sense in adaptation through cognitive activity (Light, Harvey & Mouchet, 2014). It is what Light et al. (2014) called ‘consciousness in action’ to pre-empt with awareness and anticipation for decision-making in (possibly) high-pressure moments. C2 also added, ‘after players’ decision-making of something major, they are still engaged […] like reflective but thinking forward again….’ So a ‘reflective consciousness’ is referred to here as judgement and logical explanation of the decision-making as processed perception in less-pressure situations, and players’ perceptions and interpretations of the flux and flow of processing of transitions in decision-making (Light, Harvey & Mouchet, 2014; Mouchet, 2006).

Recognising and understanding space and time, or the consciousness in action along with the reflective consciousness, to effectively enact decision-making is key to creatively and autonomously affects tactical sense. Thus to notice and understand through coaching behaviours, the complexities in observing, ‘what they do in moment when they [the players] make strategic decisions that might seem important’ (C1), and considerate of ‘time-to-action,’ time ‘well-before-action’ and ‘at-action’ but in any or all types of situations with emergent decisions (see Chapter Two, 2.7).
C1 and C2 both referred on several occasions upon their observed and reviewed coaching behaviour, such as; ‘I’m not completely focussing attention on any one thing’ or ‘where I’m not saying anything as I do on purpose sometimes and still focussing and paying attention.’ Within the wider breadth of vision there is opportunity for noticing and paying attention on the peripheries and outside of what might be the focus. This is also indicated as apparent within players as their actions may be occurrences that are away from their perceived focus, happening on the peripheries in conscious or subconscious creative and tactical decision-making, and this would be a consideration in coaching. For Memmert (2011) the idea of inattentional blindness sought to venture outside any narrowing of attention in players decision-making and through the imposition of coaching that narrowed attention.

‘If attention is diverted to another object [focus], observers sometimes fail to notice an unexpected object, even if it is right in front of them’ (Memmert, 2014 p376).

The intensity of concentration in a state of ‘unconscious-learning-competence,’ is inattentional blindness where the focus and attention may differ as they relate to decision-making of unconscious-perceptual actions (see Chapter Two). Decision-making as an emergent high-level theme was also evident and apparent as it would apply to interpersonal aspects of decision-making; intricacies and inter-dependability of significant others that constitutes the chaos of the game (Light et al., 2014; Gréhaigne et al., 2001). ‘And it’s about the tactical team sense […] they are being independent but there’s the influence [dependency] of other players, in their team and all of them,’ C1 explained, with decision-making as a team or teams are more than the mere sum of its or their component parts as players (Light, Harvey & Mouchet, 2014) (see Chapter Two, 2.7).

C1 also identified with decision-making in relation to questioning (as the most prevalent non-silent coaching behaviour, that also facilitated and supplemented silence as a coaching behaviour), which in itself instigated and necessitated decision-making. ‘That’s often the only time they’re talking to me,’ C1 noted, and in using questioning the decision-making is the response
of declarative conscious, verbalised knowledge, with a procedural understanding in decision-making for the action or enactment as response (Anderson, 1980; Annett, 1996 both in Light, 2006; Light & Fawns, 2001).

Decision-making goes beyond skill and technique, and can evidently be a function within players that is key to them being autonomous and independent but connected and engaged with the contextual factors of the game and environment (see Chapter Two). With or without the questioning for facilitative support or stimulation, the appropriation of the environment and conciliatory blend of apposite coaching behaviours that are featured within the described concepts as high-level themes).

The coaches identified with indicative and key moments in post-session video review (for stimulated recall). Within the data; decision-making as a conceptual high-level theme emerged as a theme in its own right, and also auxiliary to the other high-level themes in this Chapter and pertinent to the ideas of Creativity, Autonomy and Tactical Sense (CATS) as part of Game Gain.

Through stimulated recall of video, reflective review coaches developed reflection and analysis in narratives that identified with visual perception of decision-making in the procedural sense of knowledge (see Chapter Two). Then also in audio (as observed) the decision-making as declarative knowledge (see Chapter Two) where it has been stimulated as in the use of questioning and requiring a response of knowledge and understanding (see this Chapter & Chapter Two). The use of this research’s post-session video review was an original format of video review for stimulated recall, The coaches’ analysis has facilitated their understanding of what they do in coaching sessions as coaching behaviours relating to decision-making and developed understanding and perspective of players learning and development within the proposed ideas of Creativity, Autonomy and Tactical Sense.
5.5 Conceptual high-level themes as they relate to Creativity, Autonomy and Tactical Sense as part of Game Gain

Coaches referred to (the ideas of) creativity within their reflective commentaries and narratives in line with the content of Chapter Two, operational definitions of creativity research design and descriptions explored within this research (see Chapters One, Two and Three). Through the reflective observations the video, C1 & C2 noticed in the video footage their coaching behaviour of silence that they were noticing engagement and connectedness (see Chapter Two) of players with awareness, anticipation for decision-making incorporating the sense of adaptability for their action. Coaches were noticing that they noticed players more without the ball, away from the ball, and when not in possession.

These moments illustrated engagement and connectedness of cognitive processing and tactical awareness, and those moments for creativity with sense for players to independently perceive, process and produce decision-making, meant that players ‘were left alone, not imposed upon […] so able to start their learning process’ [autonomously] (C2). ‘They learned and were not being taught,’ C2 said, to recognise their independence and autonomy of a non-taught acquisition that permits and accommodates players (‘being left alone but noticed’ (C1); perceiving, processing and producing decision-making (see Chapter Two.) Learning is the ‘active process’ (Light, 2013) (see Chapter Two) where the definitions of CATS (see Chapter Three) can facilitate and capacitate the ‘self-initiated, self-motivated and innovative cognitive processes for Autonomy as ‘self-sufficiency in learning and positive pedagogy’ (Light & Harvey, 2015; Poerksen, 2005). Therefore, the Autonomy as independence represented the ability and product of decision-making in active participation for Creativity (Edwards, Forman & Gandini. 1998) See Chapter Two).

Tactical Sense was also recognised as being represented by decision-making, also in engagement as Positive Pedagogy (Light, 2015; Light & Harvey, 2015) (see Chapter Two), where connectedness as part of the whole team whether in or out of possession, with or with the ball, or at or near the
action; was noticed as all being important moments to coach. The noticing represented ‘a wider breadth of attention’ (Memmert, 2011; Light, Harvey & Mouchet, 2014) and ‘noticing what you don’t ordinarily pay attention to.’ (Walker, 2019) Then, ‘to coach could be recognising a player or players and allowing them to discover and solve the situation without me [the coach] stopping play or telling them, showing them or anything,’ C2 said, adding, ‘I can see more in the silence, my silent behaviour.’ C2 was referring to the moments he noticed in video where he was noticing the player/s not directly involved with the ball or action [but away] and that the noticing was most often accommodated in, or by silence. Subsequently, against the backdrop of ‘other’ coaching behaviours, upon video review; Silence (passive and non-passive) appeared to be the most commented upon and narrated segments of footage.

Accommodating coaching behaviours such as silence, noticing and realising and understanding decision-making, can objectively promote learning in independence, and as autonomy and for creativity where; learning can be a reaction to risk or possibly a product of risk (Beck, 1992), with less autocracy, less reliant upon instruction, to permit players to be creative, imaginative, expressive and experimental (Piggott, 2008; Light, 2007). This accommodation and permissibility promotes intrinsic motivation and is predominant intrapersonal [...] more creative and more independent (Lyle & Cushion, 2010; Armour, 2011 inter alia).

Coaching Behaviours are key in order to ‘having the courage of our doubts, of our uncertainties, means participating in something for which we take responsibility’ (Rinaldi, 2006 p170) for development of creative problem-solvers with capacity to learn how to learn. Some studies report that over 50% of total coaching behaviours were recorded as instructional (Smith & Cushion, 2006), whereas, although this study is not quantitative, the level of narration that filled the silence (coaching behaviour) in this study would suggest that instructional and didactic behaviours were far outweighed qualitatively by the accommodating natures of silence with noticing and permissibility for decision-making that can be facilitated by questioning.
5.6 Findings and Discussion End Notes

The evolution of the research method of post-session video-review, became the vehicle (through stimulated recall) for producing the qualitative data that inductively produced rich and emergent data for the conceptual high-level themes. The method has become know as; Game Gain Reflective Observational Video Analysis (GG-ROVA). It consists of collated multi-perspective video recording that is merged and synchronised to one screen and is the medium for post-session reviews in observation, reflection and analysis. The original and evolved method of GG-ROVA will now constitute a major role in the future commercial direction for he Researcher and Game Gain©.

Coaches identified in stimulated recall, that there is more to silence than really meets the eye. Silence is active, ‘there is so much going on [in silence]’ (said C1), and effectively silence as a multi-operational (passive and non-passive) coaching behaviour accommodates aspects (as proposed in this research) that would be conducive to coaching Creativity, Autonomy and Tactical Sense.

‘Silence is visible,’ C2 expressed when reviewing the video footage. This was what C2 reflected upon in his coaching behaviours on the screen (in stimulated recall) as in; he noticed he was silent and could see so much going on, then with the enhancement of viewing in video the coach’s realisation of the full yield and potential of silence as a coaching behaviour as is described and presenting in this Chapter (see also 5.2.3).

Questioning was expressed within the qualitative data quite frequently as a verbal or non-silence coaching behaviour. C1 and C2 expressed that questioning is something promoted at the Club, and they (C1 & C2) also try to use questioning early on in sessions or even at the very start. The objective use of questioning as a tool seemed very well understood by the coaches, and they also described the range and spectrum use of the interrogative within the context of the ideas Creativity, Autonomy and Tactical Sense (see 5.2.4).
To congregate silence, questioning and decision-making; silence (5.2.3) was supplemented and complemented by questioning (5.2.4), with questioning being the key or cue to monitor or confirm understanding, to assure players in situations and to complement decision-making scenarios (see 5.2.4 & 5.2.5). Decision-making is continuous; cognitively and physically, and, from the perspective of the coach, it is to be able to recognise and notice this regardless of position or possession (see 5.2.5 and Chapters Two & Three). Decision-making occurs naturally, decision-making can be stimulated; as it is intrinsically integral of; ‘awareness,’ ‘anticipation,’ ‘adaptability,’ ‘would,’ ‘could’ and ‘should’ questions (C1 & C2) relating to Creativity, Autonomy and Tactical Sense (see Chapter Two, Chapter Three and this Chapter).

The innovative aspects of this case study research and the evolution of Game Gain Reflective Observational Video Analysis GG-ROVA as multiple perspective video recordings (merged and synchronised to one screen) to; ascertain reflective and analytical observation data (which ultimately to create case study representations of coaching behaviours (see Research Methodology Chapter). Within that review of video, coaches identified (with) indicative and key moments, as; with ball, at action, time-to action, away from action; they develop or demonstrate understanding of Creativity, Autonomy and Tactical Sense (CATS) as part of Game Gain.

Within the spectrum of coaching behaviours (see Chapters Three & Four) both observation and reflective review, particular attention is afforded to moments that could be more inclusive to the conceptual content of CATS. In methods of systematic observations this would be considerate of; moments when coaches notice that occur and apply affirmation, praise or use questioning, and also moments when gaze of attention is noticeable in some form (see Chapters Three & Four). Within methods of post-session review it is viewed as pertinent, what moments are identified and reflected upon, and how, and, for why moments are described by coaches. These included those that are noted with affirmation, praise or no direct intervention (silence), or a particularly pertinent invention is considered to be questioning; within the taxonomy of questioning and definitions of coaching behaviours (see Chapter Three & Chapter Four).
As explored through Chapter Two, it was explained that there had been the need to define or redefine creativity in sports learning, development and performance, along with a need to understand creativity in the context of coaching from a pedagogical perspective. Additionally, Chapter Two explored autonomy as independence in learning and performance, and how this could be contextualised and conceptualised from a coaching behaviour perspective. Then also, tactical sense is in definition the contextualisation of Creativity and Autonomy for decision-making (of knowledge and action), and towards conceptualising in the Tactical Sense. This project has provided such understanding through the Chapters, but ultimately it is from the interesting narrations and commentaries of the coaches that derived from the post-session video review (conceptualised as the original format of GG-ROVA) as a reflective and analytical video review (and stimulated recall) method that has proven ‘key.’ Through inductive coding, categorising and conceptualising to produce organic and natural emergent data as a rich reduction of high-level themes and as presented and discussed in this Chapter, that will lead into the Conclusions Chapter, which will relate where this work and research has applied commercial and academic potential.

‘Education is the key to the future […] but a key can be turned in two directions. Turn it one way and you lock resources away […] Turn it the other way and you release resources […] to realise our true creative potential, we must learn to be creative’ (Robinson, 2011 p268)
Chapter Six

Conclusions

6.1 Introduction

This chapter concludes the Game Gain research that adopted an exploratory case study of coaching behaviours employing qualitative inductive methodology that generated rich emergent data as conceptual high-level themes that relate to Creativity, Autonomy and Tactical Sense (CATS). The purpose of this Chapter is to draw some conclusions from the research and to clarify limitations, implications, potential for further research and recommendations within the project. Whilst proposing suggestions informed by the findings, proposals for future directions and research in the subjects’ area, and the Researcher’s commercial direction with Game Gain; coach sense, game sense© are included.

Following on from the previous Chapter on Findings and Discussion, this Chapter will provide some résumé to the research questions, whilst identifying with the original aspects that have developed and evolved from working on this project.

The research questions posed were, firstly; in post-session review of video and through stimulated recall, what indicative and key moments do coaches identify that provide the basis for reflecting and analysing upon their coaching behaviours? Secondly, as a function of post-session video reflection and analysis; to what degree can coaches construct understandings of their coaching behaviours that align with notions of coaching Creativity, Autonomy and Tactical Sense?

Upon revisiting the reasons for conducting this research and the questions that it raised, this chapter concludes with; how football coaches engage with post-session video review observation for the purpose of identifying indicative/key moments of coaching behaviours that may relate to; Creativity, Autonomy and Tactical Sense (CATS) as part of Game Gain? Then also to draw conclusion upon; review and observation of the video for analysis; what
function does the original format of Game Gain video review have upon coaches’ attitudes and perspectives of their coaching behaviours in reflection and analysis (to relate to the ideas of Creativity, Autonomy and Tactical Sense?

Coaches identified through stimulated recall with events and happenings by ‘noticing’ what they ‘noticed,’ and, ‘noticed’ what they were ‘noticing’ as stimulating recall within post-session video reviews. Above and beyond observation of video in review, that could have drawn attention more to actions and performances of players, there was an intently rich focus upon their own coaching behaviours that evidenced more attention than reflection of events and happenings, and exhibited descriptive and meaningful analysis. The conceptual leap from reflecting to analysing was characterised by an acknowledgement of players’ awareness, anticipation and adaptability to decision-making actions, that players were tactically engaged, with connectedness in the environment (with awareness, anticipation and adaptability) regardless of whether they were; with-the-ball, at-action, away from the ball, as in or out of possession. All these aspects and key moments support the proposed principles within the orientation of Game Gain and specifically CATS as an orientation and contribution to the coaching literature.

Game Gain© is original in that it captures the valuable consideration and importance of coaching behaviours which accommodate creativity as a cognitive and physical constant. This, as explained through this thesis affords the needed definition and conceptualisation required for creativity, which in turn contextualised how coaching behaviour catered for redefined and presented ‘creativity’ to happen.

Game Gain© method using multi-perspective cameras to record video to merge and synchronise for post-session review and the purposes of reflection and analysis upon coaching behaviours is original in the format described and utilised within this research project. This has been conceptualised, and named as Game Gain – Reflective Observational Video Analysis (GG-ROVA). The concept of GG-ROVA will represent a high-level theme/service aspect of Game Gain©
6.2 Considerations for Implications

The Researcher acknowledges that the research has been representative of (only) a very small sample of a large population of all football coaches (professional and amateur), and also of other sports. As Potrac et al. (2002) conducted research with as few as one participant, and two participants took part in the work of Smith and Cushion (2010), this research sample was purposeful and selected from within the Researcher’s known network and this presents some limitations, particularly as the small number of two coaches work within a CAT-1 Academy of a professional football club. Limitations to apply any of the method depicted within this research or the findings as generalisations to other clubs (professional or amateur/grassroots) or organisations is acknowledged, in that, for (so) many reasons such as club culture or restricted access or facilities _inter alia_. Thus the research findings (that also consider the sample size) may not be applicable; a) generally to football coaches across the board – amateur, grassroots or other professionals, b) to coaches of other sports, c) to represent a generalisation of any sort, although it should also not detract from the context and richness of the data.

It is fair to say that not all clubs could have access to hardware (cameras) and software (video) and financially this may only be within the reach of professional clubs or elite development establishments. Although the potential direction for future potential use is as part of the Game Gain© commercial aspect as the Researcher’s pedagogical/educational research and consultation service would aim to provide access to the whole service (hardware/software) and training/CPD for coaches and club personnel. The Researcher is currently exploring technology options for hardware and software to refine the implementation of Game Gain© method to; further _support_ and _develop_ coaches in the professional sectors of football and rugby union; to exhibit the method, as to market it, to seek funding and investment as collaborative professional and academic projects, and also the promotional growth of Game Gain©.
Ultimately, as consideration of a potential further implication, this research does not propose or suggest possible *generalizability*, which is not, as Denzin (1983) purported, the objective of all *case study* research projects. This case study has presented the contextual ideas that are formed through the deeply descriptive rich reduction of the coaches’ own voices as conceptual high-level themes.

In its early stages, this research considered utilising quantitative methodologies, as a stand-alone approach and as part of a mixed methods design, but as a function of pilot work with the realisation of *something rich* evidently being produced by the pilot participants in narratives from post-session video reviews, the Researcher elected for qualitative inductive methods. Thus, through the pilot and very early stages of research process, the use of systematic observation as a method (in its intended purposes) was considered; not appropriate, not contributory in an effective way, and was used solely to; demonstrate operational definitions of coaching behaviours in observations (see Chapters Four & Five). The data set collated from the utilisation of systematic observations and data of gaze directions did have some purpose and have therefore remained within the main bodies of work (see Chapters Two, Three & Four and Appendices). This existing data set could provide the basis for further research adopting a quantitative approach. Furthermore, Creativity, Autonomy and Tactical Sense was substantiated and referred to within the inductively produced emergent data through codes, categories and conceptualisations as the high-level themes presented in Chapter Five. It was also recognised that the presentation of CATS within Chapter Three and the literature review (of Chapter Two) that relate to the themes of creativity, autonomy and tactical sense; are there to frame and conceptualise and contextualise the narratives that were gathered in the post-session video reviews, rather than using CATS as pre-determined (hypothesis) for deductive analysis (see Chapter Four).

The conceptual high-level themes are intended to present the evolved propositions that goes beyond subjective logic that generalizability could be inferred, to afford the objective method of Game Gain© that is reasoned within the findings presented within this project (see Chapter Five and
Chapter Three). This research would suggest that putting forward the investigated concepts and propositions as applicably and tested notions that could be objectively participant in future research’ (Punch, 2009).

Through the experience of this research, the processes and data produced, further evaluation has been afforded to reconsider to the Game Gain© framework, orientation and method. No alterations are considered necessary at the time of writing this, although constant monitoring and evaluation of technology, methods and processes will be implemented in all commercial, professional and academic fields that Game Gain© will be employed.

6.3 Creative aspects

This research produced creative aspects as a result of the rich emergent data derived through the qualitative inductive coding, categorising and conceptualising (3Cs) method of Lichtman (2010) that has also been aligned and framed within the ideas of CATS as Creativity, Autonomy and Tactical Sense.

In this research the multi-perspective video review process Game Gain – Reflective Observational Video Analysis (GG-ROVA as it will now be known) served as the means by which coaches were stimulated to recall, or drew sense from the post-session review; to reflect and analyse and provide narration in observation and review. Through the evolution, development and implementation of the method for video review and analysis, GG-ROVA evolved as an approach to video observation/reflection/analysis for data collection that has the potential to be a main feature of Game Gain© as a commercial directive of the Researcher. GG-ROVA, as described herein, has the potential to be deployed to variant levels of observation, reflection and/or analysis, and this is a consideration depending upon the situations and circumstances that it could be utilised within, as in professional or amateur settings inter alia.

As evident in the findings, the narratives and commentaries reflected on events and happenings in reflection, which evolved as a conceptual leap and
provided the basis for some more meaningful descriptions of critical reflection and self-analysis of coaching behaviours (see Chapter Five). The evolved format for undertaking stimulated recall was key in this original method of reviewing video and will now form a prominent aspect of Game Gain©, as a commercial directive for the Researcher.

Ultimately, the focus on coaching behaviours noticed in reflective observation by participant coaches in this research was very apparent. It is very evident that the method of GG-ROVA provided that means for coaches; to be noticing what they noticed, to have noticed what they were noticing, and to see things that might not be actual things such as silence. Within that medium (of the silence) both coaches saw their own coaching behaviours such as 'being in silence,' 'accommodating' to allow for cognitive (proprioceptive engagement) connectedness for decision-making, all as sense for the tactical situation as tactical sense, in independence as autonomy and emancipation (with no inhibition and permissibility for mistakes) for originality, innovativeness in creativity, as some have indicated (Light, 2013; Memmert, 2015 inter alia).

‘When you actively notice new things; that puts you in the present [...] as you’re noticing new things, it’s engaging, and it turns out [...] it’s literally, not just figuratively, enlivening’ (Langer, 2014 in Walker, 2019)

The findings signified that ‘noticing’ is a powerful concept that has shown via the reflective observation in GG-ROVA that coaches ‘noticed’ what they were ‘noticing,’ and also were ‘noticing’ what they ‘noticed.’ This was evident, as the data showed, not as a transitional or facilitated shift in behaviour but something the coaches just did. This suggests that the coaches were actively, proactively and reactively ‘noticing’ during the sessions that were recorded, and also ‘noticing’ whilst actively, proactively and reflectively observing the recorded sessions as collated multi-perspective video. ‘Noticing,’ primarily permitted coaches to ‘notice,’ as reflection – then in ‘noticing what they noticed’ and to ‘notice what they were noticing,’ and the findings pointed to a shift of focus from just reflection upon happenings and events to analysis with more description and meaning. As the findings revealed, the dynamics of ‘noticing’ was consistently inclusive of moments; with-the-ball, at-the-
ball/action, near/away-from-the-ball/action, and also in and out of possession scenarios.

'It's not just about observing what a person does [...] it's trying to understand the reason behind that' (Ariely, 2009 in Walker, 2019).

The coaches reflected and analysed upon behaviour aspects of awareness and anticipation that they could afford attention to aspects off-the-ball and away-from-the-ball, as well as the traditional foci of with-the-ball or at-the-ball (see Chapter Five). The coaches identified with ‘non-biased’ attention to intentionally and unintentionally, to; ‘pay attention to what you pay attention to’ (Rosenthal, 2019 in Walker, 2019 preface), as what was important to them, and, for them. This represented a culture-shift of attention from the traditional perspective of focussing upon or at-the-ball or at-action directly, this is something that can facilitate such behaviours as part of coach education.

Whereas this research has deployed one method to explore the perspectives of coaches operating at an elite-level of development within a CAT1 professional football club in the English Football League, further piloting and research would potentially be required to detect or measure efficacy for wider population of coaches, both in football and other team sports.

The development and implementation of the video review and analysis tool did not have to manage unnecessary aspects such as data associated with systematic observations, data or frequencies related to gaze direction (at-the-ball, at-the-action inter alia) and even cue or prompting supplements. The fact that the findings signified that participant coaches naturally and organically provided narration and commentaries, suggests that the aforementioned methods of systematic observation data, gaze direction data, interview schedule/prompts would not be (pre-) requisite to provide for stimulation of recall (see Chapters Four & Five).

The environment as it was described in Chapter Three is also a consideration for Game Gain®, as a physical environment and that which the proposed framework and orientation offers as an evolved and distinctly different and original orientation to Game Sense (den Duyn, 1997; Light, 2013), and also...
for the cognitive sense of perception, processing and producing decision-making (Armour et al., 2011; Jones, Hughes & Kingston, 2008).

Light et al. (2014) recognised environment in which decision-making is enacted; cognitively and physically. This required intellectual appropriation and application as perception, decision-making and action from the player, and a complete integration between player, coach and the game environment (Light, Harvey & Mouchet, 2014).

As part of Game Gain, ‘coach sense’ and ‘game sense’ is the sense of practical and theoretical understandings and applications of coaching and playing football (sports) in which the learning, developing and performing would take place; as ‘le sens pratique’ (Bourdieu, 1986) as cited by Light (2005). Then to develop ‘a sense of the game,’ through which implicit learning cannot be directly taught’ (Light & Robert, 2010, p112), sense is inclusive of perception, decision-making and skill (motor) performance, as these aspects are ‘intimately interrelated and are developed simultaneously’ (Light & Fawns, 2003 in Light, 2006, p13). The suffixes of ‘coach sense’ and ‘game sense’ are part of the commercial directive branding of Game Gain© or as Game Gain; coach sense, game sense© and is to emphasise the holistic perspectives of coaches’ sensory perception and understanding in coaching behaviour, and that the game is sensory participation and involvement that is more that physical skill and technique (see Chapter Two, Three & Five).

6.4 Silence is golden

A further key finding within this thesis was the effectiveness, or even activeness of ‘silence.’ Participant coaches ‘noticed’ the activeness of saying nothing as a coaching behaviour, not as a passiveness but the inter-activeness of consideration and accommodation to players’ engagement and connectedness (see Chapter Five). This, as a network of connections and inter-connections between coaches) and players, regardless of their positions or possession (with-the-ball, without the ball, at-the-action, near the action, away-from-the-action inter alia) and that allowed for players’ independence in
cognitive processing for decision-making in the tactical sense and creativity, accommodated and permitted within the coaching behaviour of silence (see Chapter Five). More consideration needs to be afforded to ‘silence’ as a coaching behaviour and how that appears (in video observations/review), and to explain that silence as a coaching behaviour; is not necessarily unpopulated with (inter) active coaching as learning, development and decision-making. Within further employment of Game Gain©, consideration will be afforded to facilitate or prompt coaches to identify the silence, and reflect and analyse to populate those moments of ‘saying nothing.’ It is also a consideration that where there might be occasions where the bias will be to more autocratic and didactic coaching behaviours (direct instruction, demonstration, hustle, scold inter alia), examples of how populated silence can or could be exhibited, as some coaches possibly have not realised this concept. Using Game Gain© in this way is an anticipated challenge that the Researcher has considered, as a bias of autocratic and didactic traditional coaching and coach education culture (see Chapter Two) that has permeated within NGBs education, role objective driven professional clubs, academies and elite development establishments still prevails (see Chapters Two & Five).

The findings evidenced the facts that coaches readily narrated upon the timeframes of video that were in silence coaching behaviour, and ‘noticing’ their level of activeness in those phases of non-verbal coaching behaviours to accommodate players’ opportunity to be independent and autonomous (see Chapter Five). Within this, decision-making was, and is, key, and decision-making at an optimal level can only really occur where coaching behaviours are apposite and conciliatory to accommodate and provide opportunity for the sense of self-initiating cognitive perception and processing to produce decision-making and actions (see Chapter Two, Three & Five).

The use of the Questioning Matrix (see Chapter Three) will be used to work with coaches and as a spectrum of interrogatives that are possible to use in coaching to facilitate learning, progress and develop. Questioning is pivotal for stimulating high levels of thinking (Metzler, 2000), and the coaches reflected upon the facilitative use of questioning within the observed post-session
reviews, which compounded and reinforced their club’s philosophy of using questioning within the coaching in the academy (see Chapter Five).

The type of why and how questioning (in nature) conducted is even more important (Harvey & Light, 2014; McNeill et al., 2008) and the nature of questioning, as part of Game Gain® will serve as delegated inputs and interactive learning as convergent fact-finding that as a coaching behaviour asks players to be factual and analytical, and for higher decision making and cognitive processing to be predictive and apply synthesis (see Chapters Two, Three & Five) (Harvey & Light, 2014; McNeill, 2008; Kracl, 2012; Cazden, 2001). Coaches in this study identified strongly with questioning, as not only identified behaviour through stimulated recall in post-session video review (see Chapter Five), but also as part of the Club’s coaching philosophy (see Chapter Five). It is a consideration here that not all clubs or organisations may include, uphold or promote questioning so strongly, and there would be the times that the Questioning Matrix (see Chapter Three), possibly coupled with demonstration, could convey the conceptual and contextual understanding and application for questioning as method and coaching behaviour.

6.5 From Reflection to the Analytical

The post-session video review and stimulated recall process enabled coaches to be autonomous of the video, in that; no facilitation by the Researcher was required, the exhibited autonomy was apparent from the beginning and not a transition or facilitated shift (see Chapter Five). Coaches very much led and dominated the review process as they independently reflected and analysed upon their coaching behaviours. Their initial noting what they observed as stimulated recall provided for narrative that reflected upon observed happenings and events. This related to the whole field scenario and the concept of the review process provided opportunity for such a ‘conceptual leap’ from narrative commentary of happenings and events as ‘reflection,’ to the ‘analytic’ descriptive meanings of self-analysis upon their own coaching behaviours (see Chapter Five). In this way the contextual concept of GG-ROVA enabled opportunity for coaches to access and experience reflection,
analysis and as metacognition, as the coaches were thinking about their thinking; in analysis of description with meaning (see Chapters Two and Five), to understand themselves and their coaching behaviours.

6.6 Coach the Coach

Coach education, through football’s National Governing Body (NGB) as The Football Association (The FA) has tended (and to an extent continues) to deliver coach education courses that base theory and practice on the traditional, skill/technique, didactic and instruction based, upon which criteria competencies determine whether candidates would be certificated.

Traditional approaches in coaching prevail into coach education being coach-centred rather than player centred, with skill-based drills over balancing game-based practices (Smith & Cushion, 2005, Memmert, 2014; Metzler, 1990; Wein, 2007; 2004; Mosston & Ashton, 1986). Also, many coaches in professional clubs are those that have had a career of playing football (or that sport), so ‘typically have a good understanding of the sport’ (Light, 2013 p8) but with no coaching experience and only plenty of experience of being coached that ‘exerts a strong influence on what and how [players] would learn (Armour, 2011). The result has been that coach education and development only fulfils the educational and pedagogical remit in principle and policy (Rasmussen et al., 2020), and no consideration to coaching behaviours to the extent to which Game Gain© is intended has been provided. As well as football, the similar could also be said of other sports also such as Rugby Union where certification is validated and certified through national awarding bodies that align standardised criteria as competencies, with some rigidity, that does not accommodate for variant coaching behaviours, as would accommodate such ideas as creativity, autonomy and tactical sense.

Game Gain© has the education and pedagogical development potential to be applied within Continuous Professional Development (CPD) and training within professional club as to provide opportunities to turnaround the exasperated situation of the inherency of traditional, autocratic and didactic
coaching, to develop knowledge and understanding of coaching behaviours, and to expose coaches to the ideas around CATS (see Chapters Two, Three & Five).

6.7 Creativity, Autonomy and Tactical Sense

This section conceptually concludes upon Creativity, Autonomy and Tactical Sense and how contextually that can relate to coaching behaviours.

**Creativity:** This research project reviewed the literature on the ideas of creativity generally and also more specifically creativity in sport; as performance, development and learning, and then also in relation to coaching and coaching behaviours (see Chapters Two, Three, Four & Five). The surveying of existing literature and from the Researcher’s experience within the coaching world instigated the development of Game Gain© as an original orientation that comprised the concepts of CATS. In light of the findings, new understandings of creativity have been afforded in the context of that which can be as playing performance but as a *non-focus* and *non-intention* can be aware from a traditional focus and the *inattentional*, and not skill/technique exhibited only, but more related to decision-making (see Chapters Two, Three & Five). The *non-intentional* and *inattentional focus* and *non-focus* reflects a constant *connectedness* and *engagement* on a cognitive level for perception and processing (awareness and anticipation) for production (action) in decision-making (see Chapters Two, Three & Five).

Creativity in sporting performance is therefore better (or at least equally) understood as cognition, and this is conceptualised within the principles of the orientation of Game Gain© (see Chapter Three and Appendices). Evolving from the traditional and original definitions afforded to ideas of creativity, this research has presented Game Gain© as an original orientation and framework for coaching that conceptualises and links the cognitive with decision-making and physical enactments as product of the cognitive. Creativity can be the innovative and original, but should carry value of effectiveness and appropriateness for perceptual cognitive enactments.
Game Gain© contextualises creativity in definition (see Chapter Three) and conceptualises how coaching behaviours relate to coaching creativity (see Chapter Five). From a coaching of, or, for creativity, the heightened understanding that creativity in performance, and also in learning and development in practice – is primarily cognitive, and that within this research, how coaches reflected upon and analysed coaching behaviours evidenced to have had some capacity of creativity (in definition) (see Chapters Three & Five).

**Autonomy;** the findings signify that coaches in this research identified in key moments that their coaching behaviours accommodated player independence as an active process in decision-making (Light, 2013) and as self-sufficiency in learning (Light & Harvey, 2015; Poerksen, 2005) (see Chapters Two, Three & Five). Questioning, as a conceptual high-level theme accommodated independence, encouraging further learning and development for independence by using conjugated interrogatives (see Chapters Three & Five) to manage learning and playing environment. Autonomy, or, independent learning (see Chapters Two, Three, Five & Appendices) was identified in coaching behaviour of silence permitting player performance, learning and development in players’ cognitive connectedness and engagement, again regardless of players being with-the-ball, at-action, away-from-the-ball, in or out of possession *inter alia* (see Chapter Five).

**Tactical Sense;** coaches identified in coaching behaviours that ‘noticed’ players off-the-ball, away-from-the-ball, out of possession and ‘connected,’ ‘engaged,’ in a ‘network of connections,’ like ‘a silk web’ (see Chapter Five) where coaching behaviours can just as readily provide for learning and development in play off the ball (Light, 2013). To look beyond the micro-clips of at-ball or at-action foci, coaching behaviour noticed; un-structured, non-deliberate, non-specific concepts that can be conducive to wider breadth of attention as a wider scope of participation and a greater opportunity for creativity and decision-making (Light, 2015; Light, Harvey & Mouchet, 2014; Memmert, 2015). Avoiding attention-bias to traditional ball and at-ball action, coaching behaviours can shift to consider the decision-making background of
the complex entities of tactical sense (Light, Harvey & Mouchet, 2014) (see Chapters Two, Three & Five).

Coaching behaviour ‘is key’ to pursuing and potentially achieving any objectives relating to player learning, development and performance, which is paramount within such a setting as the participant club in this research (CAT1 academy). Within this research participant coaches identified with key moments of video in review to narrate and commentate on events and happenings as the ‘what’ they noticed. They reflected on their coaching actions and behaviours to describe ‘how’ those actions or behaviours affected the ‘what.’ Findings revealed that coaches’ descriptions instantly without facilitation became richer with meaning as analysis with description and meaning, as the ‘why’ of their coaching behaviours.

‘The man [coach] who knows ‘how’ will always have work; the man who also knows ‘why’ will always be his boss. As to methods; there may be a million then some, but principles are few. The man who grasps principles can successfully select his own methods. The man who tries methods, ignoring principles, is sure to have trouble.’ (Harrington Emerson, 1911)

6.8 Game Gain©

The developed and evolved processes and methods for video recording, collation and presentation, and thus for review, reflection and analysis – has been a prominent and pertinent, and even pivotal aspect of this Research (see Chapters Three & Four). Through the development of this research project an original format for video analysis and observation for coaches in post-session review to produce reflective narrative and analysis of coaching behaviours (see Chapter Five). The use of the dual cameras (coach mounted and whole practice) for multi-perspective videos that were merged and synchronised and reviewed by coaches has been named as Game Gain – Reflective Observational Video Analysis (GG-ROVA), and as already mentioned will represent a high-level service aspect of Game Gain©, as a commercial project that now commissions and consults to organisations, clubs, coaches and players, to education and development as the need for coaches need to be pedagogically more skilful than ever (Siedentop, 2002).
Rather than over-burden coaches with pedagogical theory (for practice) that some coaches do not have the time to pursue (as was the case with comments from the participants in this thesis, (see Chapters One, Four & Five), coaches could hone their own teaching skill through reflection and analysis of their coaching behaviours via the video review method depicted within this research.

Game Gain© will embrace the principles and concepts that have been developed and presented within the orientation which include the ideas of Positive Pedagogy (Light, 2015) (see Chapters Two, Three & Appendix 8), then also; Creativity – in definition and understanding the constant cognitive connectedness and coaching behaviour that would relate to that (see Chapters Two, Three & Appendix 8). Understanding principles of Autonomy and how an independence in learning can be accommodated in coaching behaviours, and then also in Tactical Sense – how aspects are all inclusive to coaching and coaching behaviours, whether being on-the-ball, at-action, time-to-action *inter alia* relate to anticipation, awareness, anticipation *etcetera* (see Chapters Two, Three, Five & Appendix 8). Imperative to Game Gain© operation is GG-ROVA, and is perceived as key for any future participating coaches to access better understanding of (their) coaching behaviours and how that would relate to the objectiveness of player learning, development and performance, as well as to understanding Creativity, Autonomy and Tactical Sense.

### 6.9 Potential

The incurrent situation and resultant fallout of the crisis that impacted the world over in 2020 has impacted the football and rugby union playing and coaching landscape in England. This has impacted upon the establishment and commencement of the research and consultancy service of Game Gain© as a commercial project for the Researcher. This has stifled thought to present at conferences with one already having been cancelled in summer of 2020, but there is currently provision for other options in the spring of 2021. The Researcher considers that there is substantiate material from within this
research to contribute to journals in related subject areas, and again this will be provisioned for upon full completion of this thesis.

Although some consideration and involvement has already been afforded to the deployment of Game Gain© with other professional football and rugby clubs, coaching organisations, National Governing Bodies (NGBs) and other potential stakeholders (anon.), some collaboration has already taken place.

Currently (mid to late 2020), an Italian coach education venture/project formed of ex-professional international players and coaches is ‘an interested party’ to formally commission the services of Game Gain©, and this could network to further audiences with rugby, sports and educational settings within Italy. To date, the Researcher has collaborated with Italian partners (and French professionals) (see Appendix 9) upon; coaching rugby to all age groups from a coaching perspective, coaching and mentoring coaches featuring coaching behaviour perspectives for GBAs (see Chapters Two & Three) and the principles of Game Gain©, then also some collaboration with schools where rugby playing has possibly never been an option and sports participation is sparse. These aspects are to be continued, but the main heading will be the collaboration with the Italian ex-professional rugby players and coaches that aim to establish a nationwide (in Italy) and international rugby coaching network that offer GBA philosophy that is inclusive of requisite skills and techniques for that game. This project is essentially in its infancy, although many of the objectives are aimed to align with the ideas presented by the Researcher herein (see Chapter Three & Appendix 8) and it is these that the Italian partners are interested in, and the primary role for the Researcher would be to instil Game Gain© principles and concepts, and also to establish system for coaching and mentoring the educators that would disseminate coach education for coaches. For coaches, the significance of the findings in this research evolved and developed GG-ROVA as method for coaches reflecting and analysing their own coaching behaviours in practice. GG-ROVA could be franchised or commissioned to coaches for them to observe in private, to afford opportunity to comfortably view to evaluate and analyse without pressures of being observed.
This research thesis has presented the participatory experience and data findings of coaches from a professional football club’s academy of CAT1 status. That content herein (see Chapters One, Two, Four, Five & Appendices) is a represented example of how further collaboration and deployment of Game Gain© could be applied at other clubs. Consideration is afforded to the fact that not all professional clubs and their academies are as accessible at the participant club in this research as part of the Researcher’s know network, with some clubs being very guarded or closed to external input.

The use of GG-ROVA with and for players is considered a potential possibility by the Researcher, but nothing more than that at this time. The Researcher has afforded time in the future to consider some dissemination of the Game Gain© concepts for players to access some understanding of CATS principles (see Chapter Three & Appendix 8).

6.10 Further Research

The selections and choices to the research methodologies as exploratory case study and inductive approach have been considerate and reasoned throughout, whilst also recognising the small number of participants and their appropriate status for involvement. Relating to this, as stated, there is a recognised limitation to any potential generalisation and/or application of the findings of this research to the extant population of football or sports coaches. The main indicative suggestions for further research would be; to larger numbers; both in professional and grassroots (amateur); then also coach education and coach development to be more considerate of ‘coaching behaviours;’ to understand coaching behaviours possibly in a different way and from a different perspective, to be able to identify with behaviours and reflect and analyse upon them (see Chapters Two & Five).

To the extent of the evolved processes and findings of this research, beyond observation and reflection, ‘noticing’ emerged as the most pertinent (aspect) high-level theme, that, in its own right, ‘noticing’ could be a coaching
behaviour. It should be stated that as a behaviour, noticing would be better quantified within the narratives of coaches than through a method such as systematic observation, as within the findings the description and meaning in analysis was the rich data that out-shadowed the reflection upon happenings and events. If noticing were to be numerically accounted for quantitatively (as in systematic observation), it would be suggested that this would require supporting through a qualitative method (such as the narratives used herein) as part of a mixed methods approach. The Researcher would suggest that such a project would be a recommended future research directive with a research team rather than a singular researcher. For any future project, the content for operationally defining ‘noticing’ is contextualised within the findings of this research (see Chapter Five) and within the contextual relevancy to the engagement and connectivity of (the proposed) coaching behaviour of ‘noticing’ this is conceptually considerate and accommodating to independence in Autonomy, for decision-making in the Tactical Sense and uninhibited emancipation for Creativity.

Through the evolution of this project the development and implementation of a method for reflective observation in video analysis grew to become an innovative format that as has been described through Chapter Two. Then the method has been explained more in its most explicit detail in Chapters Three, Four and Five, as it evolved to be ROVA (Reflective Observational Video Analysis). Further research examining this method could be suggested to test its potential scope and further enhancements. From the presence as, in its own right, a high-level theme, but then also to provide a method for coaches to potentially realise and understand coaching behaviours in general and through reflection upon their own coaching behaviours, and; ‘what’ they notice, ‘how’ they notice and, ‘why’ they notice.

It is for the researcher to ultimately suggest that further research upon ‘Noticing,’ as it has contextually emerged and conceptually been presented, to further explore and investigate the contexts and concepts as they may further develop and evolve within the realms of ‘reflection’ and ‘analysis.’
Within the realms of the Game Gain principles and the contextual and conceptual addendum of ‘coach sense, game sense,’ the findings have signified that ‘sense’ or the senses are key to coaching behaviour being understood and practiced. The findings identified the participant coaches’ ‘sense to notice’ and that what they ‘noticed with the senses’ was to see, to watch, to listen, to perceive, and receptiveness to accommodate players’ participation to perceive, process and produce in cognition, decision-making and action for Creativity (defined herein), Autonomy (independent) and show Tactical Sense (connected and engaged with the game) (see Chapters Two, Three, Five & Appendix 8).

Anyone interested in thinking creatively needs to notice what has been overlooked or ignored by others, to get beyond distractions (Walker, 2019)

Coach education needs to advance beyond the traditional idea that a high performance and effective coach would be one that has been instructional and identifies with coaching inputs (as interventions) to ‘stop and tell,’ to directly instruct and scold and correct (see Chapter Two). Coach education continues to prepare coaches for the future based on the traditional and old models of education and education for coaching, and often coaches in professional clubs are those that have had a career of playing but with no coaching experience, as already mentioned earlier in this Chapter. The experience of being coached exerts a strong influence on what and how [players] would learn, and thus coach education and development only fulfils the educational and pedagogical remit in principle and policy (Armour, 2011).

In additional to how Game Gain© could be disseminated to coach education generally, the Researcher would also like to consider applying Game Gain© as research or in consultancy to examine coaches with high-pressure role-objective positions. At the top end of the professional game of football (and in rugby) the pressure on coaches and managers is considered immense, but where that is just accepted, the emphasis for video analysis focuses upon players and what occurs on the field or pitch. This would require a lot more thought, but the Researcher considers that this might be worth further investigation of the behaviours of coaches and managers in high-pressure
role-objective positions, and to disseminate the Game Gain© principles and concepts (see Chapter Three & Appendix 8) and to utilise the GG-ROVA video reflection and analysis method.

6.11 Listen to your eyes

The efficacy GG-ROVA has been signified within the documented findings and evolving processes of this research experience. Beyond the practical realisations and actualities of this research project, the methods and tools that have developed and evolved for commercial implementation as Game Gain©, will ultimately provide new sense for understanding Creativity, Autonomy and Tactical Sense. This can be better understood through coaching behaviours, and beyond reflection in action (Schön, 1983) or ‘reflexivity as a process of self-examination […] informed by own thoughts’ (Russell & Kelly in Lichtman, 2010 p121) and through more meaningful description of (self and critical) analysis. Ultimately, in reflection, and, in analysis, it is to ‘pay attention to what you pay attention to’ (Rosenthal, 2016 in Walker, 2019), for ‘noticing what you don’t [ordinarily] pay attention to’ (Walker, 2019); this is what can happen around and away from what you might focus upon. As a coach educator once said to the Researcher;

‘Listen to your eyes; they are talking to you. And your eyes never lie to you’ (Arthur Hammond to Michael Francis Pollin, many years ago).

The Researcher had identified the paucity of understanding of creativity within sports performance and coaching, and also in coaching behaviours. The aim of this research has been to provide better understandings for creativity, along with the notions for autonomy and tactical sense that are apposite to creativity. These aspects formed Creativity, Autonomy & Tactical Sense as part of Game Gain; coach sense, game sense© to comprehensively to provide for an original framework orientation for coaching. Essentially, Game Gain© has been created by Michael Francis Pollin to develop and present the key understandings of coaching behaviours in relation to provide for coaching creativity.
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Appendix 1 Ethics form

Status

Approved

Category

Category C

Submitter's Faculty

Faculty of Social Sciences (FSS)

The end date for this study is currently 30 September 2020
Appendix 2
Gatekeeper's Approval

Gatekeepers Approval for research ERGO ethics 46069

To: Francis Pollin M.

Attachments: XXXXXXXXXX

21 February 2019 10:08

Michael

I can confirm as Head of Coaching that you Michael Francis-Pollin have access to Reading FC Training ground and can video record the designated age groups for the use solely for the PhD study.

I have attached a form I would like you to read, sign and return please to confirm that you agree to the outline. The details outline how we protect the data collected in relation to safeguarding regulations.

Regards

Carl Plunkett Head of Coaching   Reading Football Club
Appendix 3
Participation Information Sheet

Study Title: Game Gain; Coaching Creativity, Autonomy & Tactical Sense ©

Researcher: Michael Francis Pollin

ERGO number: 46069

Game Gain as Game Gain; coach sense, game sense © and also Game Gain; (coaching) Creativity, Autonomy & Tactical Sense (CATS) ©; is an original idea, product and service concerning commercial and non-commercial rights, legalities and protocols with copyrights as intellectual property and work of the Researcher.

You are being invited to take part in the above research study. To help you decide whether you would like to take part or not, it is important that you understand why the research is being done and what it will involve. Please read the information below carefully and ask questions if anything is not clear or you would like more information before you decide to take part in this research. You may like to discuss it with others but it is up to you to decide whether or not to take part. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

Michael Francis Pollin (as a Post Graduate Researcher & PhD Studentship) had previously lectured in FE sector, but mainly has studied and researched pedagogy as educational theory and practice across many sectors of education. The notions and theories have been evolved and the Researcher has applied this work in research projects in English Primary and other academic and vocational areas. The main research around the notions of Independent Learning and Creativity has been applied within sport. This has comprised of research of Coaching Behaviours as a function of participation in The Football Association Coach Education programmes, with participants at grassroots & amateur through to elite centres and professional academies.

The current research focuses on Coaching Behaviours, as they would potentially coach ‘Creativity’ & ‘Independent Learning.’ This deals with offering a contextual definition of Creativity & Independent Learning relating to player performance, learning and development, and a conceptual developmental method of research processes to potentially provide an orientation to understanding and applying coaching practice that better consider and accommodate; player learning, development and performance equally as a cognitive action as a physical action.
This project is completely self-funded by the Researcher, with no sponsorship, funding assistance, studentship stipends or bursaries. The research project is financially and energy fuelled by the absolute passion of the Researcher in his pursuit to contribute to the educational and sports coaching literatures on coaching creativity and player independence. The Researcher’s intention and objective is to offer definition and orientation to Coaching Creativity that have for too long existed as tacit and folkloric knowledge and practice, and in conceptualising and contextualising the ideas of this research, the productive project will provide a blueprint for future coaching.

You are being selected as a participant of a purposeful sample from within the Researcher’s known network and community of coaches, and are known to be (deemed) suitable to the notions and ideas that are to be portrayed within the research.

**What will happen to me if I take part?**

Participation within the research involves representing the participants’ relevant details and profile within the thesis, all with confidentiality, anonymity or with pseudonyms.

A participant will be subject to (up to) 6 video recording observations of their normal coaching sessions with post-session interviews. The frequency of the sessions subject to the research will occur over (up to) a maximum of 6 weeks, dependent upon the individual participants coaching routine and timetable, whilst allowing for reflective and evaluative time in between sessions. Cameras for video recording, observation and analysis are to be used within the research process, with a multiple camera use for angles and perspectives. One camera is to be in a fixed position to capture the whole practice action, all players, the whole area or pitch and the position and actions of the coach. The second camera is a mobile head-mounted camera worn on the head of the coach. The Researcher and/or an Assistant will monitor images to collate aspects that will contribute to the post-session semi-structured interview/review. This is to be conducted by the Researcher or an Assistant either face-to-face or Internet or electronic method. Apart from normal coaching session with any pre-briefings, the post-session interviews and any times to clarify or ratify details, no further time commitment is expectant of the participants.

Essentially the methods of Video Analysis and Interviews as (post-session) stimulated recall represent the participants’ necessary awareness to the research methods. It is to note that the subject focus is upon the participant coaches and not the active players.
Any video recordings that are saved as pertaining to the research process, as with data of collated verbal or transcribed data will be stored and kept according to University of Southampton ethics and protocol.

**Are there any benefits in my taking part?**

As a participant you will be incentivised by being able to access a copy of the completed, cleared research. This could further enrich your own knowledge, understanding and experience, and also that of your club/organisation.

Are there any risks involved? It is made clear to all active and non-active and passive and present as participants and active players, that it only the participative coaches (as consenting adults) are subject to observations through video analysis, and that active players (as insignificant anonymous others) only provide for physical reference points for orientation in relation to the coaches and coaches’ behaviours being observed.

**What data will be collected?**

Personal information will only be used to identify the participant coach to the Researcher, which will remain completely confidential and subject to GDPR, Data Protections Act and relevant ethics protocol of University of Southampton. Participants’ relevant professional and experiential details will profile within the thesis, all with confidentiality, anonymity or with pseudonyms.

Video recordings that are saved as pertaining to the research process, as with data of collated verbal or transcribed data will be stored and kept according to University of Southampton ethics and protocol.

**Will my participation be confidential?**

Your participation and the information we collect about you during the course of the research will be kept strictly confidential.

Only members of the research team and responsible members of the University of Southampton or of your organisation/club where expressive permissions have been agreed and are thus adhered to may be given access to data about you for monitoring purposes and/or to carry out an audit of the study to ensure that the research is complying with applicable regulations. Individuals from regulatory authorities (people who check that we are carrying out the study correctly) may require access to your data. All of these people have a duty to keep your information, as a research participant, strictly confidential.
Within the bounds of confidentiality according to the ethics and protocol applied to this research through the University of Southampton, participants’ details will remain with the records of the research but not necessarily for future contact/research.

**Do I have to take part?**

No, it is entirely up to you to decide whether or not to take part. If you decide you want to take part, you will need to sign the Consent form with ERGO 46069 to show you have agreed to take part.

**What happens if I change my mind?**

You have the right to change your mind and withdraw at any time without giving a reason and without being penalised or your participant rights being affected.

If you withdraw from the study, we will keep the information already obtained and collected for the purposes of achieving the objectives of the study only.

**What will happen to the results of the research?**

Your personal details will remain strictly confidential. Research findings made available in any reports or publications will not include information that can directly identify you without your specific consent. Aspects or the project in its entirety may be viewable within your organisation/club or reported/published and would therefore be viewable to a wider public audience, where the same confidentialities, anonymities and ethics would apply.

The content of the research thesis and the details of participants and the collated data as video and transcriptions will remain on the Researcher’s secure and locked (password protected) hard drive for potential future reference and/or further research.

**Where can I get more information?**

Principal Researcher; Michael Francis Pollin

Supervisor; Dr Gary Kinchin

**What happens if there is a problem?**

If you have a concern about any aspect of this study, you should speak to the researchers who will do their best to answer your questions.
If you remain unhappy or have a complaint about any aspect of this study, please contact the University of Southampton Research Integrity and Governance Manager (023 8059 5058, rgoinfo@soton.ac.uk).

Principal Researcher; Michael Francis Pollin mfp105@soton.ac.uk

Supervisor; Xx Xx Xxxx
Appendix 4
Consent Form

Study title: Game Gain; Coaching Creativity, Autonomy & Tactical Sense ©

Researcher name: Michael Francis Pollin

ERGO number: 46069

Participant Identification Number:

Please initial the box(es) if you agree with the statement(s):

| I have read & understood the information sheet (09/10/18, version 1) & have had the opportunity ask questions about the study. |  |
| I agree to take part in this research project and agree for all my data as profile and noted/taped/transcribed/observed data to be used for the purpose of this study. |  |
| I understand my participation is voluntary and I may withdraw at any time for any reason without my participation rights being affected, but also; the information collected about me up to this point may still be used for the purposes of achieving the objectives of the study only. |  |
| I understand that I will not be directly identified in any reports of the research, and will be referred to by participant number or pseudonym of anonymity (known to Researcher). |  |
| I absolutely understand that; Game Gain as Game Gain; coach sense, game sense © and also Game Gain; (coaching) Creativity, Autonomy & Tactical Sense (CATS) ©; is an original idea, product and service concerning commercial and non-commercial rights, legalities and protocols with copyrights as intellectual property and work of the Researcher/Author. |  |
| I understand that taking part in the research involves video & (some) audio recording which potentially be viewed by others within the research/working environment for the purposes set out in the participation information sheet. |  |
| I understand that I must keep the research information & discussions pertaining to me, & my participation confidential, and only to divulge or share pertaining information where the Researcher provides forum or |  |
share-group to do so.

Name of participant (print name)............................................................................................................................................

Signature of participant ...................................................................................................................
Date………………...

Name of Researcher (print name)...........................................................................................................................................

Signature of Researcher ..................................................................................................................
Date………………...

Name of Witness (print name)............................................................................................................................................

Signature of Witness ..........................................................................................................................
Date………………...
Appendix 5

Systematic observation; coaching behaviour categories

1. Demonstration; specific instruction demonstrated to be actualised by players and/or with facilitated reinforcements

2. Drill-based-practice; aspects of rigidity based on drills, skill and techniques practice that do not reflect real game scenarios.

3. Hustle; statements/actions to intensify efforts of players (Pass! Tackle! Press! Support! Keep going!)

4. Scold; statements/signs of displeasure or Negative (Re)-modelling; correction of practice or play based upon instruction

5. Direct Instruction (Tell, Stop-Tell-Show)

6. Provide Game Gain opportunity for Decision-making & Problem-solving; linking realistic, contextual practice and play

7. Position, Space, Time

8. Encourage Experimentation & Risk; allowing players to invent/have a go, mistakes as learning opportunities

9. Positive Encouragement & Reinforcement; praising and recognising aspects of points 6 & 7, and as answer to points 9 & 10

10. Questioning (Factual - Analytical; allowing, managing and harnessing mistakes as learning opportunities – differs from point 6 in that; allows the player to identify, and construct correction to mistake

11. Questioning (Predictive – Applied Synthesis)

12. Coaching or Recognising (using Pts. 6-10) to Coach player away from ‘at-action’ or ball (in possession/attack – out of possession/defend)

13. Silence (Active) Signing/gesturing as non-verbal body language communication (6-12)

14. Silence (Non-active) permissibility to players’ decision-making/problem-solving/playing/experimenting (6)

Systematic Observation data may be linked to post-observation briefing and interviews to verify and validate recordings and reporting

The systematic observation behaviour categories are operationally defined, as they appear within observation sheet in the following Table 2.

As a brief example and to the above to align and with the proposed orientation of CATS/Game Gain, the macro could be a player of either team (in or out of possession) with ample space and time between them and the ball, far from
the action. The meso could be a player of either team (in or out of possession) converging on space to make decisions about; whether to support or react (defending or attacking) to the micro-situation (movement to support attack or defend space or threats). Then the micro could be a player making decisions with the ball or in immediate support, or even a player of the team out of possession looking to challenge for possession. This is a non-exhaustive example to contextualise the realities and actualities in game.
Appendix 5.1

Pilot work

Stage 1

Initial phase:

- Identified a purposeful sample (target group) of participants within the known network
- Presented relevant paperwork; Participant sheets, Consent forms and Information sheets
- Identified hardware and software for video analysis observations; familiarise and (pilot) test
- Identified and evaluated facilities and amenities

Pilot research methods:

- Conducted with coaches different to those that will be participants in main research data collection.
- Evaluated pilot work

Live observation of participant coaches performed (subsequently altered) their perspectives and attitudes to form a baseline prior to research commencement. There was scope within the proposed research ideas and methodology to conduct research with participants as case studies.

Stage 2: phase of video observations in review and analysis linked to post-session review of 2 coaches at a rate of one per week allowing approx. 40 minutes per each session

Stage 3: The subsequent $n$ weeks the collated data will be processed, and converted into a (near finalised) presentable version.

Equipment (hardware); Cameras and auxiliaries

Field camera

For the purposes of the Pilot study the Researcher has elected (from consultation with club contact) to use Sony Handycam HDR PJ620 as fixed
wide-angle HD on fixed Sony VCTVPR1 CE1 remote controlled tripod mount for the macro wide-angle whole pitch practice. This was then mounted on pitch-side camera gantry. The camera will provide the appropriate operational settings for the project, with adjustable panning and zoom, definition options, integrated hard drive storage and Bluetooth/wireless auxiliary remote microphone units that clipped to coaches lapel. There is also the option to remotely control the camera from a small pocket-sized panel; the use of this is simple and will assist in synchronising the macro whole-practice footage with the coach-mounted mobile camera.

In primary tests in naturalistic environment, there was found to be issues around the range and capability of the Bluetooth microphones, but incidentally this was overcome with the mobile coach-mounted camera situation (see next section). Again in non-imploratory naturalistic testing, for the process for post session; the footage recorded to the camcorder hard drive was found to be easily uploaded to (any) laptop computer via USB cable and copied to Final Cut Pro software. The prior testing in naturalistic, non-imploratory settings of the coach cam mounted on the head

Within use in pilot study, considerate of aforementioned prior testing, there were no further problems.

Coach camera

The original intended plan within the research thought was to use an action cam that was to be a Garmin VIRB Ultra 30 or also a Garmin VIRB XE. This camera option was intended to be mounted on the participating coach’s head to capture the specific focus of their view perspective of vision that also should align to the accompanying coaching behaviour or action (see Design chapter). Through the tests in naturalistic settings, it was identified that the Garmin VIRB XE had limited operational setting/options, it did not function remotely as intended (wireless connection to iPhone), it would intermittently go in Sleep mode and did not capture any audio. It was therefore quickly decided that the Garmin VIRB Ultra 30 would be better suited, as this camera provided more suitable settings/options with; frame perspectives, zoom
options, on-screen (of camera) operation options, remote control and audio microphone built in.

Within a subsequent trial (in naturalistic settings), using the Garmin VIRB Ultra 30 was operationally far more suited to the intended purposes. However, the fact that the coach camera was mounted on the head of the coach predominantly only produced footage that was erratic and unstable with far too much movement ranging from; too close up, nothing in the frame, moving side-to-side, only grass in view, then sky or the related aspect of coaching was too far away. This meant that the video was impossible to comprehend as usable image footage for observational video analysis.

The Researcher and participant coaches then decided to trial the mobile coach camera mounted upon the chest with strap harness. The initial concern was that this would not capture the coaches’ specific view, gaze or focus at the action or any aspect that they would applying a coaching behaviour to, or not?

The Researcher and participant coaches decided to try this out anyway, and it was quickly evidenced that coaches body shape and pose (as body language) was nearly always open to, or facing the action or non-action as a coachable aspect and therefore the chest mounted camera was providing better and more specific coaching behaviour interactions that were highly comprehensible (in video review and analysis). The images were also consistently stable and the focus distance was within a more steady range, making viewing much easier and usable. The addition of integrated microphone within the Garmin VIRB Ultra 30 meant that there was no need for the remote and Bluetooth microphones that there were issues with (see previous section), and audio was recorded and already synchronised to the coach-cam recorded video footage. The recorded footage was then uploaded to (any) laptop computer and the two collated images were arranged with Final Cut Pro software, with the macro whole practice view as the main whole screen, whilst simultaneously and synchronised running (meso to) micro view from coach-cam with audio was inset as a smaller frame within the larger frame. The top right of the mainframe was selected as the best option, as in
most of the footage there was sky, although this positioning may alter depending on mainframe perspective; where the coach-cam inset video would interfere least with viewing the main frame action.

**Pilot work observation categories, operational definitions and Inter-observer agreement (IOA)**

The purpose of identifying coaching behaviours was originally intended (see endnote to this section) to form a quantitative baseline/background profile of participant coaches’ coaching behaviours. The resultant data of systematic observation in pilot and early-stage research was considered to provide a tangible and useful footprint in (print) representation to track any shifts in coaching behaviours as a function of participating in this research with proactive reflective and metacognitive engagement.

The following pilot work was conducted across three sessions of the format described in the context in Chapters Three and Four.

The proposed systematic observation framework with categories, operational definitions and how the proposed system should work was explained to other potential observer/s, with agreement and understanding reached with no changes required. The method for how that would coded was explained and how to record the data for identifying coaching behaviours. With a copy of the compiled video footage uploaded to another secure laptop computer, the researcher and an independent observer watched the same footage, and this was done with two sessions.

The results were recorded on a printed grid on paper versions of the systematic observation tool, and firstly the aim was to watch the entire session/s and then examine any correlations of quantitative data recorded of the operational definitions within the systematic observation categories 1 to 5, then conversely 6 to 13, with the former being more autocratic and instructional, and the latter more facilitative, guiding and Silence (see Chapters Three and Four). The purpose of this was to gauge sense of Inter-observer agreement from the start and lay the foundations for the veracity of reliability and consistency which would provide for building the engagement of
coaches in the pro-active, reflective and metacognitive process in developing their own coaching. Subsequently comparisons of the two sets video were viewed independently, and observed using the systematic observation sheets (with categories and operational definitions agreed) by the Researcher and a trained independent observer. The purpose here is to measure the percentage of agreement in identifying the coaching behaviours as categorised (and defined) in systematic observation tool to gauge and/or established an Independent Observer Agreement (IOA). Across the first session of video analysis using systematic observation the agreement was 79%, then across the second session, the agreement was 84%.

The Researcher and the independent observer then re-observed the collated video footage (of session 1) with the task of identifying coaching behaviours or interactions between coaches and players that are; in possession (with ball), at action, near/around ball/action or away from ball/action. These were recorded (and denoted) according to type of interaction; in possession (with ball), at action, near/around ball/action or away from ball/action. These were designated a time indicator (minutes/seconds) for ease of reference.

The objective of simultaneous independent viewings was in the first instance to establish a consistency and validity of recognising the aforementioned coaching actions/interactions. Although this was not considered as imperative as the IOA of the systematic observations, comparisons of the separately and independently collated results showed that the Researcher had identified 33% more recordings than the independent observer, so therefore further demonstrative explanation for identifying the sought-after actions and interactions from the researcher to the independent observer followed as training, to enhance the independent observer’s skill. More notably though, 97% of the actions and interactions recognised and listed by the independent observer, were also identified and recorded by the Researcher.

The same exercise was then conducted with session 2, with comparisons of the independent observations yielding a very similar number of recorded actions/interactions, and a consistency of 80%.
The reliability, validity and consistency yielded a veracity for systematic observation to be an on-going element of the methodology, but as the review process produced so much organic and natural data from coaches’ observational reflection and (ultimately) analysis, the systematic observations were side-lined. The processes, as described, exhibited the absolute veracity to provide a clear demonstration and understanding of coaching behaviours (as) in observation within the (original format) Game Gain - Reflective Observational Video Analysis (GG-ROVA), as it will become to be known.

Use of video gaze direction categories

The purpose of trying to capture data of coaches’ gaze direction in relation to (an attentive) coaching behaviour (from coaching behaviours defined within this research, was to investigate how much coaching focus (as visual gaze attentiveness) would be directed to the listed aspects of; In Possession and Out of Possession coachable moments.

Initially it was considered that the video gaze direction categories sheet (Table 2) would establish some data through a live observation, but from the first attempt this proposed process was reviewed and made redundant. As the field camera and coach camera recording were arranged to the one screen, as stated within this section, the observational analysis and data collection of coaches’ gaze direction was far easier to conduct with the coach camera perspective constantly in view and clearly distinguishable to where and what the coaches’ gaze was directed. This was made even more reliable as there was a constant and instant cross-reference with the field camera perspective.
### Video Gaze Categories sheets Video Analysis Gaze Direction Categories

<table>
<thead>
<tr>
<th></th>
<th>In Possession</th>
<th>Neutral (contestation 50/50 ball)</th>
<th>Out of Possession</th>
<th>Neutral (no possession, 50/50 ball)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R</td>
<td>A</td>
<td>R</td>
<td>A</td>
</tr>
<tr>
<td>With ball</td>
<td>95%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At-action</td>
<td>88%</td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Near around ball to action</td>
<td>85%</td>
<td>75%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Away from Action</td>
<td>72%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R = Researcher  
A = Assistant

**Figure 1 Video Gaze Categories**

*(See previous notes, as the gaze direction observation process and data were not deemed necessary, but all the same provided a very interesting profile backdrop of coaches’ coaching behaviours)*

**Post-session video review/reflective interview/discussion**

Collectively the Researcher and the independent observer selected five (four main and one reserve) of the aspects of action/interaction to base the post-session (stimulated recall) review process upon. The intention was to select aspects where coaching actions/interactions are applied to; in possession of
ball, then aspects away from the ball, and also an aspect (at-action, near-action or away from action but) out of possession.

Consequently, it evolved that the participant coach was able to watch the collated video and select aspects to comment and narrate more in a reflective nature that stimulated recall.

The intended use of an interview form structure would simply list the type of coaching action/behaviour and the time. Then simply, this question was further probed ‘how?’ and ‘why?’ in relation to the coaching action, interaction and behaviour in question. The indication of the action and interaction of coaching behaviour (as per time reference) as video displayed to the coach, then initiates the process of stimulated recall which is facilitated by the Researcher with the ‘what, how and why’ questions. Again, as this process became more guided by the coach and they identified segments to comment on, their reflective narrative was merely facilitated by the; ‘what?, ‘how?’ and ‘why?’ In this sense the interview was considered un-structured as a structured version of unstructured, as it seemed more than indicative to include the aforementioned guidance questioning structure to keep the important narrative commentary succinct and precise.

Initially, the (perceived) key quotes were scribed by the Researcher on the interview sheet and was also recorded upon an Olympus memo device as a backup, and to add to the scribed quotes if required. The participant coach verifies that the completed scribed stimulated recall interview sheet is satisfactorily correct before it can be coded.

Again, as coaches’ narratives and commentaries quickly became dominant as the organic and natural contribution to the research, methodological shift diverted to qualitative inductive approaches that did not require gaze direction data.

**Questioning Matrix**

Initially, the Questioning Matrix (see Chapter Four) was used when reviewing sessions with coaches and reflecting upon the behaviours exhibited, and specifically interventions involving Questioning (points 10 and 11 of Coaching
Behaviours of Observation Analysis in main text). This was very useful for the coaches (thus far) to be able see how impactful questioning can be. The referencing of the proposed questioning formulations assisted coaches on how to use questioning differently, and also how to differentiate challenges as questions for different players, depending upon abilities. Coach/es generally, and thus far as only a Pilot study, seemed more inclined and comfortable in using questioning more.

*Questioning (in coaching) is an important part or principle of the participant Club’s philosophy and culture (see Chapter Five).*

**Game Gain Matrix** (see Appendix 11)

The Game Gain Matrix (see Chapter Four) has been used as a reference for the Researcher and to demonstrate to coaches’ certain propositions? To this point in the limited pilot work, some of the vocabulary has already become habitual in discussion and review/reflection. Beyond the Pilot, it would be interesting to see how inclusive and pertinent to the main study the Game Gain Matrix will be, and that also as a partly working document, it could evolve or be adapted to any individual coaches use.

Whilst sessions were related to actual objectives & aims to coach players of team in possession; near, around and far away from the ball and (immediate) action, then also; players of the team out of possession; at action, near and around ball/action and far away from the action; the research sought to identify trends in the coaching behaviours. Then within possible trends in coaching gaze and direction actions/interactions (within the video) in relation to the; ball, possession, action and positions – and what coaching behaviours might be associated with that. This data is to be added to, or, enriched by the content of the stimulated recall from the post-session interview.

**Feedback**

The participant club and personnel involved in the Pilot study were very accommodating to the testing of the research process, and also helpful and supportive to meeting and resolving the challenges that arose. Within the cooperative teamwork, the Researcher, coaches and the participant club’s
personnel, developed and adjusted the decisions of which cameras would be used and how they would be used to capture the video footage for review and analysis. The collaborative process also derived the choice of video (analysis) software programme that will collate and compile the two angles of video footage (of whole pitch in wide-angle and coach cam in narrow angle focused on coaching action/interaction).

Thus far, the observation methods and tools have yielded veracity in validity and reliability, and the consistency (so far) is also portrayed in the useful referencing in post-session reviewing and reflection in relation to CATS.

Consequently, it evolved through pilot work that the systematic observation was useful to build a picture profile of coaching behaviours being exhibited. But then it also prevailed that, in line with the philosophies of an exploratory Case Study that; does not set boundaries to phenomena, has no experimental controls and does not (want) to intentionally manipulate, that participant coaches would view the video and select aspects to reflect and review (in line with case study research methods).

The IOA was established by test observations by the Researcher and an additional observer, trained in specific use of the intended systematic observation instrument (Lacy and Darst 1984, Williams 1978 in Smith & Cushion 2006). The researcher and observer will record identified coaching behaviours independently from separate positions/locations on any 2 computers where the footage can be viewed and/or stored in accordance with Ethics protocols) of the coaching session video (recorded as two video from Cam 1 & Cam2 and collated and arranged within Final Cut Pro). Both will view the same audio and visual of the coach, but so that no observers could influence the behaviours being recorded by another. The total number of agreements across all observers is then divided by the sum of agreements and disagreements, then, that sum will be then multiplied by 100 (Lacy, 1985). Across the preliminary observations a measure of 88% was reached in accordance with Siedentop (1976), van der Mars (1989) and Potrac et al. (2002). The inter-observer agreement percentage averaged 90% across all IOA observations. If a minimum percentage was not achieved, or there were
inconsistencies, the researcher intended to re-address the training and demonstration and the to re-test for IOA.

Recording the entire practice is in opposition to types of (time sampled) event recording (Smith & Cushion 2006, Rushall 1977, in Cohen & Manion et al. 2011), where specifically timed periods were recorded with intervals of non-recording. This type of recording would not be inclusive to the unpredictability and chaos of what might happen, in practice or in play, possibly missing occasions to record implicit data. For these reasons the researcher consciously elected to record the whole session of active practice and training (minus warm-up and cool-down). Data was directly recorded on a pre-produced recording sheet (see Table 2 and Design Chapter). It is the participatory and experiential shift that the research wants to establish as the meaning of any phenomena from the viewpoint of the coaches (Creswell 2009). That is; that coaching behaviours are not just present within training sessions, but carry meaning and purpose for any coaches concerned.
Appendix 6

Post-session review sheet

<table>
<thead>
<tr>
<th></th>
<th>In possession</th>
<th>Coaching Gaze Attention *</th>
<th>Time Frames reference</th>
<th>Coaching Behaviour 1 to 14</th>
<th>Key Words (Connectivity, Cognitive, Controls, Constant)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>In</td>
<td>Out</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What?</td>
<td>How?</td>
<td>Why?</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2.</td>
<td>In</td>
<td>Out</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What?</td>
<td>How?</td>
<td>Why?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>In</td>
<td>Out</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What?</td>
<td>How?</td>
<td>Why?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>In</td>
<td>Out</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What?</td>
<td>How?</td>
<td>Why?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>In</td>
<td>Out</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What?</td>
<td>How?</td>
<td>Why?</td>
<td></td>
<td></td>
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</tbody>
</table>

How did you coach; **Pro-active Reflection (WWW, EBI, CNT)**

**KEY WORDS**

<p>| | | | | | | | | | | |</p>
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</tr>
</thead>
<tbody>
<tr>
<td>Creativity</td>
<td>Gauge &amp; circle</td>
<td>Negative</td>
<td>Positive</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<td>Independence</td>
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<td>Tactical Sense</td>
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<tr>
<td>Decision-making</td>
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<tr>
<td>Metacognition</td>
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</tbody>
</table>

*WB = with ball  *AA = at action  **WWW-what went well  **EBI – even better if…  *NAB = near ball/action  *FAB = far ball/action  **CNT – change time  Figure 3
### Appendix 7

#### Gaze direction coaching sheet

<table>
<thead>
<tr>
<th></th>
<th>In Possession</th>
<th>Neutral (contestation 50/50 ball)</th>
<th>Out of Possession</th>
<th>Neutral (no possession, 50/50 ball)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>With ball</strong></td>
<td></td>
<td>At ball</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>At-action</strong></td>
<td></td>
<td>At-action</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Near around ball to action</strong></td>
<td></td>
<td>Near around ball to action</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Away from Action</strong></td>
<td></td>
<td>Away from Action</td>
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<td></td>
</tr>
<tr>
<td><strong>Field notes</strong></td>
<td></td>
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</tbody>
</table>
Appendix 8

GAME GAIN

Game Gain promotes and deals with the practice of game possession and non-possession aspects on a fairly equal basis. That is detailed FOR Creativity within the; Constant (C1) Cognitive (C2) Controls (C3) and Connectivity (C4) of continuous decision-making and thinking to physically act whilst engaging with others as teammates and the opposition as physical engagement. These four aspects depict the equal importance of both Attack and Defence, with Constant (C1) at the centre to emphasise the ‘constant’ that is applied to the Connectivity (C2) of players’ teamwork, the Cognitive (C2) of players’ thinking (for decision-making) and Controls (C4) for actions as physical enactments of decision-making (C2).

CREATIVITY

CONSTANT (C1)

CONNECTIVITY (C2)

COGNITIVE (C3)

CONTROLS (C4)

Figure 4

CONSTANT (C1); continuity or continuous flow of the Cognitive (C3) and Physical (C4) (as Psychomotor) activeness and inter-activeness (C2)
Participative- Perception (read) - Process (plan) - Product (do)
**CONNECTIVITY (C2)**; collectiveness of socio-cognitive (C4) & socio-physical (C4) inter-activeness (ABCD & DCBA)

**COGNITIVE (C3)**; processing of Anticipation, Awareness, Adaptability (plus recognise) for Decision-making to apply Actions (C4) (plus Reassess, Reset, Realign)

**CONTROLS (C4)**; cognitively (C3) enacted decisions of physical actions of Attacking principles; Receive, Run, Retain, Release and Defending principles; Deny, Delay, Dictate, Dominate; individual and as a team collectively (C2)

To convey the purported balanced view of thinking and action of possession and non-possession as four components (C1, C2, C3 & C4) that communicates the balanced view of possession and non-possession within the proposed Game Gain orientation. The conceptual components of; Constant, Connectivity, Cognitive and Controls are depicted within a trigram/diagram to illustrate the flow and (inter) relationships of constant cognitive and physical participation, again with Constant (C1) representing a constant for C2, C3 & C4.

**Principles, Concepts and Objectives for Players and teams; in possession and out of Possession**

The four conceptual aspects of; Engagement, Questioning, Creativity and Support form a basis for the thinking and actions as coaching considerations of the finer principles, concepts and objectives that are further detailed within the following sections. The detail and definitions that follow are represented as a comprehensive collated matrix at the end of this Chapter (see Figure 3).

Each of the proposed Game Gain principles within the following sub-sections are afforded conceptual and contextual definitions that consider the cognitive, psychomotor and physical objectives for players. These contextualised concepts (as defined) are relative to the Constant (C1) Connectivity (C2) Cognitive (C3) [of] Control (C4) of Figure 1, as captured with the apposite coaching behaviours analysed within Systematic Observations (see Table 3).
In Pilot - Creativity; Constant, Connectivity, Cognitive Controls

The Creativity figure (see figure 1) was shown and used briefly with participant coaches to explain how players’ thinking as a continuous participatory engagement. It was noted by a Coach that referring to the figure (1) helped him to realise and understand ‘that players were always thinking […] whether they got the ball or not’ (C1), and adding, ‘I (C1), realised that their (the players’) constant being engagement, with and without possession, near and far away from [the] ball action […] meant that I could say something like [as] praise, encouragement or even pose them a question, or make a sign [coaching gesture], all they’d acknowledge that and react’ (C1). Another Coach (C2) commented that figure1 was ‘like a model of see, plan do,’ adding that, ‘they [the players] are doing it all the time; connected to me [the coach] and the [other] players, thinking all the time and acting stuff, and I reckon they’re being creative’ (C2).

Within a few examples, Figure 1 has shown to be a useful resource for referencing the continuous and constant cognitive and physical participation and engagement of players, and the connectivity that would exist between players and the coach/es. Therefore Figure 1 will be further used as a point of reference when engaging with participant coaches regarding; Creativity, Constant of Cognitive participation producing physical Controls, and the continuous Connectivity between all players and coaches.

Players and teams; in possession and out of Possession

This sub-section defines the principle concepts of players (as individuals within team/s), and teams of; being with the ball (possession), without the ball (of team in possession), and then players’ and teams’ positionality to the ball or action.
PLAYER/S

• Player in possession of the ball, player out of possession, of team in possession
• Player/s out of possession (team out of possession)
• Player in Possession (PIP) Player Out of Possession (POP)
• If not in possession, are you in position.

TEAM

• Team In possession (TIP)
• Team Out of Possession (TOP)
• TIP; with ball, at ball, near/around ball, away from the ball
• TOP; at ball, near/around ball, away from ball

Within Game Gain approach, players of teams are defined as ‘in possession’ as a team or, ‘out of possession’ as a team. This perspective would relate to the attacking or defending principles as decision-making objectives, and so to the players’ participation that correlate to their decision-making and actions relating to tactical aspects of; possession, position and space.
Anticipation, Awareness, Adaptability, Action

This sub-section defines concepts that relate to players and teams in and out of possession. The concepts in definition consider the (constant) cognitive, psychomotor and physical engagement for (learning and developing) players, regardless of positionality in relation to ball or action.

In the Actualities; Perceive – Process – Product (Read-Plan-Do)

- **ANTICIPATION (A1)** – active scanning, accompanied by cognitive perception and exhibited as; preparedness to foresee; as ability to perceive - in order to process information
- **AWARENESS (A2)**– perceptive scanning and ability to readily identify a perceived situation
- **ADAPTABILITY (A3)**- ability to read, process and produce changes to decisions and/or actions (macro, meso or micro levels)
- **ACTION (A4)**– the psychophysical product of perception and processing

Recognise, React

This sub-section incorporates the definition to emphasise the decision-making relating to the ‘product of perception and processing (plan-read-do).

- **RECOGNISE (R1)** – perception and processing of A1-A2-A3-A4
- **REACT (R2)** – the product of the perception and processing

Reassess, Reset, Realign

This sub-section incorporates the constant of reassessing every perception or scenario.

- **REASSESS (r1)** – process of perceiving a changing situation in relation to A1-A2-A3-A4
- **RESET (r2)** – product of Reassessing (A1-A2-A3-A4)
- **REALIGN (r3)** – product of Reassessing (A1-A2-A3-A4)
The P’s

Inclusive of definitions within this sub-section considers the cognitive and physical aspects active possession, position and pace that all relate to Space and Time.

**POSSESSION; POSITION; PACE  SPACE – TIME**

**Participative**; actively involved regardless of possession or position

**PERCEPTION (read)**; constant cognitive ability or awareness to read, scan

**PROCESS (plan)**; cognition of thinking, planning, organising

**PRODUCT (do)**; cognised (decision-making) psychomotor (re) action

*(PLAN–READ–DO = Perceptual-cognitive and psychomotor)*

**Principles, Concepts & Objectives for ATTACK & DEFEND**

Considerate of ‘Plan-Read-Do,’ this sub-section offers models for Attack and Defend with Transition (of possession). These principles can be conveyed as objectives for players as cognitive and physical concepts that relate to all positionality, in and out of possession.

**ATTACK (POSITION + PRESSURE + POSITIVE)**

**A – Assess (read)**

**B – Build (plan)**

**C – Create (plan –do)**

**D – Destroy (do)**

**Attacking; who, how, why, where, when**

NEUTRAL – TRANSITION; moment at which possession of the ball is *there* to be won or lost, as a 50/50 ball in neutral space or as a duel (who, how, why, where, when)

**DEFEND (PRESSURE + POSITIVE + POSITION)**
D – Dominate (do – read – do)
C – Contest (do – plan)
B – Build (plan – do)
A – Attack (do)

Defending; who, how, why, where, when

Attack

This sub-section builds the physical technical and tactical tenets upon decision-making in Attack with support.

ATTACK – RECEIVE; RETAIN; RUN; RELEASE

ATTACK (COMMIT to SUPPORT + SUPPORT to DOMINATE)

- RECEIVE (in SUPPORT); receiving possession of the ball from teammate
- RETAIN; maintaining possession of the ball
  - Plus
- RUN
  - BALL CARRIER - SUPPORTING PLAYER/S
  - BEAT OPPONENT = SUPPORT SPACE
  - FIX OPPONENT = HOLD SPACE
  - SHIFT OPPONENT = FILL SPACE
- RELEASE; passing the ball, or relinquishing physical possession according to rules/laws

Defend

This sub-section builds the physical technical and tactical tenets upon decision-making in Defending with support.

DEFEND – DENY; DELAY; DICTATE; DOMINATE

DEFENDING (COMMIT to DOMINATE + DOMINATE to SUPPORT)
o **DENY**; filling, attacking and closing space to limit (as much as possible) to reduce or nullify opportunities for opposition to play forward, or continue or construct attacking play

o **DELAY**; affect opposition player/s decision-making, to reduce or nullify opportunities for opposition to play forward, or continue or construct attacking play
  - **OPPONENT IN SPACE**; actively anticipate the effect of opposition player who may not be directly-active

o **DICTATE**; affect oppositions’ decision-making by affecting their physical space and peripheral space and time to force, or, dictate how/where/when they play

o **DOMINATE**; attack player, ball or space, to apply pressure to affect their decision-making opportunities, space and time
Appendix 9

Inspirational Perspectives (for the Researcher)

The Researcher has followed, studied and worked with the conceptual notions and coaching approach of Le Plaisir du Mouvement (LPM), principally by Pierre Villepreux (French International Rugby Union Coach and ex-player).

Villepreux recognised that risk taking that within Rugby training and playing to ‘create a maximum of uncertainty’ (Mouchet, 2005 p24) generated problem-solving and decision-making to form variant strategies and outcomes that placed the play as different and original forms, possibly as creativity. Le Plaisir du Mouvement (LPM) (and also Akka Formazione, Akkademia (both in rugby at a developmental level in Italy). Their notions have conceptualised the application of ‘Space’ and ‘Time’ within the contextual teaching (coaching) of Rugby Union, and most importantly Villepreux and LPM realised that within the space and time that constantly changed, that; zones away from the ball (in attack) were equally important as the zone with the ball (in attack). These aspects were and are referred to as ‘Life of the Ball’ (immediate and intermediate support as a principal, to go forward as a principal); to maintain possession and out-number the opposition; to support and penetrate. The zones not directly at the ball but away from the ball, are referred to as the ‘Life of the Space,’ which deals with deeper and later support of and in space, also with the intention to out-number and penetrate the opposition’s defence. Both the Life of the Ball and the Life of the Space concepts exhibit a contextual propensity to perceptual-cognitive decision-making and psychomotor actions that align this thesis’s new notions of; including and coaching players, not just with the ball or directly at the ball, but also away from the ball. Villepreux’s LPM is comprehensive and inclusive to the decision-making and actions of possession and players of team in possession as attack, but is insufficient as a coaching approach to accommodate the out of possession or defending team, and this is where this research’s notions extend and elaborate further than the LPM ideology. ‘Tactics as adaptation in action, allows players to have margins of freedom to move between plan and any tactical adaptation with individual initiative and collective organisation’ Mouchet, 2005 p24). LPM
tended to plot-reference the game (of rugby union) across the axis of; width (lateral) and depth (axial), whereas the new orientation purports that the game is far more dimensional than that, both in attack and defence as in possession and out of possession.

Reference of Pierre Villepreux’s Le Plaisir du Mouvement within the Literature Review Chapter and also the Design Chapter show there is scope for more comprehensive orientation to all of Pierre’s principles of playing and coaching but still providing a sound reference point. Le Plaisir du Mouvement is reviewed and referenced as exhibiting or including some principle aspects of a proposed model (as support in attack), but LPM is levied with some criticism as it is not considerate or accommodating to out of possession aspects of training and playing. Pierre’s LPM as a free-flowing, penetrating and support playing coaching method and game strategy has been highly effective for him as an International player (France 34 caps) and Toulouse coach working with Jean-Claude winning title in 1985, then assistant to Skrela with France winning a number of 5 Nations Grand Slams (back-to-back 1997, 1998) and Rugby World Cup Finalists in 1999. The exciting free-flowing methodology has contributed to coaching philosophies in both the Northern hemisphere (France and England RFU) and Southern hemisphere (New Zealand), and also influential to well-known coaches; Sergio Zorzi (Italia and Benetton ex-player, skills coach, AKKAformazione), Wayne Smith (New Zealand All Blacks) and Lynn Evans (RFU) *inter alia*.
Appendix 10

The Researcher; a Biography

Michael Francis Pollin has accrued many years and hours of coaching both Football and Rugby Union. This has been for all ages of children, in the mini and small-sided versions both sports, and through to the full size games with older youths and adults. This has afforded experience within amateur and grassroots settings and also exposure to the professional games.

Through studying for BA in Education & Training at University of Southampton, and then an MSc in Educational Practice and Innovation, Michael has studied and researched across many areas of teaching and learning. Principally though, it has been the theory of Creativity in pedagogy, academic and then largely in sports coaching and player development that has been the main interest. Through studying the Italian Reggio Emilia Approach and the ideas of Loris Malaguzzi in conceptualising the approach to a curricula format for use in Italian early years education through to notions of Independent Learning in formative education years, Michael researched the contextual implementation of these ideas in English Primary school educations settings. Then following this project, Michael evolved these ideas of Independent Learning and Creativity to apply within football coaching; investigating changes in coaching behaviours as a function of participation in coach education programmes with The FA (2008-2011). At the same time the RFU were developing the new rules of plays as age-appropriate formats for young players, and it became apparent that there were some parallels within the two projects.

Following completion of the project with The FA and Football, Michael turned attention to Rugby Union, continuing to develop and evolve the ideas around autonomy, creativity and coaching behaviours as they would relate to players’ learning, development and performance. This work involved mentoring, facilitating and consulting with coaches, and their behaviours, and also players around their learning and development as that would transfer to improving and optimising performance in sport.
Michael continues to collaborate and consult with coaches of both Football and Rugby (amateur and professional), mentoring and facilitating in players’ and coaches’ development, whilst also delivering coach education for various bodies and clubs.

Previous related work has included editing and interviewing coaches, players and clubs, for the purposes of writing articles for globally distributed publications with international football coaches and players from; Brazil, The Americas, African Nations, Asian nations, top Portuguese clubs (FC Porto), top Dutch clubs (Ajax, Feyenoord, Alkmaar and PSV Eindhoven (*inter alia*).)

Currently Michael continues to develop as an RFU England Rugby Coach Developer whilst also holding The FA Coaches Licence to Level 3. Frequently Michael collaborates with Rugby educators in Italy (as ex Italy international players and coaches), and accompanying French former international coaches and players in developing and growing rugby and sports coaching philosophies.

With a bigger interest in pedagogy and socio-educative perspectives, Michael has pursued the ideas of creativity in sports coaching in this PhD project, and now intends to grow and share the potential with the commercial directive of Game Gain.

Michael holds the following qualifications and/or positions (*inter alia*);

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Appendix 11 The Game Gain; game sense – coach sense, coaching Creativity, Autonomy and Tactical Sense Matrix

The following Table is the Game Gain; game sense – coach sense, coaching Creativity, Autonomy and Tactical Sense Matrix, and this represents for the reader - the contextual and conceptual vocabulary and terminology that to make up the principles, concepts and orientations of the aforementioned sub-sections.

This matrix is to serve as a glossary and reference, summarising the principles, concepts and objectives that constitute the proposed Game Gain orientation for coaching, with all the vocabulary being conceptually and contextually defined within this section. The matrix could form part of a working document (within emerging themes) through observational video analysis, post-session stimulated recall interviews and evolving coaching practice (potentially as emerging themes).

Within the (bottom right of) matrix, the Researcher has inserted some formulae that are just ideas as thoughts to stimulate coaches thinking more if required as (potential) conceptual and contextual suppositions. There are also other ideas around attacking and defending principles, but again these are solely ideas to (potentially) support of stimulate coaches’ thoughts. There are spaces to add more detail (words or pictures) if required. The matrix will be used as a comprehensive reference for participant coaches to link and understand the concepts, principles and objectives to their coaching behaviours through the processes of the research for the proposed Game Gain orientation to coaching. There are a number of suggested permutations or equations inserted on bottom left of matrix. These are not anticipated to be pertinent to the project at the time of writing, but have been left in for the Researcher’s own reference as potential relativity to emerging themes.
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