



THE RELATIONAL POSITIONING OF EQUESTRIAN SPORTS PEDAGOGY
AS A UNIQUE AND SPECIALIST VARIANT OF SPORTS PEDAGOGY

A Thesis submitted by

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Thesis Abstract

Equestrian coaches offer their specialist knowledge and expertise in developing many successful partnerships between people and horses in a range of equestrian sports, from junior events at the local Pony Club to the Olympic Games. However, the ways in which coaches contribute to these equestrian successes through their teaching have not been widely researched. This thesis explores how equestrian coaches teach by examining their teaching perceptions, observing their teaching actions, and identifying the role of the horse in their teaching. This is an important topic because there is an independently responsive horse to consider in equestrian sports, which is not a factor present in other sports. New knowledge generated by this research has the potential to advance our understanding of the complex interactions that occur between the coach, student, and horse triad, and to assist in developing appropriate coach education resources and programs in equestrian sports.

The literature review shows that there was minimal research regarding teaching by equestrian coaches, so three research questions were designed to build on existing knowledge about how other sports coaches teach and how people and horses connect. A conceptual lens of Equestrian Sports Pedagogy (ESP), which represents the interactions between the coach, student, and horse, was created to guide the research. A three-stage mixed methods research design was implemented using a Survey questionnaire ($N=92$), Researcher observations ($N=12+2$), and Participant interviews ($N=8$). The teaching styles that equestrian coaches believe they use, and that were observed using in practice, were identified by using the theoretical framework of Mosston and Ashworth's (2008) Spectrum of Teaching Styles. How the horse impacts on equestrian coaches' teaching was also explored. Both quantitative and qualitative methods of data collection and analysis were used to address the diversity of these research questions.

Two major findings are reported. The first came from the identification of a clear discrepancy between how the equestrian coaches perceive they teach, and how they were observed to teach in practice. Participants nominated three predominant Spectrum teaching styles: Styles A (Command), B (Practice), and F (Guided Discovery). However, only Styles A and B were observed in their teaching activities. Therefore, the results suggest that equestrian coaches are only teaching known, rather

than new, knowledge. This is a similar discrepancy to that found by Hewitt (2015) in teaching tennis, suggesting that a divergence of teaching beliefs to observed practice is not restricted to equestrian sports. Additionally, the horse has no apparent influence on equestrian coaches' choice of Spectrum teaching styles, as related to coach and student interactions. However, the second major finding was that the horse does contribute to how equestrian coaches teach, and that they play a significant pedagogical role in equestrian sports. Their contributions are unique to coaching equestrian sports. Overall, these two major findings suggest that ESP can be considered both the same/similar and different to the pedagogy found in other sports. Thus, identifying the differences has helped to relationally position ESP as a specialist variant of sports pedagogy.

The overall findings mean that when teaching equestrian sports is perceived as similar to teaching in other sports, results from addressing such topics as teaching beliefs and observed actions in general sports pedagogy will be of value to coach development in equestrian sports. Using literature from sports pedagogy may be favourably applicable to coach education in equestrian sports, although it would help if the theoretical constructs from sports pedagogy could be sufficiently modified so that the interactions of the horse can be recognised. When teaching equestrian sports is perceived as different from pedagogy in other sports generally, literature from equestrian sports or associated disciplines may need to be incorporated to fully appreciate the interaction of the horse, and its impact, on the teaching pedagogy. Additionally, this may mean that any future research into topics associated with teaching equestrian sports is of value in general sports pedagogy.

The research presented in this thesis indicates that generalised coach education may not always be adequate for the educative requirements of equestrian coaches. There is a need to progress pedagogical theory that is specifically tailored to suit equestrian sports. This could be undertaken along with, or parallel to, that of general sports. It is expected that developing a better theoretical understanding of teaching and learning with horses will benefit equestrian coaches in the future, and that benefit can feasibly be achieved through improved coach education. Positioning future research of ESP relationally to that of other sports has the potential to significantly contribute to a collection of new knowledge that will be of interest to several research and practice domains. It is expected that the interest group will include researchers and

practitioners of sports pedagogy, in addition to equestrian coaches and their students and horses, and to coach educators in many other sports.

Certification of Thesis

This thesis is entirely the work of *Cristine Anne Hall* except where otherwise acknowledged. The work is original and has not previously been submitted for any other award, except where acknowledged.

Student and supervisors signatures of endorsement are held at USQ.

Associate Professor Kenneth Edwards

Principal Supervisor

Dr Sara Hammer

Associate Supervisor

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Thesis Dedication

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Equestrian Sports in Australia

Well-known equestrian sports in Australia include the following:

- Dressage
- Endurance
- Eventing
- Horse Agility
- Jumping
- Para-equestrian
- Pony Club
- *Ready, Steady, Trot*
- Reining
- Show Horse
- Vaulting (EA, 2015b) (Image 1.1)

Note that *Ready, Steady, Trot* is delivered as a structured program of equestrian sports that is administered by Equestrian Australia (EA, 2015b). Examples of other equestrian sports include:

- Campdrafting
- Cutting
- Equine Facilitated Learning (EFL)
- Harness
- Mounted games
- Polo
- Polocrosse
- Racing
- Rodeo events
- Tentpegging (Image 1.1)



Dressage



Jumping



Eventing



Show Horse



Para-equestrian



Vaulting



Campdrafting



Polocrosse



Horse agility



Endurance



Equine Facilitated Learning



Pony Club

Image 1.1. A selection of equestrian sports.

Source: Google images (www.google.com).

Equestrian Sports Pedagogy

For the purpose of the thesis, the following term has been defined:

Equestrian Sports Pedagogy (ESP) is defined as teaching and learning in equestrian sports. It incorporates a dynamic teaching and learning environment, known as the coaching environment, which includes the interactions between the coach, student, and horse triad in the equestrian coaching triad.

The Spectrum of Teaching Styles

The Spectrum is presented as a unified theory about teaching and learning, which is structured in a comprehensive framework for enabling an understanding of the teaching and learning process (Mosston & Ashworth, 2008). The framework has been prominent in the literature of physical education for 50 years (Spectrum of Teaching Styles, 2015), and more recently has been examined in sports coaching (Hewitt, 2015). The terminology of teacher and learner is used to describe Spectrum decision-makers in Mosston and Ashworth's (2008) *Teaching Physical Education*, whereas coach and student are preferred, where possible, throughout the thesis. Also, terms such as teaching and teaching styles are preferred over coaching and coaching styles or approaches. Differences in terminology regarding teaching and coaching can be interpreted in different ways, and the difference is acknowledged, where possible, throughout the thesis.

Thesis Abbreviations

The abbreviations of reference sources that were used in the thesis are listed below with the associated full context of the word meanings presented. Each abbreviation is fully contextualised when first encountered throughout the written document, except for some citations. Where the abbreviation has been used as a citation, the reference list contains the full context of the abbreviation, and so the reader may need to refer back to the list of abbreviations.

Abbreviation	Full Context
ABS	Australian Bureau of Statistics
ACARA	Australian Curriculum, Assessment and Reporting Authority
AEFL	Australian Equine Facilitated Learning
AIESEP	International Association for Physical Education in Higher Education
AOC	Australian Olympic Committee
ASC	Australian Sports Commission
BHS	British Horse Society
CEO	Chief Executive Officer
DET	Department of Education and Training
EA	Equestrian Australia
EAGALA	Equine Assisted Growth and Learning Association
EAHAE	European Association of Horses in Education
EFL	Equine Facilitated Learning
ESP	Equestrian Sports Pedagogy
FBHS	Fellow of the British Horse Society
FEI	Federation Equestre Internationale
GBA	Games-Based Approach
GNEF	German National Equestrian Federation.
HETI	Federation of Horses in Education and Therapy International
ICTLS	Identification of Classroom Teaching-Learning Styles
IFITS	Instrument for Identifying Teaching Styles
NCAS	National Coaching Accreditation Scheme
NCSP	National Conference on Sports Pedagogy
NMA	National Museum of Australia
OHC	Online Horse College
PATH Intl.	Professional Association of Therapeutic Horsemanship International
PCAA	Pony Club Association of Australia
RDAA	Riding for the Disabled Association Australia
RIRDC	Rural Industries Research and Development Corporation

RTO	Registered Training Organisation
STS	Spectrum of Teaching Styles
TAFE	Technical and Further Education
TGfU	Teaching Games for Understanding
UK	United Kingdom
US	United States of America
USQ	University of Southern Queensland
VET	Vocational Education and Training

Research Presentations

During the course of conducting the research, eight Conference or Symposium papers or posters were presented on various topics, including Equestrian Sports Pedagogy (ESP), Equine Facilitated Learning (EFL), and the researcher's doctoral journey. Details of these presentations are listed below:

Hall, C. A. (2015, June). *A foray into philosophy: Finding the fourth conclusion in critical realism*. Paper presented at the 15th Research Symposium, Postgraduate and Early Career Research (PGEER) Group, University of Southern Queensland, Springfield Campus, Australia.

Hall, C. A. (2014, October). *Using mixed methods to address the multiple dimensions of equestrian sports pedagogy*. Paper presented at the 14th Research Symposium, Postgraduate and Early Career Research (PGEER) Group, University of Southern Queensland, Springfield Campus, Australia.

Henderson, R. and Hall, C. (2014). *Meet, say, share: Investigating informal learning in a community of doctoral students*. Abstract paper presented by first author at the Annual Conference of the British Educational Research Association, Institute of Education, London, United Kingdom.

Hall, C. A. (2014, May). *Self-coaching through four stages of developing doctorateness using two contrasting equestrian sports*. Paper presented at the 13th Research Symposium, Postgraduate and Early Career Research (PGEER) Group, University of Southern Queensland, Toowoomba Campus, Australia.

Hall, C. A. (2013, November). *Muddling in the middle: Overcoming the challenge of changing spaces in doctoral research*. (Repeat) Paper presented at the 12th Research Symposium, Postgraduate and Early Career Research (PGEER) Group, University of Southern Queensland, Toowoomba Campus, Australia.

Hall, C. A. (2013, November). *Muddling in the middle: Overcoming the challenge of changing spaces in doctoral research*. Paper presented at the Creating Crossroads Symposium, University of Canterbury, New Zealand.

Hall, C. A. (2013, May). *Ask a simple question: Intercultural perspectives of Equine Facilitated Learning*. Poster presented at the 11th Research Symposium, Postgraduate and Early Career Research (PGEER) Group, University of Southern Queensland, Springfield Campus, Australia.

Hall, C. A. (2012, October). *Giddy up and go on: Strategies for stepping through the obstacle course of post-graduate study*. Paper presented at the Tenth Research Symposium, Postgraduate and Early Career Research (PGEER) Group, University of Southern Queensland, Toowoomba Campus, Australia.

A Letter from Your Horse

Author Unknown

*When you are tense,
let me teach you to relax.*

*When you are short-tempered,
let me teach you to be patient.*

*When you are short-sighted,
let me teach you to see.*

*When you are quick to react,
let me teach you to be thoughtful.*

*When you are angry,
let me teach you to be serene.*

*When you feel worried,
let me calm your fears.*

*When you feel superior,
let me teach you to be respectful.*

*When you are self-absorbed,
let me teach you to think of greater things.*

*When you are arrogant,
let me teach you humility.*

*When you are lonely,
let me be your companion.*

*When you are tired,
let me carry the load.*

*When you need to learn,
let me teach you.*

*After all,
I am your horse.*

Chapter 1 Introduction

Equestrian sports form part of the sporting landscape in Australia, and typically rely on specialist equestrian coaches to help participants achieve their sporting goals. Well-known equestrian sports in Australia include the Olympic and Paralympic Games events of Dressage, Jumping, and Eventing, and national competitions and activities such as Show Horse, Pony Club and the Riding for the Disabled (Equestrian Australia, 2015a). Although Dressage is a stand-alone equestrian sport, it is internationally considered by many to be the training foundation of other equestrian sports (British Horse Society, 2015; EA, 2015a; Federation Equestre Internationale, 2015). Sports coaches have a major role to play in developing the skills and competencies of the people who choose to participate in sports (Cushion, 2010), and equestrian coaches are additionally responsible for the training and wellbeing of the horse (EA, 2015a; Online Horse College, 2015). However, little is known about how equestrian coaches teach. This is both in the context of coaching in sports generally, and in knowing when or how equestrian teaching incorporates additional equestrian knowledge due to influences of equine behaviour.

Extending our knowledge with the research about how coaches teach their students equestrian skills will provide important information to enhance learning in equestrian sports. It will also contribute to our theoretical understanding of multi-dimensional and complex interactions that are already recognised in sports pedagogy (Cassidy, Jones, & Potrac, 2009). Some equestrian coaches seem to base their teaching approach on their previous equestrian experiences, with little conscious thought about teaching styles or how their teaching is implemented. Therefore, increasing coaches' self-awareness and understanding of their own practices is necessary for advancing coach education and professionalism in sports (Cushion, 2010). The researcher similarly asserts that a better understanding of pedagogical complexities in sport will offer equestrian coaches a stronger connection between their teaching behaviour and the performance skills developed by their students in partnership with their horse.

In this introductory chapter, a brief background first recounts how the research originated from conversations with equestrian coaches regarding different ways or methods of teaching various equestrian sports. The account is contextualised with

some general information about equestrian coach education in Australia. Next, there is an outline of the aim, purpose, rationale, scope and ethics of the research. Then the three research questions are described. These were developed to enable the investigation of teaching beliefs and practices of equestrian coaches, and to explore whether the horse has a role to play in Equestrian Sports Pedagogy (ESP). Following on, an overview is provided of the six-chapter structure of the presented thesis, which includes the mixed methods research methodology that was selected to guide the research. Finally, a summary provides a conclusion to this first chapter, which completes an introduction to the six chapters of the thesis.

1.1. Background to the Research

Equestrian sport is different to other sports in that students are partnered with a live, reactive horse, rather than with inanimate objects that are normally used in other sports, such as a bat or a ball. Coaching a student with a horse means that equestrian coaches require a reasonable level of competence in riding, horsemanship, and teaching to ensure safe practices (EA, 2015a; OHC, 2015). This safety requirement suggests that equestrian coaches need to develop specialist expertise that allows them to manage both students and horses, and, additionally, student and horse partnerships. In many equestrian coaching situations, not only is the rider learning to develop particular skills during the process, but the horse is also learning new skills (EA, 2015a; OHC, 2015). Thus, both rider and horse can be perceived as each other's students, while both can be seen as students of the coach. Developing riding talents of students and equine talents of horses is a traditional priority of equestrian coaching in Australia (EA, 2015a). As such, considering how and when students and horses learn from each other is a major additional difference between coaching equestrian sports and coaching in other sports.

Good equestrian coaches aim to develop a kinesthetic connection, or feeling, between students and their horses (EA, 2015a; OHC, 2015). Such a connection is achieved when an equestrian coach can observe and interpret the horse's body language or behaviour in a way that helps students to develop their own sense of feel in order to connect with and manage the horse (Roberts, 2000, 2004; Rector, 2005; Kohanov, 2007). This aligns with the researcher's experiences across many years of participating in equestrian sports as a student, rider, and competitor at international

events, and as a student coach, accredited coach, and coach educator. This experience also supports the proposition that effective equestrian coaches may operate in ways that are almost instinctive in the sense that they have evolved primarily through their equestrian experiences. Pedagogy in equestrian sports is perceived by most equestrians to include unique aspects of teaching and learning because the horse interacts with both the coach and the student. A horse's reaction generally has a message associated with it that needs to be noticed. For example, a horse laying its ears flat is saying: "Beware". To miss such a message is potentially unsafe. Knowing and managing the behaviour of the horse is a core responsibility of an equestrian coach who needs to have this specialist understanding and skills. Equestrian coaches help people learn how to be aware of the horse's behaviour.

Aspects of this three-way interaction of coach, student, and horse, as an equestrian coaching triad, appear to differ from the two-way (coach and student) interaction in other sports, whether these are athletics or bat and ball types of sports. General forms of sports pedagogy that describe teaching and learning activities in line with the usual sporting dyad of coach and student are well-accepted in the literature (Haag, 1994; Cassidy et al., 2009; Cushion et al., 2010). However, it is apparent in this literature that the interaction of horses with coaches and students in equestrian sports is often overlooked when it comes to general discussions of teaching and learning. The research aims to draw out some of those pedagogical similarities and differences by comparing equestrian sports with general sports, and by highlighting aspects of sports pedagogy that are unique to equestrian sports. There are many pedagogical similarities between equestrian sports and most other sports; however, the differences may have a significant impact on how equestrian sports are taught and how equestrian coaches are educated. Research conducted for the thesis indicates that it is feasible to allow the horse to be considered as a distinct entity in this pedagogy. Therefore, *Equestrian Sports Pedagogy (ESP)* is defined in the thesis as *teaching and learning in equestrian sports*. It incorporates a dynamic teaching and learning environment, which includes the interactions between the coach, student, and horse triad in the equestrian coaching triad.

1.1.1. Genesis of the research

The trigger for the research was a conversation between the researcher and equestrian coaches about how equestrian coaches should teach. The coaches were looking for ways to improve their teaching adaptability in various equestrian sports. Thus the need for the research was rationalised by the prospect of contributing to effective and relevant coach education programs for equestrian coaches in the future. In particular, several of these conversations occurred in 2010 with a number of equestrian coaches at Equitana, an international equestrian sports fair, in Melbourne. The event is a national and international drawcard for equestrian coaches and coach educators who seek to teach others and learn more about their profession. Online Horse College (OHC), as a coach education provider, is a registered training organisation (RTO) in Australia that markets its international equestrian courses at Equitana. While the researcher was working at the OHC trade stand during Equitana, in Melbourne in 2010, conversations with equestrian coaches about teaching were initiated by presentations and demonstrations of the relatively new *student-centred* teaching concept in Australia of *Equine Facilitated Learning*, or *EFL*, and its associated activities (Appendix A).

Teaching EFL, as an innovative model of learning, taps into the historical connections of people and horses to utilise the power of the horse and its unique and remarkable characteristics. Briefly, the aim of facilitating these EFL activities is to develop personal, or cognitive and affective, skills of students while they are engaged in learning with horses (Hallberg, 2008). Generally, an experiential approach is required, since the experience is considered an important trigger for learning (Dewey, 1938). Effective learning is based on the principles of student-centredness, or client-centredness, as espoused by scholars such as Carl Rogers (1951, 1989) and is applied in mainstream education (Rogers, Lyon, & Tausch, 2014). According to Rogers (1989), a facilitative, high quality, student-centred philosophy of teaching reflects humanistic, or person-centred, learning, where students can become self-empowered in developing their personal growth.

Originally associated with psychotherapy and treating mental health issues (Frewin & Gardiner, 2005), the concept of EFL has more recently been used with able-minded clients for educative purposes (Professional Association of Therapeutic

Horsemanship International, 2015; Riding for the Disabled Association Australia, 2015). There is an emerging field of associated interest in EFL for health and wellbeing benefits. For example, Dyk and associates (2013) identified an increase in emotional intelligence of nurses from participating in non-riding equestrian activities. Weber (2005) had earlier found a similar improvement in emotional intelligence and leadership in medical students, which then had a positive impact on how they interacted with patients in the hospital. In another instance, Wach (2014) claims that higher levels of mindfulness in college students could be associated with interacting with horses. Self-esteem and self-efficacy increased for at-risk adolescents who participated in activities with horses (Hauge et al., 2014). Indeed, the researcher has reported on using an EFL experience as a valid metaphor for doctoral learning (Hall, 2012). The concept of EFL is widely associated with non-riding participants who may have had little previous contact with horses. However, there is no reason to question that high performance competitive riders may benefit from partaking in a series of EFL activities to enhance their existing equine partnerships. Educative benefits from experiencing EFL activities are widely recognised in the US, UK and Europe, whereas in Australia, their development and acceptance are still in the early stages (Australian Equine Facilitated Learning, 2015; RDAA, 2015). This is particularly evident in the educative domain of establishing nationally recognised credentials for teaching EFL activities.

The challenge for both the coaches at Equitana and other interested coaches of implementing the concept of EFL for educative purposes in equestrian sports may relate to its disciplinary origins in psychotherapy and psychology. It may also be that EFL is underpinned by constructivist learning theories that may not be familiar. In constructivism, a student's knowledge is constructed by new experiences contextualised through prior knowledge (Vygotsky, 1930-1934/1978; Dewey, 1938; Bruner, 1961, 1996). The differing backgrounds and evolving applications of EFL provide various interpretations of learning with horses (Hall, 2013). It is important for equestrian coaches to know how and why forms of EFL are different so they have an understanding of their own position on teaching.

The equestrian coaches explained that including EFL activities in their equestrian practice was potentially an opportunity to expand their equestrian business by targeting a wider range of students, or clientele. Using these types of student-centred

activities means that students who are not interested in riding, or those who ride and are not capable of pursuing higher levels of competition riding, could still enjoy spending time partnering and learning with their horse. The coaches also perceived that their existing students, who included competitive riders in equestrian sports such as Dressage, Jumping, and Eventing, would benefit from participating in these activities. It was clear that irrespective of the students' capability levels and their interests in pursuing a particular aspect of equestrianism, it was possible to enhance the learning experience by participating in EFL activities as part of their normal equestrian training.

However, it was not clear to the equestrian coaches at Equitana exactly how they could include these EFL activities, based on their current knowledge and experience of teaching in equestrian sports. Applying discovery-based learning and student-centred approaches that focus on learning from experience is considered more effective than traditional methods of teaching (Biggs, 2003). This contemporary type of approach to teaching was perceived by the coaches at Equitana as somewhat in contrast to the aims of traditional equestrian methods that focus on developmental goals of physical competence for students in training horses. Training horses relies upon behavioural mechanisms (McClellan & McClellan, 2008; McGreevy & McLean, 2010; McGreevy, 2012), and there is little evidence to suggest it should be otherwise. The contemporary approach to learning with EFL, as mentioned above, could be thought of as an alternative or additional approach to teaching in equestrian sports.

Equestrian coaches learn various teaching approaches during their coaching training for national accreditation as coach education in equestrian sports is guided by the Australian Sports Commission (ASC). In Australian sports, Game Sense (den Duyn, 1997) is endorsed as a student-centred teaching approach, which is similar in orientation to EFL. Although it appears that implementing Game Sense and EFL activities may have similar requirements, these similarities have not been defined. As promoted by the ASC, coaches are expected to teach students in a range of situations and be capable of multiple roles in a dynamic environment (Pyke, 2001; ASC, 2006). General trends in sports coaching worldwide embrace the notion of adaptive teaching (ASC, 2006; Cushion, 2010; Sports Coach UK, 2014) as an effective instructional strategy. Encouraging the use of student-centred concepts, such as Game Sense, may help to develop a better sense of adaptive teaching by complementing traditional

ways of teaching, for example, direct teaching. Adaptive coaches recognise the range of teaching styles that are available to them, and are then able to use each style as appropriate for the given teaching situation to meet lesson goals and students' needs. For example, Cushion (2010) asserts that professional coaches must be able to match the content and their teaching approaches to the learning abilities, interests, and readiness of their students. This is in agreement with Mezirow (1981), who explains that an adaptive teacher is able to effectively modify, or transform, their teaching behaviour to cater for individual students' differing levels of knowledge, learning abilities, learning styles, and personalities. Consequently, incorporating both traditional and contemporary teaching styles in adaptive coaching reflects ASC's positioning of coaching sports as participative and inclusive (ASC, 2015).

However, if, when, or how this type of general information from sports pedagogy is being actioned in equestrian coaches' day-to-day practice was not easily verified. Nor was there any knowledge about coaches' subsequent ability to adapt their teaching to different teaching scenarios that call on a more facilitative role. In equestrian sports, coaches need to adapt to the horses' behaviours in addition to the behaviours of their students. Perhaps by introducing an additional concept of teaching, such as EFL, equestrian coaches may learn new pedagogies. These may contribute to the development of a recognisable equestrian variation of adaptive teaching in the future. Therefore, the research is needed to first examine existing concepts of pedagogy in equestrian sports, before considering further how facilitating EFL activities could be included in a program of teaching equestrian sports more generally.

1.1.2. Coach education for equestrian coaches in Australia

Equestrian coaches can attain formal, teaching accreditation from either the National Coaching Accreditation Scheme (NCAS) through Equestrian Australia (EA), or from a registered training organisation (RTO), such as Online Horse College (OHC). The NCAS scheme was developed in the 1980s (Woodman, 1989), whereas the vocational education alternative is a more recent learning pathway for sports coaches (Department of Education and Training, 2016). As coach education providers for equestrian sports, both EA and OHC use two general Australian Sports Commission

(ASC) coaching manuals: *Beginning Coaching* (ASC, 2006) and *Better Coaching* (Pyke, 2001). These two ASC manuals, which are used as reference material in the accreditation process of most sports in Australia, describe their own variations of teaching styles, as coaching styles and coaching approaches respectively. There is no definition of the elements that constitute a coaching style or teaching approach, and information on how to implement each variant of coaching is limited and is not sports-specific. There are no instructions, for example, of how to teach in equestrian sports with both a student and a horse. Some other sports, such as tennis, have designed and produced their own specific coaching manuals and training resources in partnership with ASC (Tennis Australia, 2015). To date, this specificity of coach education has not evolved in equestrian sports.

The five coaching styles in *Beginning Coaching* are as follows:

1. *Authoritarian*: The authoritarian-type coach is very strict. They punish frequently and while there is good team spirit when the athlete or side is winning, dissent occurs when losing. The authoritarian has the personality to handle being 'hated' in order to have respect.
2. *Business-like*: The business-like coach is not very people oriented. They are keen on seeing the job done and expect 100 per cent effort at all times.
3. *Nice-guy*: The nice-guy coach gets on well with participants of similar temperament who are self-disciplined. Participants sometimes take advantage of the nice-guy coach's personable, cooperative nature.
4. *Intense*: The intense coach can easily transmit anxiety through their 'uptight' attitude. They are usually focused on the quality of performance and results.
5. *Easy-going*: The easy-going coach is one who is casual or submissive and who gives the impression of not being serious. (ASC, 2006, p. 14)

Clearly, these five descriptions of coaching, or teaching, styles in *Beginning Coaching* could be interpreted as a personality type, which strongly links individual coaches to their own way of teaching. Here, a shift from one style of teaching to another might additionally call for changes in personal characteristics. However, utilising these five styles may not be easily actioned, despite the expectation that adaptive coaches can incorporate all five styles in their teaching in response to varying situations and participants (ASC, 2006).

The ASC manual *Better Coaching* claims that teaching styles have shifted over the last two decades (Pyke, 2001). Coaches are encouraged to transition from traditional methods of teaching as the expert, towards incorporating a student-centred model of

learning, and to expand their repertoire of teaching skills to improve coaching outcomes. However, how sports coaches might make this transition is not clarified. Therefore, aspiring coaches may find that acquiring this knowledge is helpful for learning how to teach by considering alternative ways of teaching.

The six coaching methods described in *Better Coaching* (Pyke, 2001, p. 10) are:

1. Direct instruction
2. Facilitative questioning
3. Increasing athlete responsibility
4. Developing rapport with athletes
5. Modelling
6. Defining athlete behaviours and associated consequences.

The names of these six coaching methods in *Better Coaching* (Pyke, 2001) differ from those listed in *Beginning Coaching* (ASC, 2006). A loose connection between Authoritarian teaching in *Beginning Coaching* and Direct instruction from *Better Coaching* can be identified, although there are no details to explain relationships between lists of teaching styles espoused in these two ASC manuals. No other comparative pairs of teaching styles from these two lists are easily discerned. In addition, while teaching styles in *Beginning Coaching* describe a range of personalities, teaching styles from *Better Coaching* describe actions of the sports coach. These differences reflect how teaching in sports is interpreted in various ways in ASC coaching resources.

In addition to the information on teaching styles from the two manuals mentioned above, the ASC's journal *Sports Coach* has published articles on two teaching concepts: coaching with Mosston's (1966) Spectrum structure (Mallett, 2005) and the Game Sense approach (den Duyn, 1997). Briefly, Game Sense is a student-centred, games-based approach (GBA) to teaching sports that was endorsed by the ASC in 1996. It is described by den Duyn (1997) as an alternative approach to traditional methods of teaching, implemented by using guided discovery, where learning occurs through inquiry. The Game Sense approach in sports is designed to encourage students to develop their own tactical and thinking skills, in addition to their game skills, through solving problems in addressing questions posed by the coach (Pill, 2007). The ASC website also contains a series of Game Sense videos and associated resources (ASC, 2015). However, utilising these resources is not required

for coaching accreditation in equestrian sports (EA, 2015a; OHC, 2015), so the articles or videos may not be widely viewed by equestrian practitioners. Nonetheless, both the Spectrum and Game Sense are identified in the literature review of the thesis as important teaching concepts that are relevant to both general sports pedagogy and to this study of pedagogy in equestrian sports.

The Spectrum of teaching styles, known as The Spectrum, is represented as a unified theory about teaching and learning, framed around a continuum of 11 teaching styles. It locates decision-making with the teacher or coach, and the learner or student (Mosston & Ashworth, 2008). At one end of the Spectrum, Style A, the teacher makes 100% of the key decisions and, at the other end, Style K, the student makes 100% of the key decisions.

The 11 *landmark* teaching styles that are identified and outlined by Mosston and Ashworth's (2008) Spectrum structure are:

1. Style A Command
2. Style B Practice
3. Style C Reciprocal
4. Style D Self-check
5. Style E Inclusion
6. Style F Guided Discovery
7. Style G Convergent Discovery
8. Style H Divergent Discovery
9. Style I Learner-Designed Individual Program
10. Style J Learner-Initiated
11. Style K Self-teaching.

In his ASC article on coaching with the Spectrum, Mallett (2005) encourages sports coaches to reflect on how they teach and to recognise and understand their own teaching practices. As Mosston and Ashworth (2008) suggest, he encourages coaches to learn about the various teaching styles on offer, to assist them in better adapting to differing teaching scenarios. However, to do so, Mallett (2005) referenced the seven teaching styles listed in an earlier, and now outdated, edition of *Teaching Physical Education* (Mosston, 1966). These were Style A to Style F, which are the same in the list above, as well as Style G (Problem solving). The reasons he chose to reference an early edition of the Spectrum is not reported. Nonetheless, encouraging coaches' reflections on their teaching would likely be approved by Mosston because he

originally created the Spectrum primarily as a prompt for teachers' personal self-improvement in teaching physical education (Mosston, 1972).

Mallett (2005) explains that, in the Spectrum, five teaching styles (Styles A, B, C, D, and E) are grouped in the reproduction of known knowledge cluster, and two teaching styles (Style F and Style G) are grouped in the production of new knowledge cluster. Mallett (2005) associates "reproduction teaching styles" with coach-centred learning approaches from an Autocratic coach, and "production teaching styles" with student-centred learning approaches from a Democratic coach. Autocratic can be loosely connected to both Authoritarian from *Beginning Coaching* (ASC, 2006) and Direct instruction from *Better Coaching* (Pyke, 2001), which were mentioned previously. By contrast, connections of Democratic with other teaching styles in the two ASC manuals are not clarified. Furthermore, in making these connections, it is worth noting that the Spectrum authors specifically make no associations between the clusters of teaching styles and teacher-centred or student-centred alliances (Mosston & Ashworth, 2008). However, further discussion in Chapter 2 (Literature Review) will show that these associations are prevalent throughout sports pedagogy literature and are clearly important to other scholars.

Sports programs based on student-centred teaching approaches have become popular in Australian sports (ASC, 2015). More recently, Equestrian Australia (EA) has introduced the sports program *Ready, Steady, Trot* (EA, 2015b) and the ASC has introduced the sports program *Sporting Schools* (ASC, 2015). Both are participatory sports programs that have a similar philosophy of applying guided discovery teaching techniques to those used in Game Sense. Additionally, there would appear to be some philosophical alignment of Game Sense and EFL with constructivism or humanism, as both approaches to teaching use broadly similar variations of GBAs. Establishing this connection would possibly be of interest to the coaches at Equitana who were looking for more information on EFL and its associated activities. However, attempts at establishing connections between EFL and Game Sense are not portrayed in the literature, and have not been specifically targeted in the research.

By examining the ASC resources that have been developed for sports coaching in Australia, it is clear that a range of approaches and styles are promoted for teaching in Australian sports. Adaptive teaching dominates the ASC sports education

programs in Australia and its proponents promote many forms of constructivist-influenced teaching to complement more traditional direct teaching methods. Styles of teaching are first introduced as personality types that coaches can identify in *Beginning Coaching* (ASC, 2006) followed by more complex sets of actions that coaches can implement in their teaching in *Better Coaching* (Pyke, 2001). Spectrum teaching styles have also been introduced by Mallett (2005), and the student-centred, teaching philosophies of Game Sense (den Duyn, 1997) influence the new inclusive, participatory programs *Ready, Steady, Trot* (EA, 2015b) and *Sporting Schools* (ASC, 2015).

It must be conceded that ASC manuals, and in particular *Beginning Coaching*, are designed for introductory levels of sports coaching, and the informative articles in ASC's journal *Sports Coach* (ASC, 2015) are not compulsory reading. Therefore, introducing these simplified concepts of teaching to learning coaches probably provides adequate information for their needs, rather than unnecessarily detailing a complex exposition of learning theories and pedagogy in sports. Nonetheless, both student coaches and more experienced practitioners would benefit from a clearer relationship between the variant sets of teaching styles used in each coaching resource, and from suggestions of how these teaching styles can be implemented.

There are presently no specific "how to teach" equestrian teaching manuals for equestrian coaches in Australia, so these coaches rely on general sports coaching sources in combination with their own, long-term, practical knowledge and experience of equestrian sports. In many sports, coaches learn through experience (Cushion, Armour, Jones, 2003; Gilbert & Trudel, 2001). Often, equestrians learn their skills of coaching, or teaching, from a peer or mentor who has more experience and expertise in the field of equestrianism. In many cases, equestrians learn how to teach from the same coach who has taught them how to ride. Beyond Australia, many equestrian organisations worldwide have their own literature or manuals on coaching equestrian sports that are readily accessible. This includes organisations in countries such as the United Kingdom (BHS, 2015; Horse Sport Ireland, 2015), Germany (Deutsche Reiterliche Vereinigung, 2015), United States of America (US) (United States Equestrian Team Foundation, 2014), and Canada (Equine Canada, 2014). Equestrians have access to a host of resources such as books and magazines to help them learn to ride. Many of these books have been written by well-credentialed,

influential equestrian coaches. These resources are directed at students who want to read and teach themselves how to ride, for example, Mary Wanless and her *Ride With Your Mind* series of books and DVDs (Wanless, 2015), and the two classics from Sally Swift (*Centered Riding*, 1985) and Molly Sivewright (*Thinking Riding*, 1988).

These training resources provide a comprehensive level of practical and theoretical equestrian knowledge internationally. However, except in a few rare instances, much equestrian information is about training and managing horses, or about the finer points of riding, and not about the specifics of how to teach, as a coach, or how to manage the student and horse partnership found in equestrian sports. Therefore, it is probable that a new equestrian coach learns the existing pedagogy in equestrian sports as much from their practical experiences of coaching as from any formal education they receive that is specifically targeting pedagogy in equestrian sports. Therefore, having very little information on pedagogy that is specific to equestrian sports may present a limitation for equestrian coaches and coach education providers.

1.1.3. Research problem

Overall, the research problem is that little is known about how equestrian coaches teach or about the role of the horse in teaching equestrian sports. There is a sound base of general sports knowledge available for equestrian coaches to utilise for skills development in their coach education. However, as the formal learning component of teaching in equestrian coach education in Australia is guided by general sports pedagogy, the interactive nature and role of the horse in teaching and learning is rarely considered explicitly in these coach education resources. Most of what equestrian coaches know of teaching these equine interactions is learned informally through practice and experience, and often with their own coach or other coaches as role models. Therefore, new information on teaching in equestrian sports will assist in developing informative coach education programs and resources, particularly for equestrian coaches, by incorporating new paradigms of teaching such as EFL. For this reason, the equestrian coaches at Equitana would likely be receptive to new information and insights about the horse in the teaching and learning process.

Extending the understanding of teaching methods and approaches in equestrian sports, and their relationship with those in other sports generally, could benefit all

equestrians. This type of knowledge may help to improve equestrian coaches' understanding of how they teach and to better define the philosophy or beliefs behind their teaching methods. Equestrian coaches who are more aware of, and better manage, their motives for teaching may find that they are more effective in implementing any of their selected teaching strategies with their students. Indeed, as with all sports, the teaching ability of the coach is perceived to be an essential contributor to effective student learning (Cushion, 2010). However, in equestrian sports, the horse's behaviour and abilities are also perceived to be essential to teaching and learning as part of the student and horse partnership. It would be valuable to know if, when, and how the teaching decisions made by a coach were influenced by the horse. As such, any new knowledge that emerges from research that is relevant to teaching in equestrian sports would ultimately benefit equestrian coaches, particularly if the information regarding pedagogy could be incorporated into formal coach education programs for equestrian coaches in Australia.

1.2. Aim, Purpose, Rationale, Scope and Ethics of Research

The aim of the research is to increase our knowledge of how equestrian coaches teach, and to consider the role of the horse in teaching equestrian sports. This aim will be achieved by building on existing knowledge of how equestrian coaches teach, and by positioning the inquiry in the comparative context of general sports pedagogy. Specifically, the research will examine the teaching styles of equestrian coaches by identifying their teaching beliefs and observing their teaching practices. A comparison will be made with teaching beliefs and observed actions of coaches in another sport that has been extensively researched: the sport of tennis. The research will also explore if, and when, and how, the horse impacts or influences the coach's teaching behaviours, as drawn from both observing teaching and interviewing lesson participants.

The purpose of the research is to contribute to further developing equestrian coach education. The new information generated by the research may assist equestrian coaches in advancing their knowledge and understanding of how they coach. Knowing more about the impact of the horse's behaviour on coaches and students

may provide the basis for extending or developing pedagogical theories and strategies that are specific to equestrian sports.

The rationale for the research is that improved coach education programs and packages that are designed for equestrian coaches may offer effective teaching strategies that improve the effectiveness of inter-species partnerships in equestrian sports. It would be anticipated that these improvements will be due to the new information provided by the research in regard to the ways that equestrian coaches teach sports, and how the horse may influence that teaching. Coaches may benefit from being exposed to new ideas about their perceptions of teaching. Wolframm's (2014) findings, as a rare incursion into a detailed examination of coaching equestrian sports, appear to support the conduct of the research. Such a position suggests that knowing more about how equestrian coaches teach is important and timely. Prominence in the literature will ensure that the topic of equestrian sports is recognised as a form of sports pedagogy where the coach teach students who partner with horses, which are responsive and reactive animals. The outcomes of the research may help to inform policy and development in international equestrian and sporting associations. There is potential in the future to build on the research with cohorts of coaches, students, and horses in each of the individual equestrian sports, which may lead to resolving some of the uncertainties in regard to better understanding the apparent complex interactions of the coach, student, and horse, which occur in equestrian sports.

The scope of the research was limited to Australian and international equestrian coaches, student coaches, and students, who were associated with coach education programs in equestrian sports.

Human Ethics Clearance has been approved by the University of Southern Queensland, Australia, with the Document Number H12REA214.

1.3. Research Questions

After critically reviewing the relevant literature, which is detailed in Chapter 2, three research questions were developed. As little information was found about theory and practice in ESP, the research was positioned in the field of sports pedagogy, as well as other fields closely associated with equestrian sports.

The theoretical framework of the Spectrum (Mosston & Ashworth, 2008) along with three particular studies (Struby, 1987; Cumyn, 2000; Hewitt, 2015) provided a basis for the development of these research questions. The Spectrum is dominant in physical education literature for identifying teaching styles of teacher practitioners (e.g. Cothran et al., 2005; Jaakkola and Watt, 2011; SueSee, 2012) and for sports coaches in tennis (Hewitt, 2015). The Spectrum Institute website hosts all available information on Spectrum research (STS, 2015). The first two research questions are based on Hewitt's coaching research in tennis and extend Struby's (1987) enquiry of teaching styles in equestrian sports. While Prosser and Trigwell (1999) identify a correlation between teaching beliefs and actions, wider educational literature suggests that it is important to differentiate between coaches' teaching beliefs and actions (Murray & Macdonald, 1997; Norton, Richardson, Hartley, Newstead, & Mayes, 2005). Struby's (1987) work focused only on coaches' teaching beliefs and interpreted the results as representative of their teaching practices. For this reason it was important for the research presented in the thesis to capture both teaching beliefs and teaching practices of equestrian coaches, hence the first two questions. The third research question was based on Cumyn's (2000) observations of coach, student, and horse interactions in the equestrian sport of Dressage. From her observations, she argues that the horse's behaviour can impact on the ways that equestrian coaches teach. Cumyn's argument is supported by the international equestrian literature on riding and training horses, which shows evidence of widely-accepted connections between people and horses.

The three research questions are:

- RQ 1. What teaching styles do equestrian coaches believe they use in their coaching practice?
- RQ 2. What observable teaching styles do equestrian coaches use in their coaching practice?
- RQ 3. How do horses contribute to ways in which equestrian coaches teach in equestrian sports?

The first two research questions are strongly interconnected. They have been designed to investigate teaching beliefs and observed practices of equestrian coaches respectively, with a particular focus on teaching styles. The third research question has been specifically designed to identify ways in which aspects of teaching

equestrian sports may either be similar to, or different from, those in other sports generally, as a result of the ways in which horses contribute to the pedagogy. Addressing these questions will highlight implications for developing effective coach education programs for equestrian coaches in the future.

1.4. Overview of the Thesis

This thesis has six chapters, Chapter 1 (Introduction) to Chapter 6 (Conclusion). The main points of each chapter, which provide the sequence of the research, are outlined. The intention of the research is to benefit equestrian coaches and coach educators through developing more effective coach education programs and resources in the future that consider new ideas in relation to teaching and learning in equestrian sports. Overall, new knowledge from the research has the potential to benefit members of equestrian communities and those of mainstream education communities, including academics and practitioners of sports pedagogy.

In Chapter 1 (Introduction), a foundation for the research is established that highlights the need for more information on how equestrian coaches teach. The background to the research has been provided, and three research questions are proposed to address the identified research problem. The first two questions are designed to identify teaching beliefs and observed practices of equestrian coaches in relation to their knowledge of teaching. The third question is designed to examine whether horses can impact the way that equestrian coaches teach. The manner in which the equestrian triad of coach, student, and horse interacts is important information for coaches, coach educators, and coach education providers, not least for its safety implications, as well as in designing appropriate coach education resources. For this reason, the research is also focused on comparing sports pedagogy in equestrian sports with that of other sports, and considering the implications of these research findings for benefitting and further developing equestrian coach teaching practices.

In Chapter 2 (Literature Review), literature relating to pedagogy in equestrian sports is explored to confirm that there is little available information on this topic so that a wider search is necessary. Literature from sports pedagogy, including literature of teaching styles, is critically reviewed to establish the extent to which information

about teaching styles can be implemented with equestrian coaches. Throughout the second chapter, more detail is provided about particular studies (Struby, 1987; Cumyn, 2000; Hewitt, 2015) that were instrumental in shaping the research.

In Chapter 3 (Research Methodology), details are provided about both the chosen paradigm of pragmatism and the three-stage, mixed methods design used to address the three research questions. The three research stages are:

- Stage 1. *Survey questionnaire.* A survey questionnaire conducted online to identify the Spectrum teaching styles used in equestrian sports, as perceived by equestrian coaches.
- Stage 2. *Observations A.* Researcher observations with a Spectrum coding instrument to identify the Spectrum teaching styles used by equestrian coaches who were purposefully selected from Stage 1. *Observations B:* Researcher observations with field notes to explore when and how the horses' behaviours influence how equestrian coaches teach. These were the same coaches as those in *Observations A*.
- Stage 3. *Participant interviews.* Interviews with purposefully selected coaches, student coaches, and riding students who participated in lessons observed by the researcher in Stage 2, to capture their insights into teaching in equestrian sports.

Quantitative data was produced by implementing Stage 1 (Survey questionnaire) and Stage 2 (Observations A) where both datasets were underpinned by the theoretical framework of Mosston and Ashworth's (2008) Spectrum of 11 teaching styles.

Qualitative data were generated from Stage 2 (Observations B) and Stage 3 (Participant interviews) by implementing Braun and Clarke's (2013) 12-step process, used to compare aspects of pedagogy in equestrian sports with that of other sports.

In Chapter 4 (Results), analyses of both quantitative and qualitative data are reported. A quantitative comparison is presented between equestrian coaches' beliefs about their teaching styles from Stage 1 (Survey questionnaire) and researcher observations of teaching in Stage 2 (Observations A). The comparison highlights differences between teaching beliefs and observed practice in equestrian sports, which is similar to those found in research focused on tennis coaching. However, as the qualitative data will demonstrate, other aspects of ESP are found to be, at times, the same as, similar to, or different from those of general sports pedagogy.

In Chapter 5 (Discussion), the results from Chapter 4 are discussed and two major key findings are presented. First, the research showed that the disparity between

equestrian coaches' beliefs about their teaching styles and the teaching styles observed in practice is similar to that reported for tennis coaches. Second, the research confirmed that equestrian coaches interacted with both the student and the horse when teaching equestrian sports. Implications of these findings are discussed by drawing comparisons within research stages, for example, Stage 1 and Stage 2 (Observations A), and additionally linking this back to the reviewed literature of sports pedagogy and equestrian sports. The manner in which ESP should be relatively positioned to sports pedagogy is discussed in this chapter. Ways in which the information drawn from the research may impact on equestrian coaches who are looking to become more effective in teaching equestrian sports are also discussed.

Chapter 6 (Conclusion) is the final chapter of the thesis. The main findings of the research on ESP are summarised, implications from the research are described, and significant contributions to knowledge are identified. Four key recommendations bring the chapter, and the thesis, to its final closure.

1.5. Summary of the Introduction

Six chapters have been developed for the thesis. Chapter 1 (Introduction), the thesis topic of teaching equestrian sports has now been introduced and contextualised within coach education in Australia. From the reviewed literature presented in Chapter 2, the researcher realised that not only is there little known about how EFL is taught, there is little known about how equestrian coaches teach in any equestrian sports. This realisation has enabled the researcher to define the research problem, purpose and rationale, and outline the three research questions that have been presented in the chapter. The research is focused on exploring the beliefs and observed practices of equestrian coaches in relation to those of tennis coaches and the role of the horse in teaching equestrian sports. Also in the chapter, the pragmatic paradigm and mixed methods methodology for conducting the research for the thesis have been briefly summarised, and a thesis overview has been provided.

Chapter 2 Literature Review

The objective of this chapter is to detail a review of the literature that relates to teaching equestrian sports, and which builds on the foundations of research that were examined in the first chapter. The focus of the review is on identifying both the existing research and the gaps in the research that relates to the thesis topic, with a view to positioning the research and addressing the research problem.

The chapter will begin by reviewing the literature from both equestrian sports and sports pedagogy. Sports pedagogy, which includes teaching styles, is the main field of inquiry, because equestrian sport is recognised as a major sport in Australia, and is embedded in general sports coach education in Australia. The literature from equestrian sports is presented first, so that a reader who knows only the general concepts of sports pedagogy will be better informed with regards to the position of equestrian sports. The equestrian sports literature was reviewed in order to address the research problem by identifying what was already known about how equestrian coaches teach. However, it became obvious that there was minimal literature specific to teaching equestrian sports and that the concept of the horse in teaching equestrian sports was rarely acknowledged. Sports pedagogy is reviewed because formal coach education resources from general sports are used in equestrian sports to train equestrian coaches. Their education includes learning about coaching styles and approaches from the two Australian Sports Commission (ASC) training manuals (Pyke, 2001; ASC, 2006) that were discussed in the first chapter. Teaching styles and approaches commonly used in sports are also reviewed, including Mosston and Ashworth's (2008) *Spectrum*, and den Duyn's (1997) *Game Sense*. These two were examined in detail to provide the researcher with information to determine which methods and tools of research would be most appropriate to use to address the research problem.

Following a review of equestrian sports and sports pedagogy literature, relevant aspects of both are synthesised to propose a preliminary concept of Equestrian Sports Pedagogy (ESP). This approach has enabled the researcher to use it as a lens to interpret, guide, and implement the research. The chapter closes with a summary that highlights the main conclusions drawn from the literature review that offer some explanation of the research problem and provide a basis for the research.

2.1. Equestrian sports

Equestrian sports are rarely mentioned in literature of sports pedagogy or sports coaching, so a review of this field of study was necessary to supplement that of sports pedagogy in a general sense. Equestrian sports are informed by literature from a range of disciplines, including history, science, education, and psychology. A variety of literature types were reviewed, including peer-reviewed journal articles, unpublished Master's or Doctoral theses, books, magazines, and websites. Useful research was limited, and came from a few sources that specifically discuss coaching equestrian sports (Struby, 1987, 2013; Cumyn, 2000; Maw, 2012; Wolframm, 2014). Maw (2012), too, was concerned that teaching in equestrian sports was being impacted upon by how teaching was being developed in larger sporting contexts. Only Cumyn (2000) positioned her research within sports pedagogy and also acknowledged the role of the horse in teaching equestrian sports. Hence, it was necessary to draw on a wider range of literature from equestrian sports, and associated topics, which focus particularly on interactions or connections between people and horses in equestrian activities.

Due to the limited literature that was specific to acknowledging the horse while teaching equestrian sports, the review will show that the teaching is generally informed by the construct of the coach and student dyad from general sports pedagogy. General sports coaching information, which is used in equestrian sports regarding teaching styles, refers to the coach and student only. However, the review will also show that interactions between people and horses are well-evidenced, and, as such, support the proposition that the horse can be considered as an additional contributor to pedagogy in equestrian sports. Therefore, there is scope to explore aspects of pedagogy that are unique to equestrian sports, due to the interactions with the horse, and thus to build upon the established knowledge of coach and student interactions in sports pedagogy.

2.1.1. Coaching equestrian sports

Equestrian coaches are usually, or have been, riders and students themselves, who also directly interact with a horse. This situation occurs either with their horse when they ride, or with those belonging to their students when they coach. Equestrian

sports are founded primarily on these relationships between people and horses (EA, 2015a; Gillett & Gilbert, 2014). Such direct equine interactions are additional to those traditionally found in coach and student interactions in other sports. They have the potential to increase the complexity of pedagogy in equestrian sports when compared with that in other sports.

A significant portion of literature about equestrian sports is based on training and improving the performance of the horse rather than the performance of the rider, for example, the classic training handbooks from the German National Equestrian Federation (GENF, 1997), rather than the performance of the rider. Thus, any information on the processes of coaching in equestrian sports is rare (Wolframm, 2014). Indeed, no publications were found that explicitly highlighted coaching differences related to dynamically partnering in sports with the horse as a responsive animal. Instead, the focus of much of the sports pedagogy literature is on predictable outcomes of using inanimate objects such as bats and balls. Due to the lack of published literature available about equestrian sports coaching, alternative and secondary information sources have been reviewed as a means of addressing the research problem (Randolf, 2009).

Wolframm (2014) similarly recognises a gap in equestrian sports by asking: “How do equestrian coaches coach [teach]?” (p. 78). In drawing similar conclusions and in suggesting a similar research focus, Wolframm positions equestrian sports within the broader concept of sports, while pointing out how the horse makes a unique contribution to coaching. In addition to Wolframm’s (2014) publication, three earlier theses (Struby, 1987; Cumyn, 2000; Maw, 2012) that are relevant to coaching in equestrian sports were reviewed. These were the only sources of research found that were related to teaching equestrian sports. Only Cumyn directly has investigated the equestrian triad of coach, rider, and horse. She concludes that the coach, rider or student, and horse are well-connected with valid communication channels, systems and strategies in place (Figure 2.1). Cumyn (2000) explores these complex communication channels in the context of the equestrian sport of Dressage in a Canadian setting. These communication channels are defined as: auditory, visual, verbal, and kinesthetic.

Channels of communication:

Auditory
Visual
Verbal
Kinesthetic

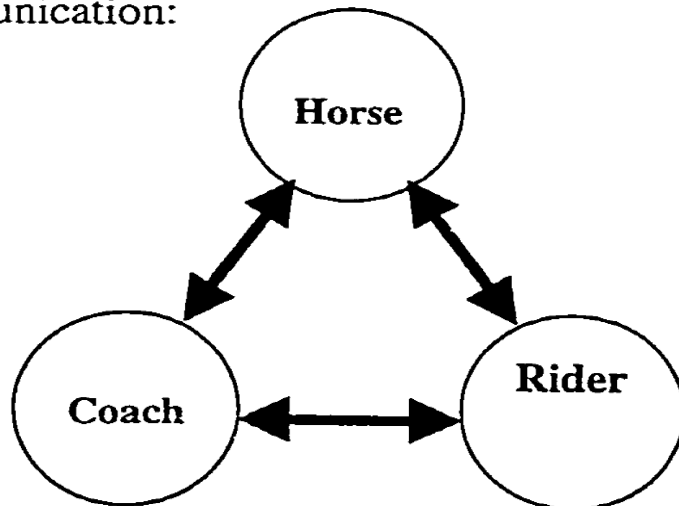


Figure 2.1. Model of communication in the equestrian sport of dressage.

Source: Cumyn (2000, p. 15).

Cumyn's (2000) conceptual model (Figure 2.1), representing the equestrian triad, is a modification of Fuoss and Troppmann's (1981) dualistic model of communication between the coach and student in sports. Cumyn's research concludes that the rider benefits from interactions with both coach and horse in the teaching and learning process of equestrian sports, thus recognising the role of the horse in equestrian sports education. She argues that the role of the horse as a teacher of the student is particularly important for developing the kinesthetic feel for riding. Cumyn (2000) found that "the role of the horse was more important than we initially thought, and the kinesthetic pathway was key to successful dressage riding and training" (p ii). However, the coaches' training focus on the horse for performance lessened when students were riding for participation, and thus coaching became more about developing personal skills. The results of Cumyn's study highlight that more research is needed to explore how the horse influences ways that equestrian coaches teach. Although unpublished as a research paper, this seminal work from Cumyn provides a foundation for this research by establishing known connections between the coach, student, and horse in equestrian sports, and also by acknowledging how personal skills can develop from partnering with horses. Similar to Cumyn (2000), Maw (2012) fundamentally assumes that the horse is an integral part of the pedagogy found in equestrian sports.

By contrast, Struby's (1987) study investigated teaching behaviours of expert equestrian coaches ($N=79$) and did not include any provision for including the role of

the horse as a partner in the pedagogy. Nonetheless, her work revealed similar expected learning outcomes to those of participants in Cumyn's (2000) study. Specifically, coaches in Struby's study strongly believed that developing personal skills of thinking and feeling were important competencies for students to develop in addition to their riding skills. Her other main finding was the equestrian coaches' strong belief that they use contemporary, rather than traditional, teaching behaviours to target thinking and feeling skills in addition to riding skills. One might assume that skills such as thinking, feeling, and riding equate to similar, well-established learning domains of Cognitive, Affective, and Psychomotor skills in mainstream education (Bloom, 1976; Krathwohl, 2002). However, Struby's terms, including the elements that constitute *contemporary* teaching behaviours in equestrian sports, were not well-detailed in her research. Nonetheless, it could be assumed that equestrian coaches believe they are using more indirect methods of teaching than direct teaching methods where the coach holds all the knowledge and expertise. These direct and indirect forms of teaching are also respectively known in education as teacher-centred and student-centred approaches (Trigwell & Prosser, 1996).

It is important to note that Struby's (1987) study incorporated a survey of coach's teaching beliefs, rather than observed practices, so actual teaching behaviours were not identified. Also, the statistical level of inference in these results, which indicates the reliability of the data (Allen, 2012) was not reported. However, in a later publication, Struby (2013) argues that equestrian coaches use both contemporary and traditional teaching methods. Her new position represents a shift from the original conclusions drawn from her 1987 study, and may reflect attempts by equestrian coaches in the United Kingdom to become more adaptive in their teaching. This would align with adaptive teaching guidelines for sports coaches from both BHS (2015) in the UK and ASC (2006) in Australia (ASC, 2015; Sports Coach UK, 2014).

Neither Struby (1987, 2013) nor Cumyn (2000) refer to Mosston and Ashworth's (2008) Spectrum teaching styles in their research. However, it could also be construed from Struby's work that the coaches' intent from teaching with contemporary methods is similar to that of using the type of discovery teaching styles described in the production of new knowledge cluster of Mosston and Ashworth's (2008) Spectrum. These are Styles F to K. In using the Spectrum for discovery

teaching, the teaching objectives shift from developing physical skills and competence to those of cognitive (thinking) and affective (feeling) competencies. Additionally, Struby's traditional teaching behaviours could then be interpreted as similar to the teaching styles in the reproduction of known knowledge cluster, which are Styles A to E, and relate to developing physical competencies, such as riding skills. Focusing on the coach and student dyad only, Maw (2012) asserts that some equestrian coaches adopt a coaching style that extends their traditional methods of teaching towards contemporary teaching. These few sources (Struby, 1987, 2013; Cumyn, 2000; Maw, 2012) provide the basis for a key premise in the research: that equestrian coaches believe they teach in a range of different ways, and that these teaching styles can be positioned within both the knowledge reproduction cluster and the knowledge production cluster of the Spectrum. However, it is important to note that connections between Struby's work, or that of Cumyn, and Spectrum teaching styles are not explicitly stated, so the connections assigned in this conclusion by the researcher, while feasible, are not confirmed by the original authors.

The concept of adaptive teaching, or coaching, also provides support for the idea that coaches select from a repertoire of teaching styles (Mosston & Ashworth, 2008; ASC, 2015; Sports Coach UK, 2014). These changes in equestrian coaching that encourage adaptive teaching were initiated, and have been continued, by the long-standing accreditation process for coaches in Australia (ASC, 2015), and more recently in the United Kingdom (BHS, 2015). Islay Auty (2008), a Fellow of the British Horse Society (FBHS), earlier endorsed the idea that the equestrian coach needs to adapt to using different teaching styles. Auty (2008) explains that when coaches are the experts with learner students, they are teaching by using a direct approach, and when experienced students need fine tuning, the coach is coaching by using an indirect approach. Maw (2012) also sought to differentiate styles of teaching used in equestrian sports. For example, she categorises Instructing as a one-way dialogue from coach to student, Teaching as a two-way dialogue, and Coaching as where experienced students take responsibility for their own learning. One might speculate that Maw's term Coaching is somewhat similar to Mosston and Ashworth's (2008) teaching style Style K (Self-teaching) where the student makes 100% of the key decisions.

Although these definitions of teaching from Auty (2008) and Maw (2012) are different, these authors provide the first attempts at explaining how terms such as Instructing, Teaching, and Coaching are interpreted in equestrian sports since the British Horse Society (BHS) became part of Sports Coach UK, the United Kingdom (UK) governing body for sports. As already found in Struby's (1987, 2013) work, the concept of adaptive teaching may be universal (ASC, 2015; Sports Coach UK, 2014); however, it can be perceived differently in terms of defining types of adaptive teaching. Therefore, there is scope to continue the professional dialogue to contest and refine commonly accepted definitions of instructing, teaching, and coaching in relation to adaptive teaching in equestrian sports.

What is missing in the existing literature is more information about how sports pedagogy and equestrian sports can be better connected. Equestrian coaches are looking for more information to expand their teaching capabilities, and there is a role for coach education programs to help them achieve their teaching goals. To further develop educative resources for equestrian coaches relies on the type of research that is presented in the thesis. Hence, the review of literature on equestrian sports includes a brief mention, in the next section, of various ways in which people and horses connect or interact. This information supplements existing evidence from Cumyn (2000), who focused on the concept of an interactive coach, student, and horse partnership in equestrian sports. The manner in which coaches teach can be influenced by their beliefs about learning. Thus, in the final section focused on equestrian sports literature, prevalent learning theories in equestrian sports are examined, followed by a review of sports pedagogy.

2.1.2. Connecting people and horses

Over millennia, people and horses have connected in a variety of ways to create powerful and diverse bonds. The next three sections review relevant literature to confirm that these inter-species connections between people and horses are well-established, worldwide, and are emotionally strong. Further, the review will show that developing this connection is particularly necessary when pursuing the art of riding. Riding horses is more than merely sitting in the saddle and directing the horse. Learning how to ride involves developing a sensitive awareness and communication strategy in a complex, inter-species partnership (Roberts, 2004;

Rector, 2005; Kohanov, 2007; Auty, 2008;) and is beneficial in developing sound leadership skills (Oliveira, Rouco, & Gladkikh, 2016). As equestrian coaches are also riders, it is a logical progression to move from the notion that people and horses are connected to the premise that the horse has a role in the pedagogy of equestrian sports (Lincoln, 2008).

2.1.2.1. Well-established connections.

Horses and people have had a long history together. Horses are known for their strength in cultivating agricultural land in the past, assistance in hunting for food, stamina during wartime, and endurance in sports and recreation in recent times (Crossman & Walsh, 2011). Horses have played key roles as a means of transport in developing Australia (Brasch, 2014), which is recognised as having established an enduring connection between horses and people (NMA, 2015).

2.1.2.2. Worldwide connections.

Horses live and connect with people in many countries around the world. They are a vital part of Australian society and culture (National Museum of Australia, 2015), with the number of horses in Australia estimated to be between 0.9 million and 1.5 million (Rural Industries Research and Development Corporation, 2001). Equestrian Australia (EA), the national equestrian organisation, reported having 19,304 members in 2009 (EA, 2015a), with many members who own more than one horse. Apart from the lifestyle choice of owning a horse, many people who own horses work in agricultural or rural pursuits that are not directly associated with any equestrian sports. Horses are also used in the racing industry (RIRDC, 2001). Equine or equestrian numbers are not easily extracted from the Australian Bureau of Statistics, although riding horses and equestrian activities are recognised categories of sports and recreation (Australian Bureau of Statistics, 2015). In other parts of the world, estimates in the United Kingdom suggest that there are more than one million horses in Great Britain, with around 4.3 million riders (Crossman & Walsh, 2011). The American Horse Council (AHC) reports that there are 9.2 million horses in the US with many considered homeless: homeless horses are those who run wild in open lands of many countries (AHC, 2015). In Australia, these are called Brumby horses, made legendary by the book *The Silver Brumby* (Mitchell, 1958/2013) and the movie

The Man from Snowy River (Miller, 1982). Connecting with horses occurs in different places and in different ways around the world.

2.1.2.3. Emotionally strong connections.

From their experiences together, people and horses have forged unique, special relationships that can be emotionally strong (McCormick, McCormick, & McCormick, 2004). Horses generally communicate with each other non-verbally through body language. This language of the horse is known as Equus (Roberts, 2000). Good equestrians have learnt to understand Equus so that they can effectively communicate with their horses (Cumyn, 2000; Brandt, 2004). It seems that learning the Equus language opens up a new world for people to appreciate, when they experience this connective, pure form of inter-species communication (Roberts, 2004; Rector, 2005; Kohanov, 2007). There are few words to be spoken when conversing with the horse, and rather than in audible forms, communication occurs primarily in visual and kinaesthetic body language (Cumyn, 2000). Using these latter forms of communication, receptive horses have a reputation for being honest and straightforward in response to a person's actions when that person is prepared to listen (Hallberg, 2008). This connection, which is achieved through non-verbal communication between horses and people, may introduce a unique dimension to pedagogy as part of an equestrian triad.

Observing these instinctive equine reactions provides a teaching and learning opportunity for students. For example, a horse's natural desire is to move away from people, as a defense mechanism, because horses may sense people as potential predators (Kohanov, 2001). Consequently, connecting people with horses is not always automatic. Indeed, a person who is aware of horses, and knows of the horses' possible reactions to their actions, may be able to develop a similar self-awareness, which would allow them to be more aware of other people (Strozzi, 2004). A person can build rapport with a horse if they become aware of the horse's sensitivity, and are "present" by being calm and centred (Walsh & Blakeney, 2013). People can feel emotionally connected to horses, and can be inspired, fearful, or dismissive of horses (Equine Assisted Growth and Learning Association, 2015), so it is important in teaching equestrian sports to be aware of how people and horses connect emotionally, spatially and temporally. There is potential for horses to be great learning partners (Rector, 2005; Levinson, 2015).

Although horses communicate differently to dogs and cats, people have been able to develop good working relationships with their horses (Birke & Hockenhull, 2015). Horses are sensitive in their ability to read body language, emotional state, and intent of others (Irwin, 2001). However, horses are also much larger than other domestic animals, so their size can be intimidating, and potentially dangerous, almost demanding of respect. To stay safe in order to learn with horses, one needs to remain attentive (Irwin, 2001, 2005). Thus, effective equestrians are characterised by their ability to develop an awareness of themselves and others when they are with horses. Oliveira and colleagues (2016) reported that riding is advantageous for developing “soft” skills, such as sound leadership. Building awareness of self and others is seen as a pre-cursor of better managing selves and others in an equestrian environment (Equine Assisted Growth and Learning Association, 2015; RDAA, 2015), which is also applicable in an education environment (Australian Curriculum, Assessment and Reporting Authority, 2015). Skills such as critical reflection and self-management enhance transformative and lifelong learning (Mezirow, 1990, 2010; Boud, 1995, 2000), which contributes to sound education and may lead to employability (Boud, 1995; 2000 Knight & Yorke, 2003).

2.1.2.4. *Riding connections.*

Equestrian sports, from local amateurs to elite riders at the Olympic Games, are a unique combination of horse and rider (Australian Olympic Committee, 2015). Not only do men and women compete against each other, in no other sport does a person partner with their horse as a team for competitions such as Eventing, Jumping or Dressage (EA, 2015a). Undoubtedly, the horse is an integral part of the success of any equestrian partnership, because the horse is the rider’s partner in equestrian sports. Hence, as Bierman (2003) asserts, in equestrianism, the ultimate goal is the optimal performance of the ideal horse and rider combination.

As Pretty and Bridgeman (2008) argue, working relationships of competition riders and their horses depend on co-operation and collaboration within the partnership. A superior competition performance can result from an effective horse and rider partnership (Bridgeman, Pretty, & Terry, 2011), in part derived from synchronised heart rates of the rider and their horse (Bridgeman, Pretty, & Tribe, 2006). These studies suggest that the rider and horse must connect at many levels to achieve

competitive success, although none of the studies extend to clarifying the coach's role in establishing this connection, or how the horse may influence that role. For this reason, it is worth briefly reviewing literature on different learning theories that are relevant in influencing how these connections between people and horses are perceived.

2.1.3. Learning theories in equestrian sports

No teaching and learning theories referenced in the literature exclusively portray coach, student, and horse interactions as part of any pedagogy directly related to equestrian sports. The deficiency has been further explored by also reviewing literature on learning theories in both equestrian sports in this section, and in general sports pedagogy presented in a later section of this chapter. Learning theories applied in equestrian sports are chiefly concerned with how the horse learns from the trainer or rider rather than how the rider or student learns from the horse. Nonetheless, both behaviourist and constructivist learning theories, which are core to mainstream education, are mentioned in the literature examined that is relevant to teaching equestrian sports.

A behaviourist approach to teaching and learning with horses is utilised in the majority of literature found in equine science, particularly veterinary science. Behavioural theories are entrenched in the work of Pavlov (1897/1902), Watson's (1913) concept of classic conditioning and Skinner's (1938) theory/concept of operant conditioning. Leading researchers in veterinary science often observe the behaviour of free-ranging horses by "herd-watching" to learn more about how the trainer or rider could best influence or manage horses (McGreevy, 2012).

Applications of equine behavioural learning theory use positive reinforcement and negative reinforcement as an accepted training method in equestrian sports (McClellan & McClellan, 2008). Clicker training, as a method used in training many animals, including horses and dogs, is similarly based on operant conditioning strategies that focus only on positive reinforcement of desirable behaviours with rewards (Kurland, 2004). Clicker trainers argue that negative reinforcement brings on more negative behaviour, rather than training progressing in a positive manner.

However, the knowledge of equine behaviour and how it might impact on how the coach teaches is not widely disseminated in the equestrian community. Warren-

Smith and McGreevy (2008) found that equestrian coaches did not fully understand how and when a horse learns by applying any equine behavioural methods in training a horse. In response, McGreevy and McLean (2010) designed an eight-step equine training system for equestrians so that they could develop a better understanding of training horses and become more effective at doing so (Goodwin, McGreevy, Waran, & McLean, 2009). This equine behavioural training system is based on positive reinforcement and negative reinforcement, where the rider needs to be aware of pressure signals that they give the horse (McGreevy & McLean, 2010). Riders' signals are primarily physical changes in their body, for example, a change in weight to rebalance, a leg pressure aid to change pace, or a rein aid to change direction. Signals can be both intentional and unintentional, and clearly it is important for riders to be aware of all signals that they offer the horse. The main rule is that one clear signal equals one clear response. Once the signal is understood by the horse, and it makes the desired response, the performance demand on the horse is increased. Therefore, a horse's behaviour is shaped by clear and consistent signals from the rider, where a reward is given once the improved performance is achieved. Repetition is key in this classic example of conditioning developed from Skinner's (1938) behavioural learning theory which is used in training horses for equestrian sports.

The literature reviewed also references constructivist approaches to the training of horses. Constructivist theories of learning are based on the work of scholars such as Vygotsky (1930-1934/1978), Dewey (1938), and Bruner (1961, 1996). For example, Birke (2008) examines the practices of the relatively new form of equestrian sport, known as Natural Horsemanship, which she previously argued has a culture of its own (Birke, 2007). Natural horsemanship practitioners perceive the horse as a humanistic, social partner. This form of practice echoes the individual-horse relationships that are cultivated in EFL (Rector, 2005; Hallberg, 2008). Activities such as "herd-watching" extend observing equine behaviour to enable participants to construct their own meaning of being in a herd and choosing a horse that represents themselves (EAGALA, 2015, OHC, 2015: PATH Intl., 2015; RDAA, 2015). Indeed, Savvides (2012) argues that there are similarities between person-horse communication strategies described in both natural horsemanship and the traditional equestrian sport of Dressage. Her position, which one could argue extends to EFL,

implies that constructivist theories are more active in training horses than is suggested by the behaviourist system that McGreevy and McClean (2010) advocate. Nonetheless, horses in EFL activities for non-equestrians are generally quiet, reliable, and well-trained school horses (Hallberg, 2008), which implies that behavioural methods of training have been implemented. However, when experienced equestrians work with horses more freely, it is as if the horses are also free to construct their own experiences (Rector, 2005; Kohanov, 2007). The literature provides multiple sources of differing learning theories that are actioned when interpreting horsemanship.

Examining learning theories that are evident in equestrian sports leads to the conclusion that the relationship between the constructivist learning/teaching paradigm and the person-horse interaction is under-developed in relation to what is understood through the lens of behaviourism. However, the focus of constructivist training models on the individual-horse relationship may have implications for teaching equestrian sports. It is plausible that multiple learning theories are applicable in relation to ESP. This implies that there is a role for coach education programs to include information and discussion on more than behaviourist learning theories. It would appear that knowing more about teaching and learning in equestrian sports, including knowing more about theoretical perspectives, can be gained from examining the literature of sports pedagogy. While behavioural approaches to learning are dominant in horse training, constructivist, experiential learning approaches may increase with the advent of EFL for students within the equestrian domain. Indeed, the shift in focus from riding and training horses to students' experiences with horses is associated with embracing differing teaching paradigms and philosophies. Therefore, education theories that consider, support, or embrace inter-species communication in addition to intra-species pedagogy are seen as a necessary part of equestrian coach education.

The existence of these two paradigms explains tensions between differing modes of teaching associated with coach and student interactions, and those associated with human and horse interactions. On the positive side, there is potential for multiple learning theories to be actioned for better understanding the complex interactions that are evident in equestrian sports. In particular, there is much to be learned with regard

to learning theories that are evident in equestrian sports, where the focus is on the connection, partnership, or interactions between people and horses.

2.2. Sports Pedagogy

A review of research in this domain begins with a brief history of sports pedagogy to define and position sports pedagogy as a field of academic interest. Additional literature was reviewed which examines how sports pedagogy has been redefined and repositioned over time, and reviews contemporary directions of research identified in this field. This information is included in the review to provide an overview of the changing dynamics and newer focus of research in sports pedagogy, as scholars come to terms with the shifts in academic thinking and research that are occurring.

Sports coaches' teaching approaches and strategies have varied over time. Two prominent teaching styles or approaches in sports pedagogy that were introduced in the first chapter are reviewed: Spectrum pedagogy (Mosston & Ashworth, 2008) and Game Sense pedagogy (den Duyn, 1997). Both are acknowledged by the Australian Sports Commission (ASC) as prominent teaching methods that expose coaches to numerous teaching options that contribute towards adaptive teaching (ASC, 2015).

The review will show that sports pedagogy is well-recognised by some scholars as an academic discipline or sub-discipline within the sports sciences (International Association for Physical Education in Higher Education, 2015). These scholars agree that it is vital to continue examining and exploring the many aspects of sports pedagogy (Jones et al., 2012; Cushion & Lyle, 2014; Kirk & Haerens, 2014; Pope, 2014). A scholarly desire to support developments in sports pedagogy is evident. However, there are variations in how these aspects are interpreted, and this is likely to be similar in ESP. Nonetheless, as Wolframm (2014) suggests, the literature related to sports coaching is considered to be a sound platform for exploring coaching equestrian sports. The literature reviewed reveals historical connections from physical education to sports pedagogy (Dinold & Kolb, 2008), and charts the development of sports pedagogy as a recognised, independent field of research (AIESEP, 2015). Sports pedagogy is influenced by a multitude of learning theories, paradigms, and research approaches (National Conference on Sport Pedagogy,

2013), and thus is considered a dynamic, evolving, and complex concept of teaching and learning in sports (Armour, 2013).

The literature shows that the relatively new and popular Game Sense approach to teaching, with its student-centred philosophies of learning, is now entrenched in the Australian landscape of general sports pedagogy. This may mean that Game Sense is closely linked to key aspects of EFL such as student-centredness. Examining these links may progress our understanding of teaching equestrian sports. Nonetheless, the review also shows that whilst the Spectrum is five decades old (Mosston, 1966), a positivist approach to categorising styles of teaching still has validity in the sports pedagogy community (NCSP, 2013; STS, 2015). Building on Spectrum research would appear to be a valid approach to advancing our knowledge about how equestrian coaches teach. The review also supports the premise that the Spectrum structure and its associated instruments of measurement provide a sound basis for building such research on teaching styles in equestrian coaching as well as validating Spectrum theory.

2.2.1. A brief history of sports pedagogy

The review reveals that sports pedagogy has developed in different times and in different places across the world. In Europe, literature on the history of sports pedagogy dates back to debates on teaching in physical education in the 19th century (Dinold & Kolb, 2008). While the Europeans continued their research into sports pedagogy through the 1960s and 1970s, the term “sports pedagogy” was not well-recognised in the US until the 1980s (Bain, 2000). Instead, concepts of learning and teaching were contained within departments of related fields of research, including physical education, human movement, human kinetics, sports science, or kinesiology. Sports pedagogy is a relatively modern term for teaching and learning in physical education and sports in the US and other English-speaking countries, including Australia (Silverman & Ennis, 2003). As a result, sports pedagogy research in the US has typically been dominated by scientific approaches related to objectively measuring and monitoring teacher practice in sports science (Ward, 2006). It has its foundations in the positivist paradigm of behavioural science (MacDonald et al., 2000; Dinold & Kolb, 2008) where, traditionally, quantitative methods of research are used. The empirical, science-influenced research from the

US in the 1980s lacks the characteristics of the strongly interpretivist approach of research taken in Europe (Crum, 1986). This may reflect the idea that the Europeans tend to be influenced by constructivism from the social sciences. These comparative differences are evident in research, including associated paradigms, theories, and methodologies (Schempp, 1996; Leyener, Bähr, Tittlbach, Sygusch, & Gerlach, 2013; Reeves, 2013). A lack of understanding of these differing histories in Europe and the US may account for some of the difficulties perceived in developing scholarly consensus on defining and positioning sports pedagogy in modern times, and why the legitimacy of sports pedagogy as a discipline has been discussed widely in recent literature (Crum, 1986; Pieron, Cheffers, & Barrette, 1990; Haag, 1994; Schmidt-Millard, 2003; Tinning, 2008; Hardman & Green, 2011; Jones, Morgan, & Harris, 2012; Elkington, 2013; Morgan & Sproule, 2013).

2.2.2. Defining sports pedagogy

In reflecting its historical development and its ongoing, changing influences, sports pedagogy has been defined and redefined over time. Multiple interpretations of the term are acknowledged in the literature. Nonetheless, sports pedagogy, in its simplest form of teaching and learning in sports, forms the basis of the thesis. In an early definition influenced by the sports sciences, Haag (1989) defined sports pedagogy as “the description of the field of theoretical research or sub-discipline of sports science which deals with the educational aspects of physical activity: sport, play, games, dance, etc.” (p.6). In more broadly defining sports pedagogy in a similar era, the International Association for Physical Education in Higher Education (AIESEP) defined sports pedagogy as a “disciplined inquiry from different perspectives into teaching and coaching in a variety of contexts in order to inform and improve practice” (Pieron et al., 1990, p. 24).

The AIESEP and its members, particularly Armour (2011, 2013), continue to develop a definition of sports pedagogy that reflects the changing influences of research. A report, *Sport (& exercise) pedagogy: Redefining the field*, was written after the AIESEP specialist seminar on sports pedagogy was held in 2012 (AIESEP, 2015). Here, Armour (2011) re-presented her definition of sports pedagogy, as “three complex dimensions made more complex as they interact in each pedagogical encounter: knowledge in context, learners and learning, and teachers teaching (or

coaches coaching)” (AIESEP, 2015, p. 4). Her definition reflects the rising influence of the social sciences by focusing on people and relationships in addition to physical development. She argues that sports pedagogy could be more expansively defined as “the interdisciplinary study and development of the complex and crowded space where sport, exercise, physical activity, science and education come together” (AIESEP, 2015, p. 4; Armour, 2011, p. 2).

Armour’s definitions of sports pedagogy broaden the concept of teacher education in physical education (PETE), a strategy that Tinning (2008) had earlier suggested as necessary. In her definition, Armour (2011) perceives sports pedagogy as a “pedagogical encounter”, where the coach and student jointly experience a moment of learning within the complex milieu of sports pedagogy. The student’s learning is of greater importance in the encounter, which reflects a pedagogical shift of emphasis from what the coach does to what the student learns (Armour & Chambers, 2014). In refining and re-conceptualising this variation of sports pedagogy, there is a subtle shift of focus. It moves from the traditional concepts of the sports coach conducting the expertise to that of promoting the sports coaches’ role as a supporter, mentor, or facilitator of the students’ experience of learning. This move represents a shift in teaching responsibility from delivering content to listening and interactively communicating with students (Pollock, 2012). Such a change in the coach’s teaching role towards constructivist or student-centred learning aligns with prevailing learning theories applied in mainstream education (Prosser & Trigwell, 1999; Biggs, 2003; Biggs & Tang, 2007).

More recently, Armour (2013) has redefined sports pedagogy to align with the view that the sports coach is both educated and an educator. This is a similar position to that previously asserted by Jones (2006). In a more concise form than that of Armour (2011), her newer definition of sports pedagogy is “the study of that complex and crowded place where sport and education come together in practice” (p. 2). The coach and athlete/student have an educational relationship that can be thought of as a “complex socio-pedagogical process” (Jones, 2007, p. 159). Therefore, defining sports pedagogy in an educative position appears to be widely accepted, as evidenced by Kirk and Haerens’ (2014) emphasis on the connection between sports and education. They describe sports pedagogy as “the proper object of study of educational research in physical education and sport” (p. 1). However, Cushion and

colleagues (2010) caution that what constitutes a sports coach is far from generic, as a sports coach by name is also described by their actions as a coach, teacher, instructor, or mentor. This variation in interpretation means that how a sports coach can be defined may be problematic, and may impact on how sports pedagogy is perceived by scholars. Nonetheless, as a result of these types of diverse scholarly influences on how sports pedagogy has been perceived over time, differing definitions of sports pedagogy are utilised and accepted in the international community of sports pedagogists (Pieron et al., 1990; Bain, 2000; Tinning, 2008; Tinning, 2010).

Sports pedagogy will no doubt continue to be redefined as the diversity of scholars and organisations continue to contribute their relevant knowledge and perceptions. This may mean that not all scholars agree on all definitions of sports pedagogy in the future. However, many agree now that sports pedagogy is a legitimate field of study that has different attributes, or characteristics, to those in physical education. Nonetheless, a future redefinition of sports pedagogy will no doubt continue to convincingly reflect the evolving scholarly interest in, or focus on, understanding complexities associated with teaching and learning in sports.

2.2.3. Positioning sports pedagogy

Sports pedagogy has emerged from the discipline of physical education to become recognised as a discrete entity for research purposes. This can be valuable to sports pedagogists who are unfamiliar with physical education and wish to focus their research of teaching and learning on what is known in sports. Nonetheless, the association exists. As history shows, research in physical education, and thus sports pedagogy, was traditionally built on the empirical sports sciences (Silverman & Ennis, 2003) that emphasise developing skills of psychomotor competence from physical movement and activity. Comparatively, other, non-physical, subject areas in education are delivered in the relatively stable environment of the classroom where the focus of these lessons is primarily on developing thinking skills (ACARA, 2015).

At the previously-mentioned AIESEP specialist seminar in 2012, a select group of members described sports pedagogy as an “intellectual/conceptual/theoretical ‘hub’, or organizational framework, for informing best teaching/coaching/instruction practices [in sports]” (AIESEP, 2015, p. 6). This description was devised in an

endeavor to position sports pedagogy as an independent academic discipline, or sub-discipline. Similarly, Kirk and Haerens (2014) suggest that the position of sports pedagogy is well-established and mature in its approach, largely due to an increase in scholarly contributions. According to the AIESEP report, sports pedagogy needs to be both multi-disciplinary and interdisciplinary, and so the call is for effective tools to enable practice-referenced and evidenced-based research. Thus, sports pedagogy will be arguably well-prepared to go forward into the future.

The emergence of sports pedagogy as a legitimate field of knowledge in the literature reflects a gradual change in how researchers conceptualise teaching and learning. Just as definitions of sports pedagogy have changed over time, so too have relevant scholarly conceptions. For example, the second edition of *Understanding Sports Coaching* (Cassidy et al., 2009) contains more information on the sociological aspect of sports pedagogy than the first edition (Cassidy, Jones, & Potrac, 2004). This shift in focus may reflect a developmental shift for the authors, both as a cohort and individually, in terms of how they perceive sports pedagogy. Such scholarly perceptions can influence where and how they position sports pedagogy, in relation to physical education or other academic areas of interest.

Many scholars of physical education have also contributed to sports pedagogy in a range of publications. The publications themselves were traditionally filled with journal articles pertaining to physical education, which demonstrates a strong historical research connection between physical education and sports pedagogy. More recently a trend towards sports pedagogy has emerged. To illustrate this shift in focus, electronic searches of sports pedagogy were performed in SPORT Discus (1979-2014). “Sport pedagogy” and “sports pedagogy” were used as two keywords to search full-text and peer-reviewed journals within academic journals. Over four hundred articles were found, and the majority of articles were sourced from popular journals with links to physical education such as these:

- *Physical Education and Sport Pedagogy* (formerly *European Journal of Physical Education* 1996-2003)
- *The International Journal of Physical Education*
- *Journal of Teaching in Physical Education*
- *Asia-Pacific Journal of Health, Sport & Physical Education*
- *The Journal of Physical Education, Recreation & Dance.*

Each journal title refers to physical education, and the contents of each often reflect how research from physical education informs and influences sports pedagogy. Nonetheless, the search results show how sports pedagogy is recognised as different from and independent of physical education. This interest in how sports coaches teach is expressed by the increasing number of accepted publications that have occurred every year for ten years (Kulinna, Scrabis-Fletcher, Kodish, Phillips, & Silverman, 2009).

As sports pedagogy emerges from the traditions of physical education to become a discrete, disciplinary entity in research, additional influences from the social sciences are also apparent (Bains, 2000; Cassidy et al., 2009; Cushion, Jones, Potrac, & Ronglan, 2011). These approaches are applied widely in mainstream education (Trigwell & Prosser, 1996; Biggs, 2003; Biggs & Tang, 2007). Abraham and Collins (2011) argue that the domain of sociology incorporates valid approaches in its own right to researching the practices of the sports coach, as do many other scholars (Laker, 2002; Cushion et al., 2011; Matthews, Fleming, & Jones, 2013). Viewing sport as a social construct brings with it a host of new and alternative approaches to research. However, the advent of new directions that acknowledge the discipline of sociology in sports does not discount the previous approaches in research that continue in sports (NCSP, 2013). A traditional behaviourist approach to sports pedagogy remains relevant to some scholars, even though a range of more contemporary alternatives of constructivist learning theories, including discovery learning and guided discovery, are available.

2.2.4. Learning theories in sports pedagogy

This type of combined contemporary sports pedagogy brings with it a multitude of theoretical influences on teaching and learning in sports (Bain, 2000). For example, applying sociology in sports shifts the research from the behavioural practice of teaching, to a focus on the teacher as a practitioner and person (Matthews et al., 2013). The coach is recognised as a concept that consists of being more than just their teaching behaviour (Jones, Armour & Potrac, 2004; Jones, 2009). Similarly, Connolly (2016) argues that there is room to apply humanistic principles from psychology to develop the *art* of coaching. He argues that it is important for a coach to help students grow as athletes and as people. Indeed, according to Bowes and

Jones (2006), the coach is part of a complex, interpersonal system, which is so complex that it borders “on the edge of chaos” (p. 235). It appears that gaining these insights and a better understanding of sports pedagogy from a humanistic perspective complements the earlier prominence of observed behaviour using traditional research approaches.

In sports coaching, as in mainstream education, knowing how teaching contributes to learning is prominent in the literature. Teaching is conceptualised as an art and a science (Woodman, 1993; Marzano, 2007; Jones et al., 2004; Jones, 2009; Connolly, 2016). This conceptualisation means that multiple researcher perceptions can contribute to what is understood about teaching. Traditional research approaches in sports pedagogy call on science, for example, behavioural psychology, where a set of variables can be objectively observed and measured (Tinning, 2008). A limitation of the approach is that teaching and learning is defined in terms of what can be assessed and analysed, so the cognitive processes that occur are unseen and unmeasurable. This may be why, in response, there has been a move towards a broader understanding of coaching in sports (Cushion, Armour, & Jones, 2003; Connolly, 2016). Here the additional emphasis is on people and how they build their pedagogical relationships rather than, for example, only examining the science of developing physical movement in sport. These scholars accept that sports coaching is complex and can be viewed through many lenses. Similarly, the Australian Sports Commission (ASC) states that “the best practitioners mix art with science; some would say they mix ‘high touch with high tech’. While scientific technologies are useful, there is still the matter of mind and spirit” (Pyke, 2001, p. xv). Projecting the importance of multiple concepts that constitute pedagogy in sports may reflect how sports pedagogists are coming to terms with increasingly aligning with avenues of research in mainstream education that focus on people and thinking skills.

Teaching and learning is more than visible behaviour and the literature shows that aspects of teaching must be considered beyond what is observed and actualised. How sports coaches teach, or the approach to teaching they take in sports, is underpinned by their beliefs about how students learn (Rink, 2001). Therefore, to know more about how sports coaches teach, it is arguably sound for the researcher in order to capture both observed and declared teaching practices. As Rink (2001) observes:

Generally speaking, direct instructional strategies find their roots in more behavioral and information processing theories of learning, and indirect instruction finds its roots in more cognitive strategy orientations that emphasize the role of perception and social theories of learning. (p. 115)

Education theories underpin the notion of coaching as an educational profession (Lyle, 1986, 2002; Lyle & Cushion, 2010; Duffy et al., 2011). Jones and colleagues (2014) posit that knowing about these theories of teaching and learning is important for coaches to enable an understanding of their own coaching beliefs and practices. Holding a similar view, Sports Coaching UK (2014), an international sporting administrator, had earlier commissioned a comprehensive review of the existing literature on coach learning and development. The resulting report, *Coach Learning and Development: A Review of Literature* (Cushion et al., 2010), delivers an overview of learning theories that are relevant in sports. Its findings show that rather than a single, dominant learning theory informing how coaches learn, a range of education theories are actualised from behaviourism, cognitivism and social constructivism. The report also shows that coaches tend to derive better outcomes from directed or self-directed informal learning than from other structured, formal types of learning. This affirms the work of Nelson, Cushion, and Potrac (2006), who examined the wide range of sports coaches' sources of learning and found that coaches learned more in informal teaching situations. Informal learning is associated with cognitivism and social constructivism, whereas behavioural teaching strategies are more prevalent in coach education programs. This means there is a mismatch between how coaches learn best and the teaching strategies that are used by coach educators.

Despite the ongoing emphasis on formal learning, there is evidence indicating that sports coaches seek to improve their coaching ability through coach education (Cushion et al., 2010; Nelson, Cushion, & Potrac, 2012). However, coaches prefer an active-learning approach, rather than a top-down instructional approach (Cushion et al., 2010). A top-down approach is a hierarchical system, where the teacher has the expertise and makes all of the decisions throughout the lesson. The student's role is to absorb the knowledge offered. This way of teaching is similar to direct teaching (Metzler, 2011), and not unlike using Style A (Command) from the Spectrum (Mosston & Ashworth, 2008). In contrast to the concept of teacher as the expert, an

active-learning approach positions the student's needs as central to the teacher's lessons, whereby theory and practice can be integrated (Metzler, 2011). This distinction aligns with the approaches promoted in mainstream literature from education, which supports learner- or student-centredness (Boud, Keogh, & Walker, 1985; Biggs, 2003; Marzano, 2011). Although most sports coaches' learning is identified as informally derived from ideas and practical experiences, finding ways to integrate theory to explain or discuss these ideas and experiences could prove to be valuable in providing educative connections between coach education and practice.

In light of the multiple learning theories and perspectives utilised in sports pedagogy, a brief review of the associated methodologies is included, which shows that multiple methodologies are used. Methodologies that align with their associated learning theories and paradigms are accepted in sports pedagogy research. For example, frameworks or models using a positivist approach, such as the Spectrum, which are designed to logically conceptualise a simplified form of reality, are a valid form of research in sports pedagogy (Cushion, 2007). Coaching processes or behaviours are often constructed using these types of analytical frameworks or models, which are commonly used to collect quantitative data (Gilbert & Trudel, 2004). In a selection of journal articles that were published from 1970 to 2001, quantitative methods were prominent in the sports coaching literature (Gilbert & Trudel, 2004). Scientific methods and instruments to objectively and systematically study teaching behaviour (Darst, Zakrajsek, & Mancini, 1989) reflect the long-accepted, on-going positivist paradigm approach to research in sports (Ward, 2006).

The small, albeit growing, trend towards qualitative methods in sports pedagogy is also evident in the literature (Silverman & Manson, 2003). As sports pedagogy evolves, more contemporary constructivist paradigms, qualitative methods, and cognitive learning theories continue to contribute to the literature (Macdonald et al., 2002; Cassidy et al., 2009; Reeves, 2013). Of 110 journal articles published in the *Journal of Teaching in Physical Education* between 1998 and 2008, 38.2% contained a qualitative component (Hemphill, Richards, Templin, & Blankenship, 2012). Qualitative methods are linked to a constructivist paradigm in sports coaching (Jones & Kingston, 2013), and to interpreting the sociological phenomena of sports, including cultural, political, and global influences (Laker, 2002). Indeed, a vast array of teaching and learning theories can be accessed to view sports pedagogy within a

natural, social or cultural environment (Cassidy et al., 2009). As a result, the ongoing science of assessing, analysing, or processing quantified results (NCSP, 2013) is complemented by unravelling a social, cultural, and pedagogical complexity (Byra & Karp, 2000; Cassidy et al., 2009; Matthews et al., 2013; Morgan & Sproule, 2013).

In addition to quantitative and qualitative methods used independently, the value of combining methods, as mixed methods, in research about sports is accepted (Camerino, Castaner, & Anguera, 2012). For example, quantitative methods in sports pedagogy can provide science-based research that analyses human behaviour to produce new knowledge. Thus, the addition of qualitative methods into a mixed methods research design offers more on the issue of understanding that behaviour. Research shows that coaches use their own knowledge and practical experience of past events to influence how they coach (Cushion et al., 2003). Mixed methods research pragmatically draws on both positivist, or science-based, and post-positivist, or constructivist or interpretivist, approaches (Creswell, 2009; Creswell & Plano Clark, 2011). This could be perceived as a dichotomy of science and sociology in sports research. However, North (2013) argues that a logically reasoned position can be attained by appreciating the underpinning philosophies of both disciplines. Using mixed methods is seen as a potential solution to research that requires humanistic, contemporary forms of research in addition to traditional approaches. Taking such an approach is endorsed by methodological scholars such as Creswell (2009), who asserts that it contributes to improving our knowledge and builds a better understanding of a complex phenomenon.

Overall, sports pedagogy is positioned in the literature as a dynamic, ever-evolving educative discipline that is growing in relevance and connecting with other fields of research. This is happening as a result of the ongoing scholarly conversations that have been reported. It is argued that the sports coach is an educator (Jones, 2006) and sports pedagogy is educative (Armour, 2013), with recognised social and cultural parameters (Matthews et al., 2013; Morgan & Sproule, 2013). Therefore, regaining and retaining connections from sports pedagogy to teaching and learning theories in mainstream education is a valued activity. Sports coaching is also complex and can be interpreted through multiple lenses (Cassidy et al., 2009). Research from many scholarly positions can be found throughout the literature. Evidence is presented to show that mainstream educative theories, such as constructivism, are adaptable for

sporting research (Cushion et al., 2010; Jones & Kingston, 2013). This may mean that the early belief of sports pedagogy, as a recognised discipline or field of study in its own right (Silverman & Ennis, 2003), is gaining ground. Although the existing literature lacks widespread evidence directly related to pedagogy in equestrian sports, it provides a sound platform of sports as education to find out more about how equestrian coaches teach.

2.2.5. Teaching styles

Teaching styles or approaches that are commonly used in sports coaching are reviewed in this section, as part of sports pedagogy. This includes the well-known Spectrum pedagogy (Mosston & Ashworth, 2008) and the popular Game Sense (1997). Both of these approaches were first introduced in Chapter 1 as two teaching approaches that are recommended and utilised by the Australian Sports Commission (ASC). The structure of the Spectrum, with its 11 teaching styles (Style A to Style K), is reviewed in detail. Reviewing these various interpretations of teaching and ongoing dialogues of defining teaching styles will confirm that knowing how coaches teach can be perceived in many ways. This review will also show how the structure of the Spectrum teaching styles is adaptable to examining teaching styles used by coaches in the sport of tennis, and thus, potentially, in equestrian sports.

As previously mentioned, teaching styles are perceived as an important aspect of sports pedagogy (Cassidy et al., 2009). However, literature from physical education, which influences sports pedagogy, shows that there are varied definitions, interpretations, and representations of what is considered as teaching. Nash (2015) argues that the way applications of teaching in sports pedagogy are understood is largely derived from physical education. Contributing scholars of teaching styles include Kirk, Naughton, Hanrahan, Macdonald, and Jobling (1996); Siedentop and Tannehill (2000); Lyle (2002); Mallett (2005); Mosston and Ashworth (2008); Rink (2010); Metzler (2011); and Jones and colleagues (2012). Despite the apparent similarity in academic or professional backgrounds of these scholars, such an array of interpretations makes defining teaching styles somewhat problematic. Teaching in sports is labelled in different ways (Cassidy et al., 2009; Lyle & Cushion, 2010), including: teaching styles (Mosston & Ashworth, 2008), coaching methods (Kirk et al., 1996; ASC, 2006), instructional models (Metzler, 2011), or pedagogical

strategies (Rink, 2010). What defines a “teaching style” in physical education and sports pedagogy is perceived differently according to different scholars, which means there is room for clarification and further discussion on this topic. It is clear that when a term such as teaching style is used, it can be best understood if an accepted definition is clearly stated. For this reason, Mosston and Ashworth’s (2008) encompassing definition of teaching styles that is positioned within Spectrum pedagogy is the preferred reference when discussing the research, and is referred to throughout the thesis.

Mosston and Ashworth (2008) define teaching styles as “decision patterns that define *the teacher’s and learners’ actions so that a prescribed set of objectives can be accomplished*” (p. 1, original emphasis). They explain that “a teaching [coaching] style (method, model, strategy...) is a plan of action that defines the behavior of the teacher [or coach] and learner [or student] for the purpose of accomplishing objectives in a subjective manner and behavior” (p. 120). Mosston and Ashworth’s (2008) definition usefully integrates commonly-used teaching terms such as “teaching models”, “strategies”, “styles”, “methods”, “behaviours”, or “techniques” under the umbrella concept of “classroom teaching pedagogy”. Each defined Spectrum teaching style aims to achieve a different set of objectives as outcomes in an episode of teaching. Differences in style are achieved through a progressive shift in the locus of decision-making between teacher and student, and evidenced by a subsequent shift in their behaviour. In a similar definition, Hewitt (2015, p. 226), defines a teaching style as:

A plan of action that defines the specific decision interaction of the teacher and the learner for the purpose of leading to the development of specific objectives in subject matter and behaviour. One or more teaching styles may be used during a lesson/session.

Defining Spectrum teaching styles in this way posits a direct relationship between the teaching styles of the coach and how students learn and retain information. Identifying observable behaviours is possible because the positivist orientation of the Spectrum means that the framework of the teaching styles is adaptable to instrumentation and measurement. According to Mosston and Ashworth (2008), this observability means that a teaching style in action can be detected in its essential or

pure form, no matter the coach's personality or the overarching teaching model that is being utilised. For any teaching scenarios, including those used in sports, such as Game Sense (den Duyn, 1997), Sports Education Model (Metzler, 2011), or in physical education, such as Health Optimizing Physical Education (HOPE) (Metzler et al., 2013), the Spectrum teaching style can always be identified (Kenneth Edwards, personal communication, May 2015).

2.2.5.1. *Spectrum pedagogy*

The Spectrum pedagogy is promoted as a universal theory of teaching (Mosston & Ashworth, 2008; Goldberger et al., 2012). According to the authors, few approaches to teaching sports are as comprehensive as the Spectrum structure, with its all-encompassing range of possible teaching styles. The teaching styles in Mosston and Ashworth's (2008) Spectrum are one of six structural conditions, or elements, that support the Spectrum pedagogical unit, or Spectrum pedagogy (Figure 2.2). The six structural elements are the Axiom, Anatomy of any style, Decision-makers, Spectrum of teaching styles, Clusters of teaching styles, and Developmental channels.

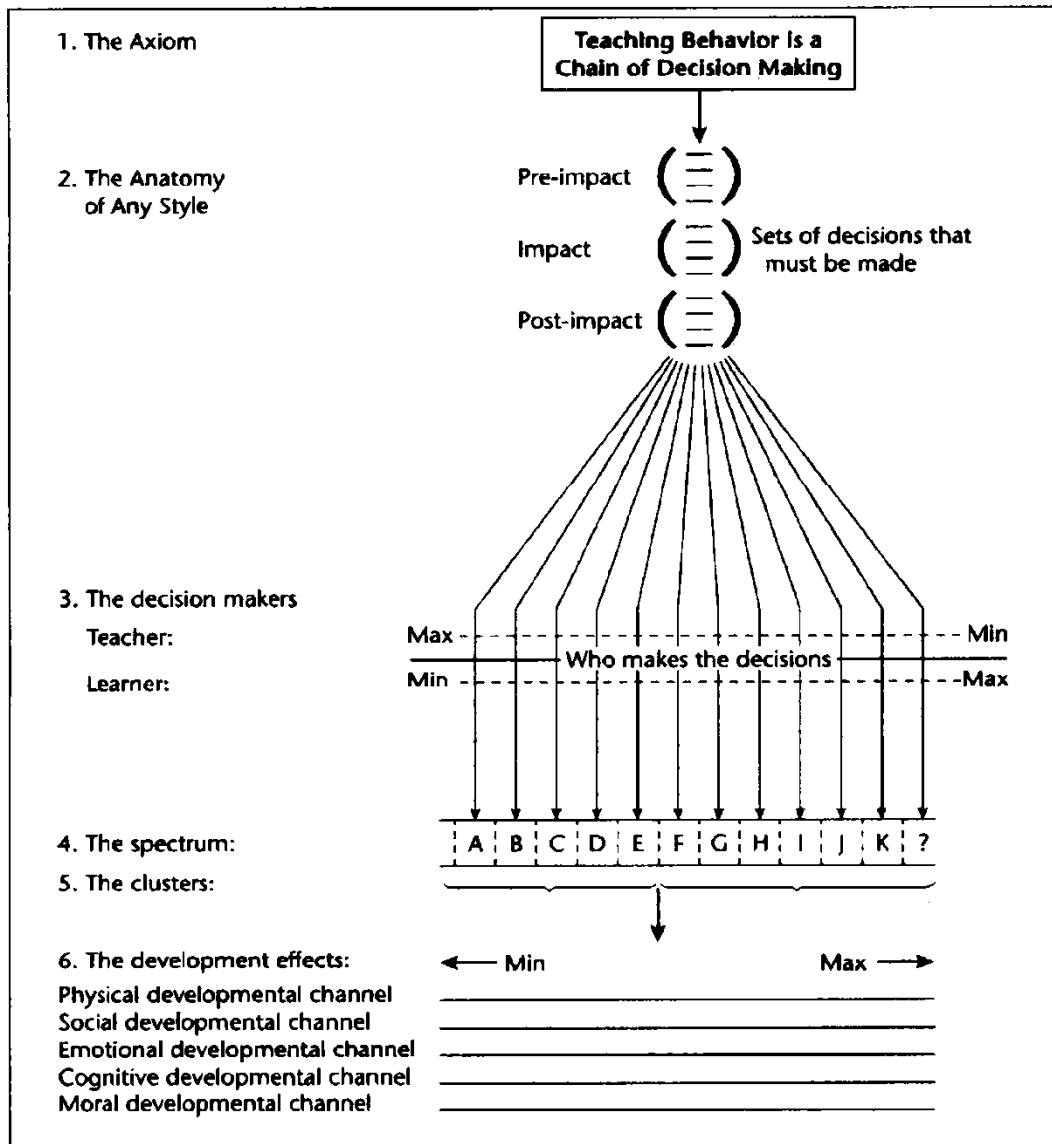


Figure 2.2. The structure of the Spectrum with its six structural conditions.

Source: Reprinted from *Teaching Physical Education* by Mosston and Ashworth, 2008, p. 10.

The six structural conditions listed in Figure 2.2 show that there is more to understanding the complete context and complex structure of Spectrum pedagogy than simply exploring the continuum of the 11 teaching styles. These teaching styles are well-known in physical education, are lesser-known in sports pedagogy, and are generally referred to in various forms as the Spectrum, Spectrum teaching styles, the Spectrum of Teaching Styles, STS, or the teaching styles of the Spectrum.

However, before continuing the examination of each of these six structural conditions, including teaching styles, a brief history of the Spectrum is given to explore how the concept has been developed and refined over the last 50 years. The

pedagogical structure, Objectives-Teacher-Student-Outcomes, or O-T-L-O, will be discussed, followed by an exploration of each of the Spectrum's six structural conditions (Figure 2.2). The Spectrum has been modified by some scholars and is not without its critiques, so these are briefly reviewed. Nevertheless, a summary of the Spectrum pedagogy will highlight its main points to show how the teaching styles of the Spectrum provide a suitable theoretical framework for the proposed research.

2.2.5.1.1. A brief history of the Spectrum

Early in his career, Muska Mosston (1965) developed a universal concept of developmental movement, which linked children's thinking and moving in physical education. Mosston believed that physical attributes, for example, agility, balance, flexibility, endurance, strength, and relaxation, were the basis of all development within physical performance. This belief helped to shape his philosophy which underpins the Spectrum (Ashworth, 1994). Mosston contended that these attributes of physical development were developed with gradual sequences of movement, with the shift in movement based on individualised learning and cognitive processes.

From the first publication of his seminal text, *Teaching Physical Education*, published in 1966, the theoretical framework of the Spectrum structure has been continuously developed and extensively reviewed (STS, 2015). After five printed editions of this dynamic model of teaching, spanning 1966 to 2002, the first online edition of *Teaching Physical Education* was produced in 2008, enabling a worldwide distribution. Elements of existing work from teaching in physical education dominate the Spectrum literature (STS, 2015), including the work of Cothran, Kulinna, and Ward (2000), Curtner-Smith, Hasty, and Kerr (2001), Kulinna and Cothran (2003), Cothran et al., (2005), Jaakkola and Watt (2011), and SueSee (2012). SueSee's (2012) work builds on some of these earlier authors to closely examine the classroom behaviours within physical education teaching. His research was first to identify a difference or divergence between teaching beliefs, captured in a survey questionnaire, and teaching actions, drawn from his observations of physical education teachers in the classroom. Due to the identified divergence of teacher beliefs and actions, SueSee questions the construct of the teaching syllabus that guides physical education teaching in Queensland, Australia. One could conclude that SueSee's work is directly relevant to using the Spectrum in research on teaching

in both Australia and internationally. It is also relevant to sports coaching (Hewitt, 2015).

Due to the ongoing interest and research of the Spectrum internationally, the Spectrum structure is considered by some scholars as the single most influential model of teaching for physical education (Byra, 2000; Goldberger, Ashworth, & Byra, 2012), as it “provides a comprehensive array of alternative teaching approaches” (Goldberger, et al., 2012, p. 268). The ongoing influence of Spectrum teaching styles is evident in many teaching applications: physical education (Callcott, Miller, & Wilson-Gahan, 2012; Goldberger et al., 2012), sports coaching (Jones et al., 2012), wellness (Wilkinson, Pennington, & Zanandrea, 2011), and dance (Gibbons, 2007; Mainwaring & Krasnow, 2010). For this reason, the Spectrum, including its related pedagogical assumptions, is examined in considerable detail in the thesis.

2.2.5.1.2. *O-T-L-O pedagogical relationship*

The Spectrum pedagogy is centred on decisions made by Teacher and Learner in a Teaching-Learning behaviour that links Objectives to Outcomes in the O-T-L-O pedagogical unit (Figure 2.3). The O-T-L-O structure is an example of a process-product model of teaching and learning (Macdonald et al., 2002).

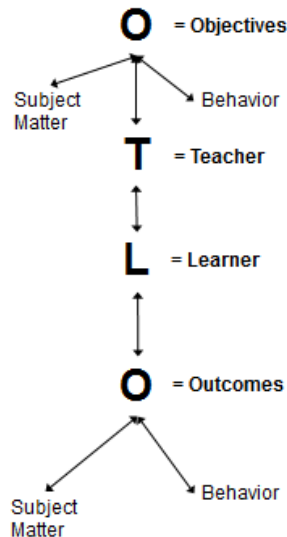


Figure 2.3. The Spectrum pedagogical unit of Objectives, Teaching, Learning, and Outcomes, known as the O-T-L-O.

Source: Reprinted from *Teaching Physical Education* by Mosston and Ashworth, 2008, p. 15.

Lesson Objectives are tightly bonded to the central Teacher and Learner unit, as are subsequent Outcomes (Mosston & Ashworth, 2008). Each teaching style has a discrete O-T-L-O pedagogical unit, where Objectives affect Teaching behaviour, which then impacts on the interaction of the Teacher and Learner. The O-T-L interaction determines the Outcomes from that particular episode. When successful teaching and learning occur together, the Outcomes of the episode align with the Objectives, as $O_1=O_2$. Two sets of Objectives: Subject matter Objectives and Behavioural Objectives, as $O_{1-1}+O_{1-2}$ are respectively associated with two sets of Outcomes, as $O_{2-1}+O_{2-2}$ (Mosston & Ashworth, 2008).

According to Spectrum theory, if the teacher, or coach, clarifies the objectives in an episode, selects an appropriate teaching style, and seeks evidence of students' learning, then this will result in a positive impact in terms of students learning (Mosston & Ashworth, 2008). This positive impact is evidenced by progress along the student's *Developmental channels*, which can be interpreted as groups of learning attributes, such as improved physical, cognitive, or affective competencies.

2.2.5.1.3. *Axiom of decision-making*

The *Axiom*, as applied in the Spectrum, is an assumption, a self-evident truth that teaching behaviour is a chain of decision-making, and that specific, identified, key decisions are present in all teaching (Mosston & Ashworth, 2008). Key decisions are made by either the teacher or the student, which determines the teaching style in use. Teaching physical education is “arranged according to who makes which decisions about what and when, [and] Mosston observed that mutually exclusive learning objectives resulted [by identifying the decision-maker in each episode of learning]” (Mosston & Ashworth, 2008, p. 4).

2.2.5.1.4. *Anatomy of any style*

The *Anatomy of any style* in the Spectrum is comprised of three decision clusters, which are sets of key decisions that are organised according to purpose, and must be made in each episode of teaching: Pre-impact, Impact, and Post-impact (Mosston & Ashworth, 2008). Pre-impact defines the teacher’s intent, or learning Objectives, O_1 , Impact defines the action, or implementation, and Post-impact defines the assessment, or feedback, to determine when learning Outcomes, O_2 , align with Objectives, and thus when $O_2=O_1$. A well-planned lesson may have several episodes, where each *episode* is defined by a different teaching style, to address a defined set of objectives (Mosston & Ashworth, 2008). For example, when the intended learning outcome is one of physical skill development, Style A (Command) may be in use. By contrast, if the intended outcome is one of a cognitive nature, then Style F (Guided Discovery) may be actioned. Depending on outcomes of the previous episode, or as a start point of a lesson, an episode could last from a few seconds to the length of the entire lesson. For example, a complete lesson could be conducted using Style A (Command), or this teaching style could be used for a few minutes of the lesson, followed by Style B (Practice) in the next episode. If the intended outcomes are not achieved in this episode of teaching, then Style A may be called upon again to clarify requirements for moving back into Style B. When the teaching style changes in a lesson, it signals a new episode, and, more often than not, there are multiple episodes in one classroom lesson, depending on the competence of both teacher and student in each teaching style selected.

2.2.5.1.5. *Decision-makers*

In the Spectrum structure, the Teacher and Learner are the decision-makers in the pedagogical unit, O-T-L-O. The percentage of key decisions allocated to each during a particular episode determines the teaching style selected (Mosston & Ashworth, 2008). The Spectrum continuum of 11 teaching styles begins with Style A (Command), where the teacher makes the maximum number of key decisions (100%) and the learner makes the minimum number of key decisions (0%). At the opposite end of the Spectrum continuum is Style K (Self-teaching) where the teacher, or coach, makes the minimum number of key decisions (0%) and the learner, or student, made the maximum number of key decisions (100%).

2.2.5.1.6. *Spectrum teaching styles*

In the Spectrum, teaching styles are not presented as hierarchical and effective teaching is situation-dependent. Consequently, there is no prescribed “best way” to teach, and no preferred styles (Mosston & Ashworth, 2008). A basic premise is that each teaching style is unique to the decisions made by the teacher and student. When the teacher is positioned in a particular teaching style, the student needs to be similarly positioned in order to achieve maximum subject matter and behavioural outcomes. Theoretically, by working together, the teacher and the student can create a repertoire of teaching styles to achieve effective teaching and learning within the Spectrum structure.

Transitioning from one teaching style to another on the Spectrum continuum is represented by a shift in role of the decision-makers (Mosston & Ashworth, 2008). Starting from Style A (Command), one selects a teaching style further to the right signals that the student is gradually learning how to make some specific, key decisions. Selecting the appropriate teaching style encourages fluidity and movement between teaching styles in an adaptive style of teaching known as “ability mobility” (Gibbons, 2007; Mosston & Ashworth, 2008). The teacher decides when specific decisions shift to the student (Mosston & Ashworth, 2008). In Spectrum theory, as students know more, they are able to make more decisions in each episode, and the selected teaching style moves from Style A towards Style K. For the teacher or sports coach, allowing the shift of decision-making to happen from coach to student is a learning process in itself. This aspect of how a coach learns to adjust to a student

making more decisions may be closely related to the coach's ability to learn at a philosophical level of the changes required in adaptive teaching for sports (Light, 2008).

Landmark teaching styles

Eleven landmark teaching styles, which are respectively labeled from Style A to Style K, are discretely identified as distinct points along the Spectrum continuum to represent a significant shift in teaching and learning behaviour of both teacher and student. As first introduced in Chapter 1, the 11 teaching styles are:

1. Style A Command
2. Style B Practice
3. Style C Reciprocal
4. Style D Self-check
5. Style E Inclusion
6. Style F Guided Discovery
7. Style G Convergent Discovery
8. Style H Divergent Discovery
9. Style I Learner-Designed Individual Program
10. Style J Learner-Initiated
11. Style K Self-teaching.

Assigning a letter to each teaching style allows the styles to be described without the associated words, for example as *Style A*, instead of Style A (Command). This association means that teachers and coaches can clearly decide on the perceived teaching style that they use without distraction of expressions such as *Command*, which may imply particular ways of teaching (Mosston & Ashworth, 2008).

Researchers have utilised these Spectrum teaching styles to explore aspects of teaching in physical education. Examples include Cothran, Kulinna, and Ward (2000), Curtner-Smith, Hasty, and Kerr (2001), Curtner-Smith, Todorovich, McCaughtry, and Lacon (2001), Kulinna and Cothran (2003), Cothran and colleagues (2005), Jaakkola and Watt (2011), and SueSee (2012). Hewitt (2015) utilised the Spectrum to explore teaching in the sport of tennis (Hewitt, 2015).

Key decisions in the 11 landmark teaching styles

In each of the 11 teaching styles of the Spectrum, a range of key decisions are made between the teacher and the student. This decision-making occurs across all styles from Style A to Style K. For example, to transition from Style A to Style B requires

nine specific decisions to shift the role of decision-making from teacher to student in the Pre-impact set of decisions. These nine key decisions (Mosston & Ashworth, 2008, p. 95) are:

1. Location
2. Order of tasks
3. Starting time per task
4. Pace and rhythm
5. Stopping time per task
6. Interval
7. Initiating questions for clarification
8. Attire and appearance
9. Posture.

In and between each landmark style is an infinite number of teaching style variations, known as “canopy” styles. Canopies represent teaching styles where either not all of the set key decisions shift according to the roles delineated by the new landmark style, or a different developmental channel is targeted to that of the landmark style (Mosston & Ashworth, 2008). For example, it is possible that only one of the nine key decisions that shift from Style A to Style B is actioned to create a canopy of Style A. Hewitt (2015) identifies incidences of canopy styles within both Style A and Style B used in tennis coaching. These are instances where not all key decisions have shifted from one teaching style to another, and where a developmental channel was observed in action, which was different to that expected from the pre-set lesson objective.

2.2.5.1.7. Clusters of teaching styles

As mentioned in the first chapter, the 11 teaching styles of the Spectrum, Styles A to K, are grouped as “reproduction” and “production” clusters. These clusters represent the two basic human capacities of reproducing known knowledge or producing new knowledge, respectively (Mosston & Ashworth, 2008) (Figure 2.4). Using teaching styles in the reproduction cluster, from Style A to Style E, reproduces knowledge that is already known, such as replicating and practising already known skills. For example, an equestrian coach is teaching so that the equestrian student practices their riding skills through a jumping grid of rails on the ground, in a repeated format of training. Teaching styles selected by the coach would most likely be Style A and Style B, which come from the reproduction cluster. By contrast, using teaching styles

from the production cluster, from Style F to Style K, produces new knowledge by creating new ideas, concepts, and models. However, according to Ashworth, a true application of teaching styles from the production cluster of the Spectrum is rare (Sara Ashworth, personal communication, May, 2012). Nonetheless, the teaching relationships between the two clusters are not always clear.

To teach from the production cluster after teaching in the reproduction cluster means crossing the discovery threshold that is situated between Style E and Style F (Figure 2.4). The student's learning process transitions from memory and recall to a discovery process, which creates new neural connections (Mosston & Ashworth, 2008).

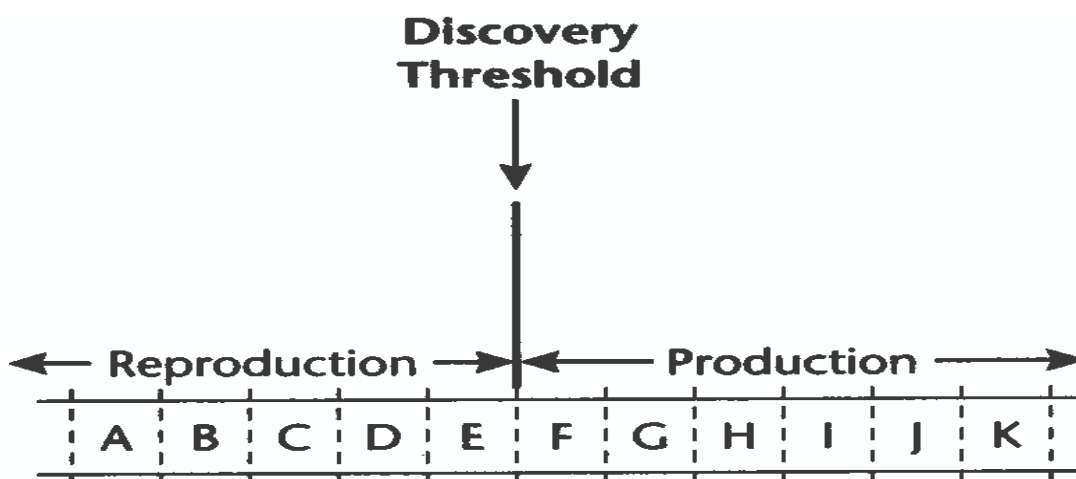


Figure 2.4. The discovery threshold between two clusters of landmark teaching styles on the Spectrum continuum showing the reproduction of known knowledge cluster of teaching styles: Styles A to E, and the production of new knowledge cluster of teaching styles: Styles F to K.

Source: Reprinted from *Teaching Physical Education* by Mosston and Ashworth, 2008, p. 11.

The discovery styles, Style F (Guided Discovery) to Style K (Self-teach), encourage cognitive engagement between the coach and student (Mosston & Ashworth, 2008). Similarly, in both physical education (Lodewyk, 2009) and sports (Heinrichs, 2002), indirect teaching methods for discovery learning are devised to elicit critical thinking, decision-making and problem solving. Discovery learning is a form of student-centred learning which has gained general acceptance in mainstream education contexts (Prosser & Trigwell, 1999). According to Ashworth, however, the Spectrum's discovery styles, Style F to Style K, are rarely observed in its true form,

and as such, are often poorly understood and implemented (Kenneth Edwards, personal communication, August, 2015). For example, while one student may discover something new individually when engaged with the teacher, the remaining students may only be learning from passive listening. Hence, the teaching style is not Style F (Guided Discovery), it is guided memory and categorised as Style B (Practice) (Mosston & Ashworth, 2008). Indeed, Grasha (2002) asserts that teaching for discovery learning is most effective in one-on-one situations, rather than in group teaching.

2.2.5.1.8. *Developmental channels*

The decision-making structure of each teaching style creates the conditions for unique experiences in order to develop many human attributes that have been clustered under five Developmental channels (Mosston & Ashworth, 2008), as groups of learning attributes. These five channels of Physical, Cognitive, Social, Emotional, and Ethical/Moral development similarly target different aspects or foci of learning, such as the Psychomotor, Cognitive and Affective domains of learning, as used in mainstream education (Bloom, 1976; Krathwohl, 2002). Indeed, all human attributes are included in the potential learning experiences of the Spectrum teaching styles (Mosston & Ashworth, 2008). This is somewhat different to Marzano and Kendall's (2007) reframing of the above three domains into domains of Information, Mental processes, and Psychomotor procedures. Nonetheless, it is important to recognise in the Spectrum structure that relevant human attributes can be exclusive to one developmental channel, for example, attributes of Cooperate and Compare. Attributes may also occur across many developmental channels, for example Respect, Empathy, and Perseverance. Developmental channels are the sixth Spectrum element presented in the review, which is an indication of how the Spectrum structure is perceived as a comprehensive framework of teaching and learning.

2.2.5.1.9. *Modifications of the Spectrum*

Various elements of the Spectrum structure have been modified by scholars in the literature. Examples include the following:

- Teaching styles are associated with learning theories, such as student-centredness (Kirk et al., 1996; Mallett, 2005; Calcott, Miller, & Wilson-Gahan, 2012; Coleman, 2012; Jones et al., 2012; Morgan & Sproule, 2013)
- Teaching episodes are associated with time not purpose (Kirk et al., 2006; Coleman, 2012; Morgan & Sproule, 2013)
- Teaching styles are reconfigured and renamed (Kirk et al., 1996; Siedentop & Tannehill, 2000; Metzler, 2000, 2013)
- The association between teaching styles and developmental channels is reassigned (Morgan and Sproule, 2013).

Clear reasons for changing the meaning or structure of Spectrum elements are not offered by these scholars, meaning that the Spectrum has been interpreted in ways that are not consistent with the original author's definitions or intent (Goldberger, et al., 2012). According to the Spectrum authors, such associations between the teaching styles and those listed, such as learning theories, do not exist. Unauthorised changes to the Spectrum structure are misconstrued by others in their interpretations, and no modifications or misrepresentations of the Spectrum by other authors are supported (Kenneth Edwards, personal communication, May, 2015).

2.2.5.1.10. Critiques of the Spectrum

Various elements of the Spectrum structure have been constructively critiqued in the literature. For example, it was posited that the teaching claims and assumptions in the Spectrum lack validation (Metzler, 1983; Chatoupis, 2009, 2010a, 2010b) and that Mosston's (1981) shift to a "non-versus" approach of the teaching styles was questionable (Metzler, 1983; Sicilia-Camacho & Brown, 2008; Chatoupis, 2010b). In response to critiques and comments on the Spectrum, Goldberger (1992) and Goldberger and colleagues (2012) have affirmed the position of the Spectrum. Each of these critiques is briefly reviewed below.

Teaching claims and assumptions lack validation

Early questions were raised by Metzler (1983) about the many concepts, implications, and assumptions within the Spectrum that had never been validated. He identified three major problems with the Spectrum structure: an overemphasis on teacher behaviour, a lack of student process descriptions, and a difficulty of verifying

the teaching styles being used. Additionally, three main problems with researching the Spectrum were identified: a lack of supporting data, the methodologies used, and limited valid results. Metzler (1983) suggested that there was room for improvement by reconceptualising teaching styles as teaching strategies, which may utilise more than one teaching style in achieving its objectives. This may explain the later work of Metzler (2000, 2013) in developing teaching strategies.

In response, Goldberger (1992) conceded that there was a relatively limited amount of Spectrum research published over the first 25 years of its existence and development, from 1966 to 1991. However, he argued that the lack of quality Spectrum research was due to the inability of researchers to fully comprehend the complete Spectrum structure in conducting their research. He pointed to the weak methodologies selected by scholars as evidence of their limited understanding of the Spectrum. Dealing with the methodological issues will mean that the validation issues can be better addressed.

To deal with these methodological issues, Chatoupi (2009) suggests alternative methodologies that would be better suited to achieving validity and reliability in Spectrum research. For example, systematic observations would help to determine when a teaching style is implemented according to the Spectrum. Nonetheless, in support of Metzler (1983), Chatoupi (2009, 2010b) continues to voice ongoing concerns regarding the overall effectiveness of Spectrum research. This is despite acknowledging that advances have been made. For example, some teaching styles in the production of knowledge cluster have now been examined, whereas previous research only targeted teaching styles from the reproduction of knowledge cluster (Chatoupi, 2009). The author also argues that more targeted research is needed to advance our knowledge of the effects of Spectrum teaching styles on teaching and learning. This includes focusing on main issues such as validating research, observing episodic teaching that uses a series of teaching styles over a set period of time, and identifying how teaching styles are used to achieve behavioural outcomes.

However, Goldberger and colleagues, including Ashworth, (2012) have since argued that the majority of these deficiencies has been addressed in more recent Spectrum research. For example, in response to the Chatoupi's (2010ab) critique, particularly in relation to the lack of ways to identify and validate teaching behaviours, new

analytical instruments have been developed (SueSee & Edwards, 2009; Hewitt, Ashworth, & Edwards, 2010). As a result, teaching behaviour can be identified and systematically observed across all of the Spectrum teaching styles, rather than comparing the impact of one teaching style versus another teaching style, as was investigated in earlier research (Goldberger et al., 2012). It appears that the ongoing evolution of Spectrum research will enable researchers to address the persistent challenges, implications, or assumptions that are associated with the Spectrum, and help to strengthen its position within sports pedagogy in the future.

Taking a non-versus approach

Another topic of critique is Mosston's shift from a position where he placed differing values on the teaching styles to a non-versus position where all teaching styles have equal or neutral value. The early rationale for identifying a range of teaching styles in the Spectrum was to foster independent learning (Mosston, 1996). This is achieved by transitioning from teaching styles that are focused on the teacher as the decision-maker in Style A (Command) to those that emphasise the student as the decision-maker in Style K (Self-teach). The emphasis on a greater role for student decision-making reflects trends in mainstream education that move away from teacher-centred, authoritarian teaching towards student-centred, discovery learning (Trigwell & Prosser, 1996). However, early Spectrum research examined the value of using one teaching style over another to find that the research was inconclusive with limited outcomes (Goldberger, 1992). In the second edition, Mosston (1981) affirmed a paradigm shift to a non-versus, more neutral, position on the value of teacher and student orientations in each teaching style. The non-versus position of the teaching style remains in all later editions by Mosston and Ashworth (2008). By taking a non-versus approach, an array of teaching styles are available which do not have any association with valuing one style over another, and each could be selected as deemed appropriate for each teaching situation (Goldberger et al., 2012).

However, the subtle paradigm shift was questioned by several authors. A particular point of discussion related to Mosston's earlier aim of fostering independent learning, since this was more closely aligned with popular beliefs in mainstream education about how children learn. From a critical pedagogical perspective, Siciola-Camancho and Brown (2008) argue: "While seemingly innocuous, we contend that this shift can be seen in epistemological terms as an advance (back) towards

positivism in PE despite years of emerging interpretive standpoints” (p.85). Taking such a position strengthens the assumed connections between the teaching styles and the outcomes in the Spectrum pedagogy (O-T-L-O). The notion of shifting from a value-laden position to a non-versus position, a view with scientific, positivist connotations, was also raised by Chatoupi (2010b). These are similar concerns regarding assumptions in pedagogy that had already been raised by Rink (2001), who argued that the intended outcome from using a particular teaching style is yet to be verified. As Biggs’ (2003) would suggest, the Spectrum is missing presage, or the additional elements or factors that both the teacher and student bring to the process, such as their assumptions, prior experiences, or cultural expectations. It is also difficult to evidence attainment of cognitive learning. These additional factors can distort the pedagogical process and may negatively impact on the product, or outcome, of the teaching episode. A teacher of physical education or a sports coach “cannot assume that particular learning processes are taking place because a particular teaching method has the potential for that process to take place, particularly across all students” Rink (2001, p. 114). She further explains:

The idea of inferring learning (relatively permanent changes in behavior) from observations of behavior has always been problematic. The idea of inferring a particular learning process because a particular methodology is being used is even more difficult and more problematic. Rink (2001, p. 114)

Rink (2001) also points out that perhaps there is no direct line from a method of teaching to a level of student processing, when so many other factors would potentially be involved. Despite the direct processing of the Spectrum O-T-L-O pedagogy, which is promoted with the Spectrum teaching styles, Rink (2001) has argued that there are issues of the Spectrum’s validity that need to be addressed.

This ongoing dialogue regarding the early alignment of the Spectrum with teaching for teacher-centredness and student-centredness may also explain why some of the authors who have modified the Spectrum, as listed earlier, hold cleave to this view. Nonetheless, in taking the non-versus stance, which is the current view, the Spectrum has moved forward from earlier versions for over 50 years and continues to evolve (STS, 2015). Moreover, only the 2008 online edition of *Teaching Physical Education*

is the true current reference source of the Spectrum (Sara Ashworth, personal communication, May, 2012). The position of the Spectrum is clear:

The Spectrum makes no judgement about any teaching approach but rather identifies its position along this decision making continuum within the elements of an instructional context. It provides reference points, a roadmap, so that the location of any teaching approach can be identified. Those who know the Spectrum can observe any teaching-learning encounter and, with a good degree of accuracy and reliability, agree on which decisions were made by the teacher and learner, and which decisions were not made by anyone, and thus can identify the approximate position of this particular teaching-learning encounter along the decision making continuum. (Goldberger et al., 2012, p. 269)

The strength of the Spectrum structure in contributing to research is that it is not exclusively associated with any single teaching approach, concept or model developed in sports. Spectrum authors claim that its theoretical concept of teaching styles can be universally applied across all forms of teaching (Mosston & Ashworth, 2008).

2.2.5.1.11. Spectrum teaching styles for equestrian sports

In examining Spectrum literature, no research was revealed that showed any element of the Spectrum structure being applied in equestrian sports. So, although the Spectrum assumes shifts in decision-making between coach and student, it was not clear if, or how, a horse could impact on the interaction. How such a teaching style could be identified was not known. Literature reviewed from equestrian sports, which established that people and horses do connect and interact indicates that it is possible for the horse to be considered as part of ESP. To address the research problem by discovering more information regarding teaching styles of equestrian coaches, some of the previous Spectrum research has been identified as suitable for the research. Spectrum research in sports pedagogy has explored teaching styles of tennis coaches (Hewitt, 2015), and builds on similar Spectrum research on teaching styles of physical education teachers (SueSee, 2012).

This small grouping of literature related to teaching styles in sports, which is directly relevant to the research, reveals conflict, tension, and incongruence between teaching

beliefs and how those beliefs are actioned in teaching practice (SueSee & Edwards, 2011; SueSee, 2012; Hewitt, 2015). To conduct his research, Hewitt (2015) constructed two Spectrum data collection instruments: a Survey questionnaire and an Observation strategy, which were both adapted from those used by SueSee (2012) with physical education teachers. The observation instrument is based on Ashworth's (2004) Identification of Classroom Teaching-Learning Styles Instrument (ICTLS) and Curtner-Smith's (2001) Instrument For Identifying Teaching Styles (IFITS). The ICTLS describes the classroom behaviours that may be observed in relation to the landmark teaching styles in the Spectrum, and the IFITS is a coding sheet for observing teaching activities.

Hewitt (2015) found that tennis coaches ($N=208$) believed they mainly use a range of four Spectrum teaching styles: Style A (Command), Style B (Practice), Style F (Guided Discovery) and Style H (Divergent Discovery). These teaching styles, which were identified as being employed by participants, came from both the reproduction of known knowledge and production of new knowledge clusters of teaching styles in the Spectrum. However, when a select group of tennis coaches ($n=12$) were observed in their teaching by the researcher, they used a lesser number of Spectrum teaching styles ($n=2$). The two styles observed were Style A (Command) and Style B (Practice), which are both from the reproduction of known knowledge cluster in the Spectrum. As these results do not align with those of the coaches' teaching beliefs, Hewitt concluded, amongst other findings, that there was a need for coaches to better self-identify the Spectrum styles that they use in tennis. This could be achieved through further developing existing coach education programs. Hewitt (2015) employed a third method of Participant interviews in his research. In this third research stage, rather than being specifically designed around teaching styles in the Spectrum, the interview questions more broadly captured tennis coaches' thoughts on teaching in general. This third stage strengthens Hewitt's (2015) significant contributions to knowledge in that it extends the results of how tennis coaches teach to question coaches' insights into their own teaching.

The work of these two authors (SueSee, 2012; Hewitt, 2015) shows that the structure of the Spectrum teaching styles, as a research lens, is transferable from physical education to sports teaching. This finding supports the proposition that using the theoretical framework of the Spectrum will be valid in equestrian sports. This

transferability also suggests that Hewitt's (2015) findings have the potential to provide a source of information to compare the teaching styles used in equestrian sports with that used in other sports. In addition to their transferability of application, each of the landmark teaching styles is well-characterised (Mosston & Ashworth, 2008). These teaching styles can potentially be used in the research, not least because they are adaptable to designing quantitative instrumentation for collecting data. Theoretically, by separating the teaching style from the person, the identification of teaching styles in action is possible, and this opens the opportunity to observe episodic teaching by an adaptive coach (Mosston & Ashworth, 2008).

This review of the literature affirms that there is a gap in regard to identifying the teaching styles of equestrian coaches and that there was also little information available in regard to exploring how the horse may impact on the coaches' teaching. The persistence and widespread acknowledgement of the Spectrum in the physical education literature, and its acceptance in sports pedagogy, have justified its use as a "guiding tool" (Goldberger et al., 2012, p. 268) in the research. As such, the official author-endorsed first online edition of *Teaching Physical Education* (Mosston & Ashworth, 2008) is used as the Spectrum starting platform for conducting significant elements of the research. The premise of the Spectrum is that all teaching behaviours are based on the decisions made by the coach and the student (Mosston & Ashworth, 2008). Hence, the Spectrum structure is justifiably selected as a starting platform of the research, to identify the teaching styles used by equestrian coaches. In equestrian sports, the horse is an interactive partner within the equestrian triad of the coach, student, and horse. However, due to its structure and initial applicability to teaching physical education, the Spectrum teaching styles do not accept a third decision-maker, such as the horse. This is of some concern, as the role of the horse is an issue for equestrian sports, and thus needs to be addressed as a result of how ESP is conceptualised. For this reason, literature on equestrian sports was reviewed in a previous section of this chapter, to establish the extent of connections between horses and people in relevance to ESP. This connection will need to be recognised in the questions asked and also in the research design of the thesis.

As discussed in the next section, Game Sense, which is thought of as student-centred and contemporary teaching (Light, 2013), is endorsed by the ASC in many forms to encourage adaptive teaching in Australian sports (ASC, 2015). This is where

knowledge of the Spectrum structure is advantageous as a framework for understanding how coaches teach due to its specific and defined descriptions of the teaching styles. The Spectrum structure offers a continuum of teaching styles from Style A to Style K that are based upon specific and pre-determined decisions. Thus, sports coaches can identify their own positions of teaching, and where they would like to be teaching along the continuum of teaching styles, to position or reposition themselves accordingly to achieve specific lesson outcomes, as Mosston (1972) intended.

2.2.5.2. *Game Sense pedagogy*

Information on the Game Sense (den Duyn, 1997) approach is more prominent in Australian sports coach education than that on the Spectrum (ASC, 2015), and it is thus considered more popular and relevant to teaching sports. There is considerable interest in promoting and developing Game Sense in sports coaching, as it is widely perceived as a model for delivering quality teaching (Light, Curry, & Mooney, 2014; Light, 2014b). The potential similarities of Game Sense as a teaching approach used as part of EFL, and discussed briefly in Chapter 1 (Introduction), is of potential relevance to the research. For example, the work of Georgakis and Light (2009) extends students' learning of Game Sense to include an inquiry into their feelings from the experiences of sports. This is relevant to the objectives of facilitating EFL activities in that it shifts the focus from developing physical skills to that of affective skills. Nonetheless, no specific literature was found where Game Sense was being implemented in equestrian sports. For this reason, only a general overview of literature on Game Sense is included in the review.

Game Sense is an evolving concept of student-centred and inquiry-based teaching with the aim of developing thinking players, which is underpinned by a constructivist philosophy of discovery learning (den Duyn, 1997; Light & Wallian, 2008; Light, 2013). The philosophical principles of constructivism are largely derived from the original works of Vygotsky (1930-1934/1978), Dewey (1938) and Bruner (1961). Game Sense was first developed in the 1990s specifically for sports coaching in Australia, in collaboration with the ASC, to encourage players to be effective decision-makers and problem-solvers (Light, 2006, 2013; Pill, 2011). Endorsing Game Sense is also to encourage coaches to be more effective in their teaching, as “a

game sense approach will see coaches focus on developing games that enhance skills in a fun environment” (ASC, 2006, p. iii).

Game Sense is one of many games-based approaches (GBAs) to teaching in sports (Oslin & Mitchell, 2006). The GBAs include Teaching Games for Understanding (TGfU) (Bunker & Thorpe, 1982), from which Game Sense is derived (den Duyn, 1997) and Play Practice (Lauder, 2001). These various forms of GBAs are tactically devised as alternative methods of teaching sports for skill development to those of traditional methods of repetitive drills (Breed & Spittle, 2011; Stolz & Pill, 2014). Instead of positioning the coach as someone who has all the knowledge, Game Sense coaching privileges engagement and guidance of the student through the discovery learning process, where the objectives or the outcomes are not pre-determined by the coach (den Duyn, 1997). The pedagogy of Game Sense focuses on developing students’ competence in making decisions and solving problems, and is actioned by the coaches’ strategic use of questions, reflective practice, and indirect teaching methods (Pill, 2007). Dynamic play scenarios are used to represent types of playing situations that could be typically encountered in a game, so that players are encouraged to think holistically in regard to tactics of the game in making decisions and overcoming problems.

As Game Sense evolves, two main models of teaching are emerging, developed by Pill (2007) and Light (2013). This is because, although Game Sense is popular, it is not well-defined and not easily implemented. Pill (2007) argues for a practical interpretation of teaching Game Sense, and presents a three-stage structure of learning. Coaches can implement “small-sided games” as Stage 1, “small-sided games in mid-sized structures” as Stage 2, and “designer games” as Stage 3 (Pill, 2007). Light (2013) asserts that Game Sense has no defined pedagogical model or structure, and offers four core characteristics of Game Sense:

1. An appropriate learning environment.
2. Use of questions.
3. Collaborative problem solving and reflective practice.
4. A supportive socio-moral environment.

Light (2014b) asserts that identifying these characteristics means that Game Sense can be utilised more widely in sports to provide quality teaching beyond the concept of games.

Overall, a major criticism of Game Sense pedagogy is that implementation is relatively complex, requires considerable skill, and this has not been easily accomplished (Harvey, Cushion, & Massa-Gonzalez, 2010). The ongoing promotion of GBAs and their comparatively low uptake reflect the complexity of implementing such an approach in practice (Light, 2004). For example, rugby union coaches have experienced multiple dilemmas of incorporating a GBA (Light & Roberts, 2010). Similar coaching experiences have occurred in cricket (Roberts, 2011). Issues such as those associated with implementing a GBA results in minimal uptake (Light & Roberts, 2010; Roberts, 2011). While the coaches' desire or intention, philosophically, is to teach for discovery learning in GBAs, in practice, more often than not, the original, traditional, skills-based approach to teaching is favoured (Butler, 2005). Knowing how to coach these GBAs is elusive, and limited coach education has been identified as a constraint to implementing Game Sense (Harvey & Jarrett, 2013; Pill, 2011).

Nonetheless, scholarly interest and enthusiasm continues for the development of GBAs in sports (Harvey & Jarrett, 2013). Over a period of more than twenty years (1993-2016), Game Sense has been reflected upon, refined, revised, and revisited (Stolz & Pill, 2014; Zuccolo, Spittle, & Pill, 2013; Zuccolo, Spittle, & Pill, 2014; Stolz & Pill, 2016), and included in coach education programs in Australia (Forrest, Wright, & Pearson, 2012). More research is needed to close the gap between theory and practice in these applications of games-based play (Butler, Oslin, Mitchell, & Griffin, 2008). Closing this gap is identified as particularly important in sports coaching (Zuccolo et al., 2014).

Extending our knowledge of Game Sense in all of these directions is potentially of value in teaching equestrian sports, and in particular, teaching EFL activities. Teaching both Game Sense and EFL activities, as examples of newer or different teaching and learning paradigms in sports, challenge the traditional positions of teacher and learner. Game Sense and EFL promote both student-centred teaching and discovery teaching, where the coach is more of a facilitator of learning than a

disciplinary expert presenting directions to the student. Developing cognitive and affective skills is encouraged in addition to physical skills. However the approach is not without its issues, particularly where purported philosophical beliefs of teaching in sports do not align with teaching practices (Light, 2006), and improved student performance or developmental advances are not evident. Despite these difficulties, advances in Game Sense or GBA research are of interest in their potential contribution to advancing our knowledge and understanding of ESP.

2.2.6. Equestrian Sports Pedagogy

As introduced in Chapter 1, for the purposes of the thesis, Equestrian Sports Pedagogy (ESP) is defined as teaching and learning in equestrian sports. It incorporates the dynamic teaching and learning environment, which includes the interactions within the equestrian triad of the coach, student, and horse partners. The premise of ESP is that the horse is part of the pedagogy in equestrian sports. The term ESP was not found in the literature. However, a few literary sources, including Maw (2012), use the term of “equestrian pedagogy” to loosely describe the teaching and learning that occurs in the training of horses. Having reviewed the relevant literature from equestrian sports and sports pedagogy, a concept of ESP will be unpacked in this section to use as a lens for conducting the research (Figure 2.5). By adding the dimension of the horse to the existing coach and student dyad, ESP can be conceptualised as an interactive equestrian triad of C, coach, S, student, and H, horse, positioned within CE, the coaching environment. The amount, type, and level of interactions can be influenced by a number of factors, including for example lesson objectives and abilities of the coach, student, and horse, and from the coaching environment, including for example the prevailing weather conditions.

Legend

- 1 - Coach and Student (C-S)
- 2 - Coach and Horse (C-H)
- 3 - Student and Horse (S-H)

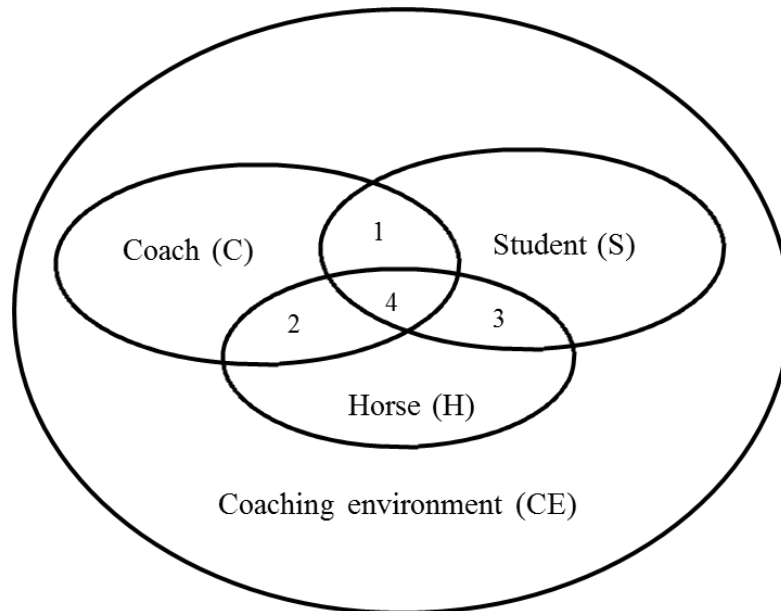


Figure 2.5. Conceptual lens of Equestrian Sports Pedagogy representing the equestrian triad of Coach (C), Student (S), and Horse (H).

There are multiple pedagogical interactions represented in the ESP conceptual lens. Three two-way interactions are the coach and student (C-S), the coach and horse (C-H), the student and horse (S-H). One central position of three-way interactions is the coach, student, and horse (C-S-H) or the coach, horse, and student (C-H-S), or the student, coach, and horse (S-C-H) (Figure 2.5). The interactions of the coach and student (C-S) dyad are conceived along similar lines to those of general sports pedagogy. The student and horse (S-H) and coach and horse (C-H) dyads represent the horse and human interaction in equestrian sports. This concept is similar to Cumyn's (2000) model of communication in dressage (Figure 2.1). It is worth remembering that Cumyn's study was the only form of literature found that explicitly included the horse as a contributor to the equestrian triad. Thus, it is a highly relevant source of literature in the research that is directly relating to equestrian sports.

The three-way interactions of coach, student, and horse (C-S-H) with its variations are unique to ESP. In addition to the usual dynamics of coach and student (C-H)

interactions in general sports pedagogy that are known to be complex (Cassidy et al., 2009, Cushion et al., 2010; Mosston & Ashworth, 2008; Silverman & Ennis, 2003), in equestrian sports, the horse is a contributing pedagogical dimension. At times, one partner may be more dominant than the other two in these interactions, and, at other times, another partner may be more dominant. In a similar manner, for example, the horse is learning from the coach and/or student, and the coach and/or student are learning from the horse and each other. Thus, a multi-directional interacting connection is enabled. As such, the relative size of the interactive spaces in the model, including the C-S-H central triad is variable. This addition of the horse to the usual coach and student dyad enables the research to highlight the potentially complex series of interactions and relationships at play during a learning and teaching episode.

Presenting a complex phenomenon such as ESP in the simplified construct of a schematic or model means that separate components can be examined as necessary. For example, the C-S interaction component can be used as a lens to examine Spectrum teaching episodes. Moreover, the C-H and S-H dimensions can also be used to examine theoretical gaps in the Spectrum with respect to teaching equestrian sports. Having the ESP concept as an interpretive tool means that those teaching interactions where the Spectrum is not fully relevant can be identified. Nonetheless, Cassidy and colleagues (2009) remind us that sports coaching is complex. Therefore, identifying individual contributions using the various dimensions of ESP may not be a straight-forward task, due to its dynamic and complex nature. However, there is also the potential for exploring the construct of ESP by using differing research approaches. By applying these varying approaches in research, the art and science of pedagogy that has already been discussed may be examined in relation to equestrian sports.

2.3. Summary of the Literature Review

Three main sources of literature relevant to teaching equestrian sports have now been reviewed: equestrian sports, sports pedagogy, and teaching styles. The review reveals that, apart from a few significant resources (Struby, 1987; Cumyn, 2000), there is little literature available that is directly related to how equestrian coaches teach. This signifies a gap in the literature.

By reviewing the equestrian sports literature, the researcher has provided support for the proposition that there are established connections between people and horses. For this reason, it is concluded that the literature supports the argument that the horse is a contributor to pedagogy in equestrian sports. However, knowledge gaps exist in the theoretical understanding of teaching and learning that apply to equestrian sports. This meant that a wider search of the literature was required. As Wolframm (2014) notes, while acknowledging that the horse is missing, there is value in exploring aspects of equestrian sports in the context of general sports. Therefore, a review of the literature from sports pedagogy, including that related to teaching styles, was undertaken to reveal the current academic conversations and known knowledge on these topics.

A review of the literature related to sports pedagogy revealed that it is a dynamic and evolving discipline with many aspects of teaching and learning that need to be further explored to gain a better understanding of the complex interactions found in sports. Nonetheless, much of the information that is available from sports pedagogy is valid in equestrian sports. How coaches teach in sports is one of these pedagogical aspects in sports, and is perceived in many ways. Prominent in the literature, Mosston and Ashworth (2008) provide a theoretical framework of teaching styles that is adaptable to instrumentation and measurement. This suggests that the Spectrum, with its range of 11 teaching styles, is suitable for examining how equestrian coaches teach.

This review has enabled the researcher to position teaching equestrian sports in relation to the general concepts of teaching in other sports, and to design research that builds on that which identifies the teaching styles of tennis coaches (Hewitt, 2015). It is clear from the reviewed literature that some aspects of teaching equestrian sports could possibly be identified and developed in parallel with those of general sports pedagogy. Additionally, it is also clear that there is room to identify ways in which the pedagogy in equestrian sports is different to other sports. To consider the horse in the pedagogy, a conceptual framework of ESP has now been proposed to use as a lens for conducting the research. The review has revealed that using mixed methods, as Hewitt (2015) has done, is a valid approach to examining teaching styles used in sports, and should be applicable to equestrian sports.

Examining how equestrian coaches teach appears useful in relation to what is currently known in sports pedagogy because any identified gaps of knowledge in sports pedagogy are likely to be valid in ESP. Additionally, the research may highlight aspects of pedagogy that are unique to equestrian sports, specifically as a result of how horses and people connect and interact. Therefore, it is probable that the research undertaken will identify ways in which the pedagogy in equestrian sports is the same as, similar to, and different from the pedagogy identified in more general sporting situations. An exposition of the mixed methods research design used to address the research questions, which has emerged from the literature review, is detailed in the next chapter, Chapter 3 (Research Methodology).

Chapter 3 Research Methodology

The research methodology selected to conduct the research is presented in this chapter. In the previous chapter, the reviewed literature from equestrian sports, sports pedagogy, and teaching styles was presented. The review reported on what has been published about the research problem, and found that little was known about how equestrian coaches teach. Nonetheless, it was concluded that examining how equestrian coaches teach can be examined in parallel with similar research in general sports pedagogy, and specifically, that of tennis. It was also concluded that it is feasible to consider when and how the horse impacts on the ways that equestrian coaches teach because the literature from equestrian sports confirms that people and horses connect in many ways. A synthesis of the literature was used to propose Equestrian Sports Pedagogy (ESP) as a lens through which to view the method and findings of the research.

After reviewing the literature, the teaching styles of the Spectrum were selected as a research tool due to their continuing relevance in examining coaching practices in sports. However, the work of Hewitt (2015) indicates a disjunction between perceived and observed practice in tennis coaching. Therefore, asking two research questions, similar to those of Hewitt, was deemed a suitable approach for examining both the perceived and the observed teaching styles of equestrian coaches. Two additional sources of literature (Struby, 1987; Cumyn, 2000) guided how these questions evolved. A third question was asked in the course of the research as the application of Mosston and Ashworth's (2008) teaching styles did not provide sufficient information about the role of the horse to fully resolve the research problem and the first two research questions. Overall, three research questions were developed with a multiple methods approach required to address them. Approaching the research with multiple questions is supported by the existing literature (Creswell & Plano Clark, 2011). Creating a flexible research design is key to guiding the research (Tashakkori & Teddlie, 2010; Teddlie & Tashakkori, 2011), particularly when outcomes of earlier research stages impact on latter stages (Creswell, 2012), as occurred in the research. For these reasons, a three stage, mixed methods research approach was selected to address three questions:

- RQ 1. What teaching styles do equestrian coaches believe they use in their coaching practice?
- RQ 2. What observable teaching styles do equestrian coaches use in their coaching practice?
- RQ 3. How do horses contribute to ways in which equestrian coaches teach in equestrian sports?

Next this chapter presents the philosophical positioning of the thesis: that of the pragmatist researcher looking for practical solutions. This is followed by details of the research design, including processes for selecting research participants, namely coaches and students of equestrian sports such as Dressage and Showjumping. Also included is a description of the three-stage data collection process: Stage 1 (Survey questionnaire), Stage 2 (Researcher observations), and Stage 3 (Participant interviews). Note that in Stage 2, two forms of researcher observations were made: Observations A and B. The chapter concludes with a summary of the main points related to the design and implementation of the research methodology.

3.1. Research Philosophy

The focus of the research was finding detailed information about how equestrian coaches teach that is applicable for equestrian coach education purposes. Adopting a pragmatic philosophy in the research is motivated by the need to resolve real-world, practice-based dilemmas as part of addressing the research problem (Hall, 2015). Both Creswell (2009) and Feilzer (2010) argue that pragmatism as a paradigm, which is practical and goal-oriented, provides a legitimate rationale for using mixed methods in research. According to methodological research, multiple research methods provide a sound basis for understanding reality (Guba & Lincoln, 2005), and are accepted in sports research to create a richer understanding of the coaching environment (Potrac, Brewer, Jones, Armour, & Hoff, 2000). In using mixed methods methodology, underpinned by critical realism, no one method is favoured over another and the aim is to retain each true methodological assumption (Archer et al., 1998; McEvoy & Richards, 2006; Scott, 2007). Taking this approach means that a pragmatic researcher can resolve the identified research issues in the best possible way (Onwuegbuzie & Leech, 2005; Creswell & Plano Clark, 2011). Therefore, the pragmatic, reflexive approach of the critical realist suits a subsequent philosophical

partnering with a mixed methods research design (Mingers, Mutch, & Willcocks, 2013). As such, the worldview, or paradigm, and logic of pragmatism (Creswell, 2009; Creswell & Plano Clark, 2011) that are served by critical realism (Collier, 1994; Archer, Bhaskar, Collier, Lawson, & Norrie, 1998; Archer, 2007; Mingers, 2014) suitably inform the research design.

3.1.1. Researcher

The pragmatic, critical realist paradigm used in this thesis is aligned with the researcher's professional background and research interests. Research was conducted in field of equestrian sports because it was familiar to the researcher, and is motivated by the need to resolve the research problem about which little was known. As indicated earlier, the researcher's background is as an active, experienced, equestrian competitor, accredited EA NCAS Coach Level 1, and an OHC Coach Educator with a Certificate IV in Workplace Training and Assessment. The researcher also has a special research interest in teaching and learning, or pedagogy, in equestrian sports, and, in particular, that of Equine Facilitated Learning (EFL). This equestrian experience has been complemented by a professional career in both natural and social sciences research, evidenced by a Bachelor of Science (BSc) degree and a Master of Rural Systems Management (MSRM) degree qualification respectively. This combination of knowledge and experience is analogous to the integration of natural and social sciences in critical realism (Collier, 1994; Archer, 2007; Mingers, 2014).

3.1.2. Rationale for research design

The rationale for the research design is framed by three distinct, yet related research questions, designed to examine how equestrian coaches teach. The first two research questions, RQs 1 and 2, which relate to perceived and observed teaching styles, were deductively reasoned (Creswell & Plano Clark, 2011). They were designed to build on existing tennis coaching literature by Hewitt (2015), which is based on Mosston and Ashworth's (2008) well-established 11 Spectrum teaching styles (Styles A to K). The questions also build on the work of Struby (1987) who surveyed equestrian coaches about their teaching. As little was known about teaching styles in equestrian sports *per se*, and this includes EFL, establishing a baseline of how equestrian

coaches believe they teach, and how they are observed to be teaching, was anticipated to produce useful information and insights. This new knowledge can be compared with Hewitt's (2015) research, which identifies the teaching styles of tennis coaches, thus positioning teaching equestrian sports in relation to teaching in another sport that does not include a horse in the pedagogy. Therefore, to design research based on the Spectrum (Mosston & Ashworth, 2008), and similar to Hewitt's (2015) use of existing sources of literature and methodology, was considered to be a logically sound approach. As such, Stage 1 (Survey questionnaire) and Stage 2 (Observations A) will be implemented so that more will be known about how equestrian coaches teach.

The third research question, RQ 3, which investigates the role of the horse in the coaching process, is a natural progression from RQs 1 and 2. Although, by contrast, RQ 3 is more open to inductive exploration because it allows for the probability that horses contribute to pedagogy in equestrian sports. According to the literature, the teaching styles of equestrian coaches is not often a topic of research interest, and positioning equestrian sports in relation to other sports, apart from Cumyn (2000), has not previously been an aim of research. Cumyn (2000) recognises the interconnections of the coach, student, and horse in the equestrian sport of Dressage. Therefore, RQ 3 is proposed to elicit inductive action so that other factors relating to ESP, which may impact on how equestrian coaches teach, can be explored.

Extending the research by asking RQ 3 is also supported by the wider literature, which confirms there are many variations of connections between people and horses. As is often the case when employing multiple methods to address multiple research questions, the outcomes of the earlier stages of research can impact on the research direction and choices of methods in the latter stages of research. Due to the possible unknowns, as evidenced from the limited available literature, a flexible approach to research is required (Tashakkori & Teddlie, 2011). Collecting and analysing qualitative data also offers more researcher "privilege" in directing the course of research than what would be offered in conducting quantitative research (Creswell & Plano Clark, 2011; Braun & Clarke, 2013). Reviewing the literature revealed many knowledge gaps in regard to teaching in equestrian sports, so RQ 3 is designed to call on further exploration in a broader sense than has previously been undertaken. Hence, to extend the research, Observations B from Stage 2 and the interviews in

Stage 3 will be conducted with a view of exploring the possible equine contributions to pedagogy in equestrian sports.

3.2. Research Design

For this thesis, a mixed methods research design provides a way to explore and discover how equestrian coaches teach by integrating different aspects of ESP. A mixed methods research design provides the plans and procedures for guiding the research through the stages of collecting and analysing data from the nominated methods (Creswell, 2009). According to Johnson and Onwuegbuzie (2004), mixed methods “is a research paradigm whose time has come” (p. 14). Furthermore, Johnson, Onwuegbuzie, and Turner (2007) claim that mixed methods (as a method) takes its right place alongside both quantitative and qualitative designs as one of the three major research paradigms. Nineteen early definitions that have been reviewed firmly position mixed methods as a specific research design (Johnson et al., 2007), at the intersection of identified philosophies, strategies of inquiry, and methods (Creswell, 2009). From an analysis and synthesis of the 19 definitions provided by experts on mixed methods, a composite definition states that:

Mixed methods research is the type of research in which a researcher or team of researchers combines aspects of qualitative and quantitative research approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purpose of breadth and depth of understanding and corroboration. (Johnson et al., 2007, p. 123)

Three research methods were appropriately integrated in three stages of research: Stage 1 (Survey questionnaire), Stage 2 (Researcher observations A and B), and Stage 3 (Participant interviews). These methods were selected to best address the three research questions: RQ 1, RQ 2, and RQ 3 (Table 3.1). The table provides an overview of the mixed methods research design.

Table 3.1. Mixed methods research design: Stage 1 (Survey questionnaire), Stage 2 (Researcher observations), and Stage 3 (Participant interviews).

Stage	Method	Data type	Participants	Data analysis	RQ
1	Survey questionnaire: <i>Online</i>	Quantitative: <i>Spectrum instrument</i>	Equestrian Coaches (N=92)	Descriptive statistics	1
2	Observations A	Quantitative: <i>Spectrum instrument</i>	Equestrian Coaches (N=12+2)	Descriptive statistics	2
2	Observations B	Qualitative: <i>Field notes</i>	Coaches/ Students/ Horses (N=12)	Thematic Analysis integrated with Stage 3	3
3	Participant interview: <i>Telephone</i>	Qualitative: <i>Transcripts</i>	Coaches/ students (N=8)	Thematic analysis integrated with Stage 2 (Observations B)	3

3.2.1. Research participants

Contributing participants in the research will be equestrian coaches, student coaches, and students with their horses. The following sections explain the rationale for selecting these participants, and provide information about them and their horses.

3.2.1.1. Rationale for selection

The conversations with equestrian coaches in 2010 at Equitana, the international equestrian sports fair, identified coaches' interest in applying EFL approaches in their coaching practice. As evidenced in Chapter 1 (Introduction), accredited equestrian coaches have suitable coach education programs in place from either Equestrian Australia (EA) or a registered training organisation (RTO) such as Online Horse College (OHC). However, the researcher ascertained that, from a theoretical perspective, little was known, in regard to any teaching styles used by equestrian coaches in practice. Therefore, the rationale behind the research was to discover new knowledge about teaching in equestrian sports from a theoretical perspective.

Knowing more on this topic can potentially provide long-term benefits to equestrian coaches through improved coach education programs and resources. The coaches at Equitana were eager to know more about teaching, particularly in reference to teaching EFL activities based on their existing knowledge. Therefore, it was reasonable to assume that equestrian coaches were in the best position to provide information on what teaching styles they believed they were currently using in their

coaching practices. Equestrian coaches were the primary group targeted throughout the three research stages of a survey, participant observations, and interviews.

A survey was distributed to equestrian coaches via an open, online invitation from OHC. However, some participants who self-identified as an equestrian coach were non-accredited, practicing equestrian coaches holding no formal recognised equestrian coaching qualifications. Nonetheless, it was assumed that by completing the survey they were interested in learning more about teaching equestrian sports. Therefore, both accredited and non-accredited coaches were deemed to be suitable participants for the research. Both were able to offer their knowledge of equestrian sports as a contribution to the research.

3.2.1.2. Equestrian participants

The research participants are accredited coaches, non-accredited coaches, student coaches, or students, in Stage 1 (Survey questionnaire), Stage 2 (Observations A and B), and Stage 3 (Participant interviews). The participant numbers in each stage of research are shown in Table 3.2, followed by the details of participation for each research stage.

Table 3.2. Numbers of research participants in each of Stages 1 to 3.

Stage	Method	Number of Participants				Total
		Accredited Coach	Student Coach	Non-accredited Coach	Riding Student	
1	Survey questionnaire	35	N/A	57	N/A	92
2	Observations A and B	10 (8+2)	4	0	N/A	14 (12+2)
3	Participant interviews	4	2	N/A	2	8

3.2.1.2.1. Stage 1 Survey questionnaire

In Stage 1, survey participants were accredited and non-accredited equestrian coaches who self-identify as a practicing coach ($N=92$). As student coaches are practicing coaches, and not yet accredited, they were included in the non-accredited group of coaches ($n=57$). No students participated in Stage 1 unless they also self-identified as an equestrian coach. Some equestrian coaches are known to be coach educators, although this was not a specific survey question. Also, due to the

international reach of the OHC community, it is expected that some coaches would reside outside of Australia.

3.2.1.2.2. *Stage 2 Researcher observations*

From the survey questionnaire in Stage 1, 53 equestrian coaches (57%) stated that they would be interested in participating in further research. For Stage 2, 14 participants were purposively selected so that teaching styles of coaches and student coaches, with students and horses, could be observed in person or online ($N=12+2$). Twelve equestrian coaches, who participated in Stage 1, were observed in person to create an initial dataset ($N=12$). Eight were accredited coaches and four were student coaches. Furthermore, an additional two international coaches, who taught EFL, were independently observed via online video-recordings ($N=2$) through YouTube. It is possible, though unlikely, that these two coaches completed the survey questionnaire in Stage 1 of the research. Hence, the dataset of 12 coaches is analysed separately from the dataset of these additional two EFL coaches.

3.2.1.2.3. *Stage 3 Participant interviews*

Eight participant interviews were conducted in Stage 3 ($N=8$) with equestrian coaches ($n=4$), student coaches ($n=2$) and riding students ($n=2$). These participants were observed in Stage 2 (Observations B). The two riding students were included to offer an additional perspective on the lessons observed in Stage 2.

3.2.1.3. *Ethical considerations*

3.2.1.3.1. *Stage 1 Survey questionnaire*

Participants automatically provided their electronic consent for the collection of information from them by completing the survey questionnaire online.

3.2.1.3.2. *Stage 2 Researcher observations*

Each participant provided their consent by completing the Participant Consent Form (Appendix C). They were informed that their lessons were being observed for research purposes before observations commenced, and that their teaching or riding competencies were not being assessed. The researcher's intent was to have no impact on their equestrian activities.

3.2.1.3.3. Stage 3 Participant Interviews

The same Participant Consent Form from Observations A in Stage 2 was used in Stage 3, as each interview was conducted by telephone. Additionally, each interviewee's voluntary participation was confirmed at the time of the interview.

3.2.1.4. Horses

A key premise of the research is that horses are active participants and are integral, pedagogical contributors in the interactive triad of coach, student, and horse in equestrian sports. An estimated 70 or more occurrences of horses were observed throughout the duration of Stage 2 (Observations), where equestrian coaches were teaching students eight different recognised equestrian sports. The number of horses in each lesson ranged from one to nine in the 26 lesson observations. The actions and reactions of horses when interacting with students and coaches were noted in addition to the teaching styles of coaches in these differing situations. After the data were collected and analysed, some of the same participants were interviewed in Stage 3 and were questioned about the researcher's observed equine interactions.

Observing equestrian coaches teaching EFL activities in the field provides useful information for a comparison with the way equestrian coaches teach in some of the other equestrian sports. As the role and influence of the horse is a central feature of the research, additionally observing EFL in action provides a broader base of relevant information. However, achieving this ideal situation in the field was not feasible within the limitations of this research and the limited number of EFL exponents available, so two online EFL lessons were sourced through YouTube to provide this type of information.

3.2.2. Integration and triangulation

In the research, methods, analyses, theories, and philosophy are integrated throughout, and the qualities of convergent and divergent triangulation are acknowledged where appropriate. Integration and triangulation are not interchangeable terms; integration describes the processes of interconnecting data and triangulation is the outcome of the integrative processes (Moran-Ellis et al., 2006). Potentially, the individual research stages are strengthened through these actions and are thus expected to provide more reliable results. Furthermore,

subsequent discussions, conclusions, and recommendations potentially provide a reasonable guide in taking coach education forward for equestrian sports into the future.

3.2.2.1. *Integration*

Integrating forms of data sourced from three methods (Survey questionnaire, Researcher observations, and Participant interviews) occurred at multiple times throughout Stages 1 to 3 of the research process (Table 3.3).

Table 3.3. Integration of Method, Analysis, Theory, and Philosophy throughout Stages 1 to 3.

Stage	Method	Integrated Method	Integrated Analysis	Integrated Theory	Integrated Philosophy
1	Survey questionnaire	No	No	Yes, 1 and 2	1, 2, and 3
2	Observations A	Yes 2 and 3	No	Yes, 1 and 2	1, 2, and 3
2	Observations B	Yes 2 and 3	Yes, 2 and 3	Yes, 2 and 3	1, 2, and 3
3	Participant interviews	No	Yes, 2 and 3	Yes, 2 and 3	1, 2, and 3

Methods used during Stage 1 and Stage 2 (Observations A) were regarded as theoretically integrated because Mosston and Ashworth's (2008) Spectrum, which underpins both datasets, continued to be the theoretical structure used to discuss their comparative results. As another example, Observations A and B in Stage 2 were methodologically integrated because they were two forms of an observation strategy that produced quantitative and qualitative datasets. The qualitative dataset from Observations B was analytically integrated with that from Stage 3 (Participant interviews). Overall, the pragmatic philosophy of critical realism (Collier, 1994) in its simplified form was integrated throughout these three stages.

3.2.2.2. *Triangulation*

The aim of integrating or mixing data is to provide more, in total, in terms of methods, analysis, and theory, than each individual method can offer (Moran-Ellis et al., 2006). In the research, data on teaching beliefs and actions from Stage 1 (Survey questionnaire) and Observations A in Stage 2 were compared. This data comparison represents a traditional, conventional model of triangulation, drawn from science, that is employed to increase the robustness and validity of the research (Johnson & Onwuegbuzie, 2004; O'Cathain, Murphy, & Nicholl, 2010; Creswell & Plano Clark,

2011). Alternatively, a contemporary, modern version of divergence devised in the social sciences may occur when results from two datasets are comparably different (Johnson & Onwuegbuzie, 2004; Creswell & Plano Clark, 2011). Guided by the steps outlined by Moffatt, White, Mackintosh, and Howel (2006), findings that result from divergence can be accepted as a possible explanation of the results. The various research methods can be examined to identify why the results are different and multiple conclusions can be drawn. For example, data was collected from equestrian coaches in Stage 1, whereas observational data generated by the researcher was collected in Stage 2, which produced dissimilar results. The divergence in these results indicates a similar phenomenon to that reported in other research: namely the disjunction between perceived and observed use of teaching styles (e.g. Hewitt, 2015).

3.2.3. Stage 1: Survey questionnaire

Ninety-two equestrian coaches worldwide participated in Stage 1 (Survey questionnaire) ($N=92$) by answering questions and submitting their responses online. In the research, a Spectrum-based survey instrument: *A Survey on Teaching Styles of Equestrian Coaches* (Appendix D) was designed to collect data on the beliefs of equestrian coaches in reference to the teaching styles they used. The collected data from equestrian coaches addressed the first research question, RQ 1, by establishing a baseline on their teaching beliefs. A survey questionnaire is suitable for collecting this type of information from a large number of people (Fink, 2009).

The survey questions were based on the scenario descriptions of the landmark teaching styles of the Spectrum, Styles A to K (Mosston & Ashworth, 2008). These 11 teaching styles are:

1. Style A Command
2. Style B Practice
3. Style C Reciprocal
4. Style D Self-check
5. Style E Inclusion
6. Style F Guided Discovery
7. Style G Convergent Discovery
8. Style H Divergent Discovery
9. Style I Learner-Designed Individual Program
10. Style J Learner-Initiated
11. Style K Self-teaching.

Typically, a self-administered survey questionnaire is used to collect information directly from respondents about what they know, think, or believe (Fink, 2009). To collect this type of data from equestrian coaches, the survey questionnaire utilised the online environment by partnering with the coach education provider, Online Horse College (OHC). Using an online environment is considered an effective method of data collection because the survey instrument can be designed to capture a large number of responses (Creswell, 2012). Nonetheless, it is acknowledged that there are disadvantages, as well as advantages, of conducting survey questionnaires in the online environment (Wright, 2005) which, on this occasion, may have impacted negatively on the data collection. For example, having poor or limited internet access may have been a sufficient deterrent for equestrian coaches to forgo completing the survey questionnaire.

3.2.3.1. Data collection instrument

As a Spectrum-based instrument, *A Survey of Teaching Styles used in Equestrian Coaching* (Appendix D) was modified from the *Instrument for Collecting Coaches' Self-identified Beliefs in Relation to the Teaching Styles they use during Coaching Sessions during the Year*, which was designed for tennis (Hewitt et al., 2010). In modifying the content from tennis, mainly in terms of the demographic questions and response options, the re-designed survey questionnaire was specifically related to equestrian sports.

For the equestrian coaches, the 11 teaching scenario descriptions could not be modified to include any consideration of the horse, as advised by the author of the Spectrum description inventory created for tennis coaches (Mitchell Hewitt, personal communication, February, 2013). This position was confirmed to Hewitt by Sara Ashworth, the author of the Spectrum (Mosston & Ashworth, 2008). As the structures of the two surveys for tennis and equestrian sports are similarly designed, the equestrian results are more comparable to the tennis results, than if the horse were to be considered. Furthermore, by taking this comparative approach, the results from the equestrian survey questionnaire contribute to positioning equestrian sports in relation to the more commonly known discipline of general sports pedagogy.

In the survey questionnaire for equestrian coaches, the key question for each scenario description: “Do you ever use this teaching style?” replaces the question asked by Hewitt (2015): “How frequently do I use this teaching style in my coaching sessions throughout the year?” Also, five dropdown response options: Never, Rarely, Sometimes, Often, and Always, respectively, replace Hewitt’s (2015) five response options: Not at all, Minimally, Here and there, Often, and Most of the time. This modification to the response options is based on the suggestions given by the university statistician (Rachel King, USQ Statistical Unit, personal communication, April, 2013) to improve clarity for respondents.

3.2.3.2. Structure

The complete survey questionnaire has three parts: Part A (Demographics), Part B (Teaching Styles), and Part C (Additional information) (Appendix D). How each of the three parts is structured is detailed in the following sections, starting with the four parts of Part A (Demographics) (Figure 3.1).

Part A (Demographics).

Name	_____
Email	_____
Country	_____
Telephone	_____
<hr/>	
<i>Which Equestrian Sports do you coach?</i> (Tick one or more boxes)	Dressage Endurance Equine Facilitated Learning (EFL) activities Eventing Horse Agility Jumping# Para-equestrian Pony Club <i>Ready Steady Trot*</i> Reining Show Horse Vaulting Other**
<i>Which Equestrian Sport do you coach the most?</i> (Dropdown box)	Dressage Endurance Equine Facilitated Learning (EFL) activities Eventing Horse Agility Jumping Para-equestrian Pony Club <i>Ready Steady Trot*</i> Reining Show Horse Vaulting Other**
<i>Which Equestrian Coaching Qualification do you have?</i> (Dropdown box)	Certificate III in Sport Coaching (Equestrian) Certificate IV in Sport Coaching (Equestrian) Diploma of Sport Coaching (Equestrian) EA Introductory Equestrian Coach EA/International Level 1 EA/International Level 2 EA/International Level 3 Pony Club (Australia/International) Currently coaching and not qualified Other***

Jumping is the same as Showjumping or Show Jumping

* *Ready, Steady, Trot* is an official participation program of Equestrian Australia (2015b)

** Other equestrian sports

*** Other equestrian coaching qualifications

Figure 3.1. Part A (Demographics) from *A Survey on Teaching Styles of Equestrian Coaches*.

In the first part of Part A (Demographics), equestrian coaches were asked to complete personal details: Name, Email, Country, and Telephone number. Name and

Email were required fields, and Country and Telephone number were optional fields. Knowing participants by their name personalises a relationship (Fink, 2009), and this detail was therefore asked in case follow-up contact with participants on a closer level was required. For example, if a bulk email was sent to all participants, the email could be personalised with the coach's individual name as the recipient.

More importantly, for good data management, each email address was a unique identifier, which ensured each participant sent only one valid survey response. If a second response was sent, the new information overwrote the previous information stored on the database, thus keeping a clean dataset at Online Horse College (OHC). Also, as part of the process detailed later, the follow-up Thank-you email, which contained a link to the free e-book gift from OHC, was sent to the email address provided. Thus, it was beneficial for the equestrian coaches to ensure the contact addresses they provided to OHC were correct. The request in the survey questionnaire to provide a telephone number was optional, recognising that providing such detail could cause a loss of confidentiality if the number was not already in the OHC database. Any respondent's inclusion of their country enabled a geographical differentiation of the survey results. Due to the nature of the survey questionnaire being in the online environment, it was probable that equestrian coaches outside Australia could respond in addition to those in Australia.

In the second section of Part A (Demographics), in response to being asked: "Which Equestrian Sports do you coach?" coaches selected from a drop-down list of 13 options. The first 12 were equestrian sports in alphabetical order: Dressage, Endurance, EFL activities, Eventing, Horse agility, Jumping, Para-equestrian, Pony Club, Ready Steady Trot, Reining, Show horse, and Vaulting. The 13th option was the category of Other, which covered any other equestrian sports, such as Rodeo events, Cutting, Western Horsemanship, Campdrafting, or Natural Horsemanship that were not listed. Choosing multiple options was possible. No comment box was provided for coaches to identify which equestrian sports they identified as Other. It was expected that most coaches would select one of the 12 equestrian sports listed, and the number who selected Other would be small. Coaches were then asked: "Which Equestrian Sport do you coach the most?" and they could respond by using the same list of drop-down options. This question was asked because many equestrian coaches teach more than one equestrian sport or discipline.

Coaches were also asked their equestrian coaching qualifications from a different list of drop-down options, so that the nationally-recognised accredited coaches could be identified. Fink (2009) states that personal demographics, such as age and gender, are only collected in a survey questionnaire when this information makes an important contribution to the research. On this occasion, the detail of demographic information was not considered relevant to the research, and so those types of questions, for example, age or gender were not included in the demographic questions of Part A.

3.2.3.2.1. *Part B Teaching styles of equestrian coaches*

Part B (Teaching Styles) commenced with instructions on how to complete the survey questionnaire (not shown), a definition of teaching styles from the Spectrum (Mosston & Ashworth, 2008) was given, which preceded the set of 11 scenarios of the teaching styles representing a different landmark teaching style, from Style A to Style K. Only the teaching scenario for Teaching Style A was provided as an example, complete with the generic question and the response options (Figure 3.2). The teaching descriptors for all 11 teaching styles in the complete Survey questionnaire are presented in Appendix D.

Definition: A Teaching Style is a plan of action that defines the specific decision interaction of the teacher [or coach] and the learner [or student] for the purpose of leading to the development of specific objectives in subject matter and behaviour.	
Teaching Style A	
Q1. Do you ever use this style when you coach?	The coach selects the exercises or activities. The students perform all together, in a precise performance that follows the pace and rhythm set by the coach.
	(Dropdown box)
	Never
	Rarely
	Sometimes
	Often
	Always

Figure 3.2. The Spectrum definition of a teaching style, followed by the Spectrum teaching scenario for Teaching Style A, complete with the generic question asked and five potential responses.

For Style A, the teaching scenario was: The coach selects the exercises or activities. The students perform all together, in a precise performance that follows the pace and

rhythm set by the coach. The generic question, “Do you ever use this teaching style?” accompanied each of the 11 teaching scenarios. Five response options were available from the dropdown list: Never, Rarely, Sometimes, Often, and Always, and were categorised as an ordinal scale that was easy to use and interpret. Note that only the teaching style letter was offered, for example, Teaching Style A, not the teaching style name, for example, Teaching Style A (Command), to ensure that respondents were not influenced by recognising the teaching style name. This presentation of the teaching scenarios in the survey questionnaire was advised by the Spectrum author (Sara Ashworth, personal communication, May 2012).

3.2.3.2.2. Part C (Additional information)

Two additional questions asked participants to provide additional information, and there was space for them to make any other additional comments. Responding to these questions or making a comment was optional. The two questions were: “On reflection, did you find this survey useful in considering how you coach?” and: “Would you be interested in receiving a report on Teaching Styles in Equestrian Sports Coaching and/or contributing to future research?” Both questions had a dropdown response list of three response options: Yes, No, or Maybe. The questions and the space for comments were designed for personalised feedback from equestrian coaches in three ways: on the value of the survey questionnaire, to gauge their availability for future research, and to confirm the distribution of subsequent information to these equestrian coaches.

3.2.3.3. Purpose

The main purpose for conducting the survey questionnaire was to collect data on the perceived use of various teaching styles directly from self-identified equestrian coaches. Information about teaching styles used in equestrian sports builds on previous research on teaching styles using the Spectrum (SueSee, 2012; Hewitt, 2015), which in turn builds on a previously established baseline of attitudes and beliefs on the topic of teaching physical education (Kulinna & Cothran, 2003; Cothran et al., 2005) when little was known about the topic.

3.2.3.4. Reliability and validity

A reliable survey produces consistent information, while a valid one results in accurate information (Creswell, 2012). Fink (2009) recommends that a survey be grounded in theory or experience, and combined with a method that is precise and accurately suited to its purpose. This survey questionnaire was grounded in Mosston and Ashworth's (2008) Spectrum structure, and was built upon the experience of others conducting teaching or coaching research using similar survey methods in other activities. Two relevant examples were from teaching physical education (SueSee, 2012) and tennis (Hewitt, 2015). The survey language used for equestrian coaches was slightly modified from previous versions, to suit them without mentioning the horse. As the method was similar to that of previous research (Hewitt & Edwards, 2011; SueSee, 2012), the resultant data was valid, comparable and could be readily converted to a suitable format for statistical analysis.

The survey questionnaire was thoroughly tested to ensure reliability, validity and accessibility, as well as ensuring a reasonable response rate. The complete survey questionnaire was piloted in paper format with three equestrian coaches: a coach educator, an accredited coach, and a student coach. All three coaches understood and unanimously approved the survey questionnaire in its presented format. These coaches stated that the survey questionnaire was relevant to their equestrian coaching and that the questions were easy to read and comprehend in providing a response. The full electronic online version was tested more than 20 times by the researcher, with four volunteer coaches, to check that the data were automatically captured in the correct format into a database managed by the OHC. This survey questionnaire was reliably delivered online, and managed through the OHC database by the researcher to ensure that the data produced was complete, consistent and accurate. To ensure a high rate of return, the survey questionnaire was designed to be relevant to the target audience of equestrian coaches. In addition, the survey questionnaire was short with only 11 key questions, and privacy was not an issue due to the in-house nature of the data management. As an incentive to potential participants, a relevant e-book was offered on survey completion.

3.2.3.5. Host

The Online Horse College (OHC) hosts the survey questionnaire and the resultant database. The OHC is a nationally-recognised, registered training organisation (RTO) which, as a coach education provider, provides coursework in sports coaching and business, specialising in equestrian sports. Associating with the OHC was a positive experience for the researcher in conducting the research, by enabling access to an established database of equestrian coaches in a secure, non-public, online environment. Also advantageous was the association with a well-respected coach educator, who was involved internationally in equestrian coach education, as well as experienced coaches, and the opportunity to contribute to the fortnightly newsletter distributed by the OHC.

As the survey was self-administered, equestrian coaches reached the OHC webpage directly through a web address, or a link in an email that offered easy access. Participants from around the world were able to conveniently respond to the survey questions immediately – in real time. Links were provided to and from the newsletter article and the survey questionnaire. From both of these sources, a link was provided to the Spectrum website (STS, 2015), in case the respondents wanted to follow up on information regarding teaching styles in greater detail. A link was also provided from both the newsletter article and the survey questionnaire to the contact details of the Ethics Coordinator at the University of Southern Queensland (USQ) (2015) (Appendix C).

3.2.3.6. Construction

The researcher constructed the survey questionnaire: *A Survey of Teaching Styles used in Equestrian Coaching* (Image 3.1) in the online environment, which was hosted by the OHC.

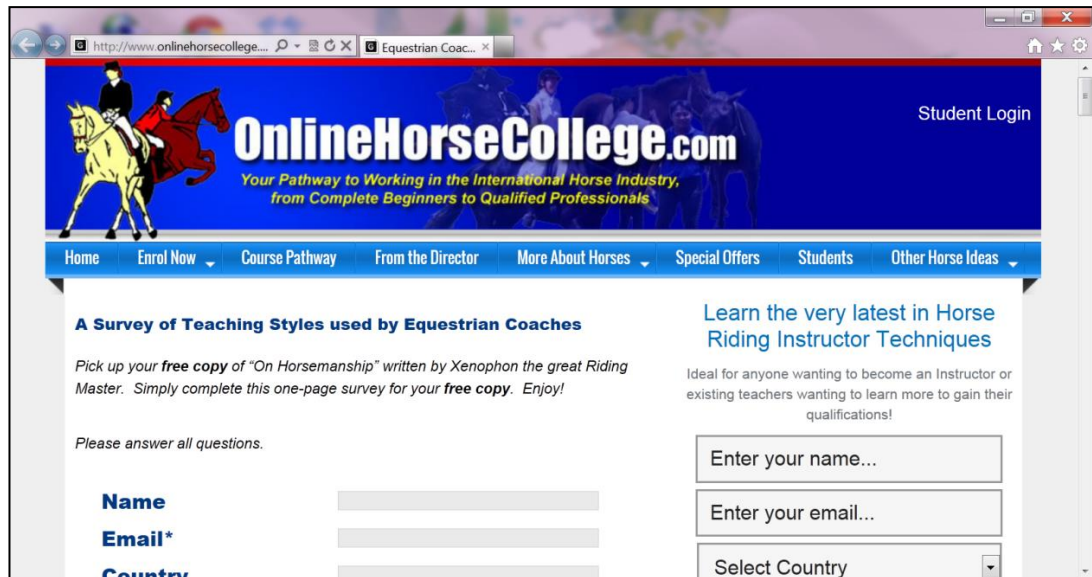


Image 3.1. Snapshot of *A Survey of Teaching Styles used by Equestrian Coaches* on the Online Horse College webpage.

A new webpage on the host web address (www.onlinehorsecollege.com/survey) was created using Hyper Text Markup Language (HTML) code in the background. Specific HTML code captured the responses as data, which were then stored in a corresponding private database on the OHC host server.

3.2.3.7. Process

Online Horse College (OHC) distributes an online newsletter every two to four weeks by email to over 4000 community members in the database. On the 30th of May, 2013, the newsletter contained an article written by the researcher, *Teaching Styles of Equestrian Coaches* (Appendix E). The article included a link inviting equestrian coaches to the survey questionnaire webpage with a request that they complete the questions asked (Image 3.2).



Image 3.2. Snapshot of *Teaching Styles in Equestrian Coaching* on the Online Horse College webpage.

As mentioned earlier, an offer of a free e-book: *On Horsemanship* (Xenophon, 1962), was an incentive for coaches to complete the questions and submit their responses. At a later date, another article was also made available to the OHC community members. The article: *How to be a Better Coach* (Appendix F), focused on reflective practice, and was co-authored by the researcher and the Chief Executive Officer (CEO) of the OHC.

This second article, which also linked to the survey questionnaire, was distributed to OHC community members via email on the 27th of June, 2013, and was timed for distribution four weeks after the first article. Authoring with the CEO was designed to give the article authority and familiarity to potential respondents so that more equestrian coaches were encouraged to complete the survey questionnaire. All these actions were taken because they were recommended by Fink (2009) as ways to potentially increase the number of survey participants. As the survey questionnaire remained live in the online environment, the articles and links to the survey webpage were accessible to visitors to the site at all times. Visitors who arrived at the main page of the website were able to click on the article, and then click on the link to the survey, although their email address was required to complete the survey and receive the free e-book gift. Whenever a *Thank-you* email was sent to a respondent, an email was sent to advise the researcher of another response completion.

3.2.3.8. Data collection

The number of equestrian coaches who had the opportunity to respond to the survey questionnaire is unknown. For example, many members of the OHC community self-identify as equestrian coaches, despite holding no nationally-recognised accreditation. The 600 plus Equestrian Australia (EA) accredited coaches were invited to join the OHC community, although it is unknown how many of these particular coaches responded to the invitation. Also, the emails, or links to the newsletter articles and the survey questionnaire could have been snowballed to many others in written or spoken forms. However, the 92 responses that were analysed are from coaches who submitted their answers to the survey questions within four weeks of the original link going live. More than 70% ($n=69$) of the total number of responses were received in the two days after the first newsletter article was distributed.

3.2.3.9. Data analysis

The dataset was downloaded from the host website as a CSV file, and analysed using Version 21 of the IBM SPSS (Statistical Package for the Social Sciences). The key quantitative data that offer insights into the coaches' beliefs on their teaching practice are from Part B (Teaching Styles), which are supported by the demographic and additional information from Parts A and C, respectively. The survey questionnaire was designed for conducting a one-way analysis of variance (ANOVA) of the results to differentiate the teaching styles, identify associations, and generalise the results (Allen, 2012).

3.2.4. Stage 2: Researcher observations

Observing research participants in their natural environment is regarded as a valid opportunity for collecting data without interfering with the activity being observed (Lincoln & Guba, 1985). Although such naturalistic inquiry is often associated with collecting qualitative data, both quantitative and qualitative data were concurrently collected by the researcher when observing equestrian coaches teaching ($N=12$) in Stage 2. This pragmatic approach to implementing mixed methods allows for the generation of dual data forms from one data source (Feilzer, 2010). These two types of observations were labelled as Observations A for the quantitative data and

Observations B for the qualitative data. These types of observations, as a research method that may contribute to producing effective coaching, is encouraged in studies related to sports (Pearce & Embrey, 2002). Acquiring these types of multiple, complementary forms of data is a characteristic and strength of using mixed methods in research (Creswell & Plano Clark, 2011). Additionally, observations in research is a method that can be used if the researcher is not always sure in regard to the accuracy of participants' perceptions of events or activities (Newby, 2013).

3.2.4.1. Observations A

Quantitative data were systematically collected by the researcher, using an instrument that was designed, based upon the 11 landmark teaching styles of the Spectrum (Mosston & Ashworth, 2008) as Observations A. One purpose of observing equestrian coaches was to observe how the teaching styles they actually use in practice compared with those teaching styles that were self-reported in Stage 1 (Survey questionnaire). Some earlier research concluded that in practice teachers do not use the wide range of Spectrum styles as purported in their survey questionnaires (Kulinna & Cothran, 2003; Cothran et al., 2005; SueSee & Edwards, 2011; Hewitt, 2015). To build on the baseline of equestrian coaches' teaching beliefs or intentions, as established in Stage 1, this information could be used in addition to establish a comparative baseline of teaching in equestrian sports in relation to that of other sports.

Due to the limited resources available, such as travel time, only equestrian establishments in Southern Queensland were purposely targeted for observations. Nonetheless, it was perceived in a general sense that equestrian coaches in this location would be representative of how equestrian coaches teach in a range of different lessons or activities across Australia, and possibly worldwide. The approach of cross-checking the consistency of teaching behaviours could have been completed by observing one coach over a longer period of time, such as a week. However, Hewitt (2015) has already established that there is little difference in a tennis coach's behaviour when observed over a longer period of time, which thus offers a level of confidence to the results presented in the research. Not cross-checking allows for more time and focus on observing and talking with coaches to collect data for other

research stages, i.e. Observations B and Participant interviews, to better complement the Survey questionnaire and Observations A.

In total, 14 coaches teaching 26 lessons covering seven equestrian sports in nine training establishments were observed. Seven equestrian establishments were selected for Stage 2 (Observations) where a cross-section of equestrian coaches, based on their coaching experience, was observed in the field. Twelve coaches teaching 24 lessons covering six equestrian sports were observed, as detailed in a later section in this chapter. In addition to the 12 field observations, and as a result of searching in the online environment, two coaches were observed via video-recording teaching two lessons in two different establishments.

The Spectrum-based observation instrument, which is detailed in the next section, is designed to guide the collection of data from researcher observations to code teaching styles of equestrian coaches teaching in their natural environment. Systematically observing the behaviour of sports coaches in the field has been a long-time tool of research which has enjoyed a resurgence in popularity (Lacy & Darst, 1985; DeMarco, Mancini, Wuest, & Schempp, 1996; Pearce & Embrey, 2002). These types of scientific instruments for observation, used in conducting empirical research, continue to be developed into the 21st century (Roberts & Fairclough, 2012). Thus, they are relevant to the research. The long-term influence of science and the use of instruments in systematically recording observed behaviour, especially together with intervention strategies, are also regarded as effective in improving teaching skills in the physical education classroom (Siedentop, 2002; Rink, 2013). In equestrian sports, for example, Wolframm (2014) encourages the use of observing, categorising, and classifying behaviours of teaching and learning, and perceives these methods to be especially useful when the equestrian action is video recorded.

Systematically observing teaching behaviour can potentially help the teacher or coach by quantifying teaching styles seen by the observer in action. The observation or coding instrument can act as a conduit for the subsequent dialogue regarding the teaching styles coaches believe they are using, compared with the observer's interpretation of teaching styles actually observed, when based on the guidelines which underpin the construction of the instrument. Therefore, the results of the

coding are potentially a valuable tool for communication between observers and observed by providing feedback for discussion and reflection on one's teaching practice (Moon, 1999, 2004). However, the opportunity for participants to reflect on their teaching through the Spectrum lens was not available at the time of these observations. This limitation was due to a lack of available resources, such as a video camera that was capable of recording quality sound and vision in a riding arena of up to 60 metres in length. Nonetheless, because some of the observations were recorded, albeit with a low quality of sound and vision, it is possible to follow up with those observed at a later time, and to also encourage coaches to journal their teaching experiences as part of ongoing reflective practice (Moon, 2006).

In the research, the researcher is positioned as an outsider of the equestrian group being observed, rather than partaking in the activities. Observing the group in this way is categorised as non-participatory (Creswell, 2012). These first-hand observations of teaching are considered more accurate than relying on someone else's interpretation of the event as a second-hand account of the activities (Merriam, 2009). Therefore, as the Spectrum has specific criteria to guide the observations, it was important to accurately code the teaching behaviour that was observed, to retain its first-hand value.

3.2.4.1.1. Data collection instrument

A valid and reliable observation instrument to collect data from researcher observations was developed to code the teaching styles used by equestrian coaches. The instrument was based upon the 11 landmark teaching styles of the Spectrum (Mosston & Ashworth, 2008). Developing this type of instrument for progressing Spectrum research is recommended in the critique by Chatoupis (2010b), as reported earlier in Chapter 2 (Literature Review). The Spectrum-based observation instrument (Figure 3.3) for coding equestrian observations was adapted from tennis coaching (Hewitt and Edwards, 2013; Hewitt, 2015). The observation instrument for tennis originates from SueSee's (2012) modification of Curtner-Smith's (2001) *Instrument For Identifying Teaching Styles* (IFITS), in conjunction with Ashworth's (2004) *Identification of Classroom Teaching-Learning Styles* (ICTLS). Although the teaching styles are determined by key decisions made by either the coach or the

student, the ICTLS instrument is designed to additionally assist the observer who is looking to identify which teaching styles are in action in the classroom.

Time Interval (every 30 seconds)	Spectrum Teaching Style											Management	Notes
	A	B	C	D	E	F	G	H	I	J	K		
1	A	B	C	D	E	F	G	H	I	J	K	M	
2	A	B	C	D	E	F	G	H	I	J	K	M	
3	A	B	C	D	E	F	G	H	I	J	K	M	
4	A	B	C	D	E	F	G	H	I	J	K	M	
5	A	B	C	D	E	F	G	H	I	J	K	M	
6	A	B	C	D	E	F	G	H	I	J	K	M	
7	A	B	C	D	E	F	G	H	I	J	K	M	
8	A	B	C	D	E	F	G	H	I	J	K	M	
9	A	B	C	D	E	F	G	H	I	J	K	M	
10	A	B	C	D	E	F	G	H	I	J	K	M	
11	A	B	C	D	E	F	G	H	I	J	K	M	
12	A	B	C	D	E	F	G	H	I	J	K	M	
13	A	B	C	D	E	F	G	H	I	J	K	M	
14	A	B	C	D	E	F	G	H	I	J	K	M	
15	A	B	C	D	E	F	G	H	I	J	K	M	
16	A	B	C	D	E	F	G	H	I	J	K	M	
17	A	B	C	D	E	F	G	H	I	J	K	M	
18	A	B	C	D	E	F	G	H	I	J	K	M	
19	A	B	C	D	E	F	G	H	I	J	K	M	
20	A	B	C	D	E	F	G	H	I	J	K	M	

Figure 3.3. Spectrum-based observation instrument for coding observed teaching styles of equestrian coaches showing 20 time intervals of 30 seconds each on one page.

The majority of equestrian lessons observed averaged around 30 minutes, which resulted in approximately 60 observation recordings for each lesson. Each observed teaching behaviour was associated with the specific descriptors in Ashworth's (2004) ICTLS that were created for physical education and adapted to sports coaching. When the coach was not teaching, the classification was labelled as Management. This included the activities of checking over the horse and rider for safety reasons and setting up or modifying equipment, such as marker cones or jumping rails. Ensuring that lessons were well-conducted and appropriate equipment was used in a suitable riding environment contributed to maintaining safety in equestrian sports (Finch & Watt, 1996).

As the time on task in equestrian sports was deemed to be slightly longer than in the previous implementations (SueSee, 2012; Hewitt & Edwards, 2013), a category was identified every 30 seconds rather than every 20 seconds. Any variation or points of interest were written in the far right column as Notes. As some of the observations of equestrian coaches' teaching behaviours were video recorded, a selection of the field code categorisations were re-checked at a later time to confirm their accuracy. This was carried out as part of what is known as a reliable method of validating the accuracy of the coding (Darst et al., 1989). This type of desktop data review and research, where the internet is a research medium, is accepted as a method of validating or collecting new data (Fielding, Lee, & Blank, 2008).

3.2.4.1.2. *Data coding process*

The coding process used to classify the Spectrum teaching styles of equestrian coaches was based primarily on the three available sources of Spectrum information. These were, firstly, the key decisions made by coach or student in the teaching styles, secondly, teaching descriptors of the teaching styles from Ashworth's (2004) ICTLS instrument, and, thirdly, the specialist knowledge of the Spectrum community. Additionally, when necessary, the verbal language used by the equestrian coach was taken into consideration to assist in categorising the observed teaching style. This coding process was used for all lessons, both in the field and from the video-recordings.

When the key decisions of the Spectrum structure were observable, they were used to identify the teaching style in practice and coded accordingly. Additionally, the teaching descriptions from the ICTLS instrument were used as a guide to identify the teaching style being observed. Also, several conversations were conducted with various members of the Spectrum community to ensure that the teaching style codes were correctly assigned to the teaching styles observed (Sara Ashworth, Kenneth Edwards, Mitchell Hewitt, and Brendan SueSee, personal communication, May, 2012 to May, 2015).

This assistance was necessary on several occasions for the coding. For example, in one observation, the equestrian coach posed a series of questions to the student regarding the student's interaction with the horse. This observation was coded by the researcher as Style H (Divergent Discovery). As the observation was digitally

recorded, these Spectrum expert practitioners could view this same lesson to assure the researcher that, despite the use of questioning, the coach's style of teaching was not divergent discovery. As the questioning was identified as part of a discussion, it was "divergent memory", and thus, Style B (Practice) rather than Style H. These conversations also confirm that no other teaching styles, apart from Style A and Style B, were used by equestrian coaches, and that the horse was not considered a decision-maker in the Spectrum structure.

Overall, when observing equestrian coaches teaching, it is not always readily discernible which teaching styles are in action. This lack of clarity is a limitation of the research. The key decisions required by the Spectrum to shift from one teaching style to another are not always enunciated to the researcher, and the teaching descriptors are not always easy to observe. Thus, the equestrian coach's use of verbal language was identified by the researcher as an important additional indicator of the teaching style in action with regards to those established sources of Spectrum information previously mentioned. For example, a group of students riding horses will respond to the command from the coach to "Trot on", which may be on cue but it is not synchronised, nor is there always an immediate response as required by the teaching descriptors of the ICTLS instrument (Ashworth, 2004). Nonetheless, this type of observation was coded as Style A (Command). The students may have continued to trot until another command was given, thus remaining in Style A. However, if the coach provided feedback with a comment while the student continued with trotting, for example: "Your horse went from walk to trot faster this time. You need to keep him steady through the transition. Try that again." the teaching style shifted to Style B (Practice).

Despite the available, expert guidance, the true forms of the teaching styles were not always evident to the researcher in observing and categorising these observations. On several occasions, an observation may have been better positioned as a style canopy rather than the true landmark teaching style. However, in the research coding only landmark teaching styles is considered, as any work on discerning the canopies of Style A or Style B has not yet been advanced. To observe or further develop such style canopies in equestrian sports was not feasible within the scope of the research even though to do so may be appropriate in the future.

Although the horse is not included in the Spectrum structure of decision-making, it appeared that the way the student was interacting with the horse influenced the way teaching styles in action might be interpreted. To some extent, this blurring of categorisation relates to coaches' and students' behaviours, which appear to stem from the presence of the horse. This lack of clarity is because the Spectrum structure relates teaching styles to the coach and student behaviour only. Therefore, other ways of identifying teaching styles used by the equestrian coach are necessary to acknowledge ways in which the student and the horse interact while the coach is teaching.

In summary, the Spectrum provides adequate guidance regarding the interaction between the coach and the student when there is no additional coaching directly related to training the horse involved. However, as the structure of the Spectrum does not provide for the dimension of the horse, coding teaching styles according to the Spectrum does not acknowledge the equine nuances that are observed in ESP. Therefore, the third research stage more fully explored the contribution of the horse with regards to how equestrian coaches teach.

3.2.4.1.3. Data collection

In total, teaching styles of 14 equestrian coaches were observed by the researcher in Stage 2 (Table 3.4). Observations 1 to 24, with 12 coaches, were observed in the field and Observations 25-26 with two coaches were non-field observations coded from YouTube video-recordings. Coaches in Observations 1 to 24 had completed the survey questionnaire in Stage 1 of the research, and could not be confirmed if the two coaches in Observations 25 and 26 had completed said survey questions. For this reason, the 14 observed coaches are listed as one group and were analysed as two groups ($N=12$ and $N=2$).

In each observation, coaches were identified as Coach Educators, Coaches, or Student coaches. Coach educators are also qualified and practicing coaches. Lessons were rated as High, Medium, or Low on observed competence level of the student or students in each lesson. High competence was expressed by a student who was an independent rider, capable of managing their own horse and those of others, and who could compete at national and international level competitions. Medium competence was expressed by a student who is an independent rider, capable of managing their

own horse, and who could compete at local and perhaps State level competition. Students judged as having low competence would be those who were at various stages of learning to ride and manage horses in and around equestrian centres. They probably did not have their own horse, and they may or may not have competed at local and “in-house” competitions. A list of the 14 coaches observed teaching 26 lessons is presented as Observations 1 to 26 in Table 3.4. An example of a lesson description follows the table and the detailed descriptions of each observation are in two sections, Observations 1 to 24 and Observations 25 and 26, and are reported in Appendix C.

Table 3.4. Fourteen equestrian coaches teaching 26 lessons in seven equestrian activities.

Obs.		Coach*	Accreditation	Lesson	Competence	Activity	Establishment*
1	1	Claire	Student coach	Dressage	Low	Ride the tracks of the arena in walk and trot.	Carrington Equestrian Centre
2	1	Claire	Student coach	Dressage	Low	<i>Train to Teach</i> lesson: Ride a three loop serpentine.	Carrington Equestrian Centre
3	2	Andrea	Coach	Horsemanship	Medium	<i>Train to Teach</i> lesson: Catch and tie up a horse in a safe manner.	Carrington Equestrian Centre
4	2	Andrea	Coach	Dressage	Low	Ride the tracks of the arena in walk and trot.	Carrington Equestrian Centre
5	3	Tracey-Lee	Coach educator	Horsemanship	Medium	Long-rein the horse.	Carrington Equestrian Centre
6	3	Tracey-Lee	Coach educator	Jumping	Medium	Ride a showjumping course.	Carrington Equestrian Centre
7	3	Tracey-Lee	Coach educator	Dressage	High	Ride the tracks of the arena in walk, trot and canter.	Carrington Equestrian Centre
8	4	Janet	Coach	RDAA**	Low	Ride the tracks of the field in walk.	Butler Riding Centre
9	4	Janet	Coach	RDAA**	Low	Ride the tracks of the field in walk.	Butler Riding Centre
10	5	Rachel	Coach	Dressage	Low	Ride the tracks of the arena in walk and trot.	Kay Dee Training
11	5	Rachel	Coach	Dressage	Medium	Ride the tracks of the arena in walk, trot, and canter.	Kay Dee Training
12	6	Marcel	Coach	Jumping	Medium	Ride a showjumping course up to 60cm.	Equus Training
13	6	Marcel	Coach	Jumping	High	Ride a showjumping course up to 1m.	Equus Training

14	7	Paul	Coach	Jumping	Low	Ride in walk and trot over a set of jumping rails.	Equus Training
15	8	Kerry	Coach	Horsemanship	Medium	Catch and tie up a horse in a safe manner.	Grand Stables
16	8	Kerry	Coach	Dressage	Low	Ride the circles in walk and trot.	Grand Stables
17	8	Kerry	Coach	Dressage	Low	Ride the circles in walk and trot.	Grand Stables
18	8	Kerry	Coach	Endurance	Medium	Ride out in the field in walk, trot and canter.	Grand Stables
19	9	Emily	Student coach	Dressage	Medium	Riding the tracks of the arena in walk and trot.	Grand Stables
20	10	Lucy	Coach	Jumping	Low	Riding a showjumping course.	Crystal Hills Riding Group
21	10	Lucy	Coach	Jumping	Medium	Riding a showjumping course with a treble jump.	Crystal Hills Riding Group
22	11	Robert	Coach	Pony Club	Medium	Troop drill in the showgrounds.	Crystal Hills Pony Club
23	11	Robert	Coach	Pony Club	Medium	Campdrafting in the yards.	Crystal Hills Pony Club
24	12	Melinda	Coach	Pony Club	Medium	Riding the flagging and bending courses.	Crystal Hills Pony Club
25	13	Frank	Coach	EFL*** activities	Low	Learning self-confidence and communication skills	The Way of the Horse
26	14	Jennifer	Coach	EFL*** activities	Low	Learning teamwork skills	Inward Bound

* Coach's name and establishment is a pseudonym for Observations 1 to 24.

** Riding for the Disabled Association of Australia.

*** Equine Facilitated Learning.

3.2.4.1.4. Observations 1 to 24: Researcher observations of equestrian coaches teaching

The data from Observations 1 to 24 were collected in the field at seven coaching centres: Carrington Equestrian Centre, Butler Riding Centre, Equus Training Centre,

Kay Dee's Training Centre, Grand Stables, Crystal Hills Pony Club, and Crystal Hills Riding Club. These names and those of all participants were recorded as pseudonyms for reasons of confidentiality. In all of these observations, it was assumed that participants were partaking in the normal routine activities that occurred at each of these riding establishments. Table 3.4 shows that in Observations 1 to 24 seven equestrian sports were observed: Dressage, Horsemanship, Jumping, Riding for the RDAA, Endurance and Pony Club. Generally, each lesson was designed to suit the students' competence level, and followed a usual six-part lesson structure of:

1. Checking the equipment
2. Introduce the lesson objective
3. Demonstration
4. Instruction
5. Practice
6. Discussion. (BHS, 2015; EA, 2015a; OHC, 2015)

An example of the 24 lessons of equestrian coaches teaching that were observed in the field is briefly described as:

Observation 1: Dressage

Student coach Claire was teaching student Melissa how to ride the tracks of the arena in a standard riding arena of 60 metres by 20 metres in size. The basic tracks of the arena include the outside track, the inside track, 20 metre circle, across the diagonal, the centre line, the three-quarter line (FEI, 2015). A dressage arena is marked by a series of standard letters that are recognised internationally, for example, A is the entry point, X is halfway up the centre line between the side markers of B and E, and C is at the opposite end of the centre line to A (FEI, 2015). In the lesson, the coach usually stood at either the centre of the top half or at the centre of the bottom half of the arena, and moved between these points, to observe the students closely and their horse's responses during the lesson.

3.2.4.1.5. *Observations 25 and 26: Researcher observations of equestrian coaches teaching*

As none of the lessons observed in Observations 1 to 24 were specifically designed to incorporate EFL activities, EFL as an equestrian sport was not represented in this first set of observations. It was relevant to extend the data collection to include observations of EFL activities in action, as it was the activity in question that prompted the initial enquiries from coaches at Equitana, which led to identifying the broader research problem that underpinned the research.

Hence, Observations 25 and 26 are additional datasets that were collected by the researcher as desktop research from video recordings downloaded from YouTube (www.youtube.com) ($N=2$). These two observations were the result of a YouTube search for the full term “Equine Facilitated Learning”. Both practitioners observed are well-known internationally in their teaching of EFL activities. It was surmised that these lessons were representative of how these coaches teach on a day-to-day basis. Although these observations did not directly involve the researcher interacting with equestrian coaches who may have participated in Stage 1 of the research, it is beneficial to the research to incorporate this additional aspect of ESP. For this reason, these two observations are separate from Observations 1 to 24. Nonetheless, Observations 25 and 26 extend the range of teaching scenarios to incorporate a wider demographic of locations and equestrian sports for comparison with those previously observed.

3.2.4.1.6. *Summary of Observations 1 to 26*

In Observations 1 to 26, data were collected from a variety of sources which represents a variety of normal activities within equestrian sports enacted by a variety of coaches using various ways of teaching. For some individual coaches, multiple observations of their teaching were undertaken to examine the level of variety in ways they teach according to the situation. This could be in regard to, for example, the level of student competence, the level of training of the horse, the control of the horse by the student, and the aim of the lesson.

3.2.4.1.7. Data analysis

Data on teaching styles of equestrian coaches collected as a result of using the Spectrum-based observation instrument in Stage 2 were descriptively analysed using a spreadsheet in Microsoft Office 2013 Excel. This software is designed for calculating statistical means and percentages (Allen, 2012). The results from Observations A in Stage 2 reported in Chapter 4 (Results) will show that trends indicated in the data are dissimilar to the results from Stage 1. Furthermore, this divergence of results is compatible with the reviewed literature from sports pedagogy (e.g. Hewitt, 2015). Therefore, the following chapter will also examine how aspects of ESP from Stages 1 and 2 Observations A can be discussed in the more general context of sports pedagogy.

3.2.4.2. Observations B

Collecting data in Observations B was necessary to complement the previous data sources, particularly in regard to addressing the third research question, RQ 3: “How do horses contribute to ways in which equestrian coaches teach in equestrian sports?” The aim of these observations was to acquire further knowledge and develop a deeper understanding (Archer et al., 1998; Biggs, 2003) of equestrian coaches’ teaching than was recorded in the lessons observed in Observations A, using Mosston and Ashworth’s (2008) Spectrum as a lens.

In contrast to the more structured, systematic, and positivist research approach used to collect quantitative data in Observations A, qualitative data collected in Observations B were informed by a more open, interpretivist, or constructivist, approach to the research. Both parts, Observations A and Observations B, of the researcher’s observations in Stage 2 were important aspects of the research design. As Merriam (2009) and Tenenbaum (2005) argue, the same observed scenarios can be an additional source of rich data to that of an initial analysis, which makes alternate sense. Also, Creswell (2013) suggests that using the same source of data in two ways may offer conformity, contrast, or contradiction in the research. Therefore, utilising multiple interpretations of observations in the research design was an attempt to know more, and importantly, to better understand teaching styles of equestrian coaches in a more general sense, as a means to address all three research questions.

3.2.4.2.1. Data collection

Data from Observations B were collected as notes taken while observing behaviours, situations, or aspects of the environment, either in the field ($N=12$) or from digital recordings of coaches teaching lessons ($N=2$). This stage of data collection was guided by qualitative methodologies outlined in reliable sources, for example, Patton (2002), Tenenbaum (2005), Merriam (2009), and Braun & Clarke (2013). This guidance means that, within the boundaries of the research limitations, the data were collected rigorously, for example, until a point of data saturation was reached. Saturation includes instances when there is little that is new in what is being observed, the scenario is predictable, or the observations are easily categorised (Tenenbaum, 2005). Therefore although some of the notes contained only a little information, Observations B was of sufficient length for the researcher to establish indications, trends or themes within each observation and to collect adequate data for fulfilling the purpose of the research.

3.2.4.2.2. Data analysis

The data from Observations B were integrated with the data from the participant interviews conducted in Stage 3 prior to analysis. The details of this integrated data analysis are presented as part of the next section: Stage 3 (Participant interviews).

3.2.5. Stage 3: Participant interviews

Stage 3 was important for the research because conducting participant interviews enabled the researcher to speak with participants about their experiences of coaching equestrian sports. How they perceived their roles and those of others, including the horse, helped in answering the research questions and contributed to knowing more about teaching equestrian sports. An interview, framed with questions in a verbal interaction, is designed to garner such information from another person's perspective (Patton, 2002; Kvale, 2007; Fink, 2009; Kvale & Brinkmann, 2015). An interview is a "specific form of conversation where knowledge is produced through the interaction between an interviewer and an interviewee" (Kvale, 2007, p. xvii), "that has a structure and a purpose determined by the one party – the interviewer" (Kvale, 2007, p. 7). Interviews can clarify the questions asked, extend the response that is given, or explore reflexive options from the ongoing dialogue, particularly when

engaging the participant with open-ended questions (Kvale, 2007). The power of interview questioning to draw out valuable responses is well-recognised (Leeds, 2000). Interviews and qualitative research are both popular as part of the trend to extend the traditional scientific approach taken in sports coaching research (Nelson, Groom, & Potrac, 2014; Purdy, 2014). They are useful in eliciting coaches' beliefs, attitudes, experiences, knowledge, or opinions of what they do, why they do it, and how it is done. Therefore, participant interviews are considered a powerful method of collecting data from the people who have participated in the equestrian experience.

Eight participant interviews, Interviews 1 to 8, were conducted over the telephone with either equestrian coaches who were accredited coaches ($n=4$), student coaches ($n=2$), or equestrian students ($n=2$) (Table 3.5). Interview participants were from five equestrian establishments: Carrington Equestrian Centre, Kay Dee Training Centre, Butler Riding Centre, and Grand Stables. All participants were present at one or more of Observations 1 to 24 in Stage 2. When more than one interview was conducted with a participant, the table is marked with the letters *a* and *b* accordingly.

Table 3.5. Interviews 1 to 8 ($N=8$) with coaches ($n=4$), student coaches ($n=2$), and students ($n=2$).

No.	Interviewee	Place	Role
1 (ab)	Tracey-Lee	Carrington Equestrian Centre	Coach and coach educator (EA NCAS Level 2)
2	Rachel	Kay Dee Training Centre	Coach (EA NCAS Level I)
3	Claire	Carrington Equestrian Centre	Student coach (Cert IV)
4	Melissa	Carrington Equestrian Centre	Student
5 (ab)	Jamieson	Carrington Equestrian Centre	Student
6	Andrea	Carrington Equestrian Centre	Student coach (Cert IV)
7 (ab)	Janet	Butler Riding Centre	Coach (RDAA NCAS Level 1)
8	Kerry	Grand Stables	Coach (EA NCAS Level 1)

The six coaches and student coaches in Interviews 1 to 6 all completed the survey questionnaire from Stage 1. However, the two riding students in Interviews 7 and 8 did not teach in Stage 1. Nonetheless, their experiences of and beliefs about the learning and teaching approaches used in lessons were considered valuable information in discerning the pedagogy in action.

3.2.5.1. Data collection

In Stage 3, interview data were collected over the telephone from the eight participants. To ensure methodological consistency, the same approach was taken with all interviews. Developing interviewer and interviewee rapport is critical (Kvale, 2007; Fink, 2009), so telephone interviews are not always as effective as in-person interviews (Kvale & Brinkmann, 2015). Relating to others may be difficult over the telephone as much of the communication is non-verbal and the ability to gain new or additional insights may be lost. However, for Stage 3, rapport was already established in Stage 2, where the researcher had personal contact when observing lessons in the participants' familiar territory. This personalised connection means that the limited resources available in terms of time, budget, and the ability to travel, could be weighed against the relative merits of face-to-face interviews over telephone interviews. Due to the established rapport, the factors of convenience and effectiveness were favoured in selecting the telephone option. The researcher was able to converse in a positive and inviting manner on the telephone, which encourages interviewee's to voice their opinions, because creating a verbally comfortable environment is so that all participants enjoy the interview experience (Kvale, 2007; Fink, 2009). Therefore, the telephone interviews conducted in the research were arguably just as effective as the face-to-face option, and in this instance, they were more resource efficient.

3.2.5.1.1. Interview questions

Each of Interviews 1 to 8 was an opportunity for both the researcher and the participant, as a coach or a student, to reconstruct the events of the lessons previously observed. According to Patton (2002), semi-structured interviews allow the questions to follow the conversation, with the potential for in-depth discussions to occur between interviewer and interviewee, where appropriate. Thus, a conversation could occur in the context of events that were familiar to both participants. Throughout these conversations, the researcher heard the interviewees' perceptions of teaching and learning in equestrian sports within the dialogue and could direct the conversation accordingly. Having this flexibility was useful so that multiple aspects of equestrian coaches' perceived teaching practice could be explored in a more open manner, which was particularly appropriate for addressing RQ 3.

Each semi-structured interview was guided by a set of open-ended questions about coaching that were modified to suit the individual interviewee. A key question was that of asking about what the interviewee perceived the horse's role to be in the lesson. The participant responses to this question provided valuable information on how and when the horse has an influence on how the equestrian coach taught. Below is an example set of questions that were used to guide the interviews with the equestrian coaches in regard to their teaching, and the question regarding the horse's role is italicised:

- How did you get into coaching?
- How would you describe yourself as a coach?
 - How would you describe the teaching styles that you use when you coach?
- In a lesson, how would you describe a typical lesson?
 - What do you do in the lesson? What does the student do in the lesson? *What does the horse do?*
- *What do the students learn from the horse?*
 - *How do the students learn better with the horse?*
 - *Do the students like being with horses?*
- How do the students know what the aim of the lesson is?
 - Who would you say makes most of the decisions within a lesson?
- What's your favourite equestrian sport that you like to coach?
 - What do you think of coaching EFL activities?
 - Are you familiar with those different types of equestrian sports?
 - What type of equestrian sports would you prefer to teach?
- How do you think that your students learn?
 - What types of things do you think that they have learned from you?
- Is there anything else that you would like to add that is important to you in your coaching?
- Have you completed the online survey about teaching styles in coaching?

In all eight interviews, the conversational nature of each was influenced by the loose structure of the interview questions, which allowed for following the flow of the interviewee and interviewer dynamics. This flow of conversation meant that the

questions and conversations were slightly different for each of the interviewees with regard to being interviewed as an accredited coach, a student coach, or a student.

3.2.5.2. Data analysis

The research was designed for the results of the thematic analysis to be predominantly informative in addressing the third research question: RQ 3 “How do horses contribute to ways in which equestrian coaches teach in equestrian sports?” Some of this information could also relate back to the earlier stages of the research, and inform the first two research questions: RQs 1 and 2. Qualitative data, eclectically sourced from Observations 1 to 24 and Interviews 1 to 8, were aimed at creating rich data through integration (Patton, 2002), which would be suitable for a thematic analysis (Braun & Clarke, 2013). Taking such an approach was especially relevant in the research, so that multiple aspects of a topic, such as ESP, could be explored and perhaps better understood (Richards, 2007). According to Braun and Clarke (2013), a thematic analysis is used to identify, organise, describe, and interpret a qualitative dataset with the aim of better understanding the topic of interest. Thus, themes were created from a trend or pattern that emerged from the data to mark something of interest, importance, or relevance to the research questions. All sourced data were transcribed by the researcher into 28 editable documents in Microsoft Word 2013, and then uploaded into NVivo 10 qualitative analysis software. In this digitised form using NVivo, the data were then scrutinised for reoccurring, comparative patterns, and subsequently coded or categorised analytically into themes. This process was undertaken iteratively, where the data were coded, reflected upon, and coded again in a cyclical manner (Bazeley & Richards, 2006).

3.2.5.2.1. Analytical process

Implementing an analytical process is important for retaining rigour in the methodology (Braun & Clarke, 2013). Guided by these authors, 12 analytical steps were taken:

1. The process of familiarity with the content of the documents began with the researcher carefully transcribing field notes and video-recordings from the

observations and interviews into a digital form, and then uploading the transcripts into the NVivo 10 qualitative analysis software.

2. A Primary node, or marker for data coding, was created for each of four main aspects of the sports coach in sports pedagogy. Although teaching styles were the focus of the research, there were more aspects of teaching in sports to consider. For example, Cassidy et al. (2009) identify four aspects: Teaching styles, Quality teaching, Reflective practice, and Coaching philosophy. All four aspects are interrelated. Therefore, all were listed so that teaching styles could be contextualised by other aspects of sports coaching.
3. Additional Primary nodes were created directly from the participants' responses to the interview questions. Each node contained all of the data that had been coded or assigned to it, and data could be coded to more than one node.
4. Extra Primary nodes were added directly from the literature review, on topics that were considered relevant to ESP. For example, the student and horse interaction from literature on people and horses was created as a node. Evidence of social and emotional learning was coded to this node, and others, due to the research interest in literature relating to EFL and how people and horses connect.
5. All of the original documents and transcripts were read and re-read in order to be more familiar with the content. This revisiting of the documents and transcripts and repeating the coding process is the previously mentioned reiterative process of a thematic analysis, as described by Bazeley and Richards (2006).
6. Text as words, sentences, phrases, paragraphs, or whole sections from the transcripts was coded as Primary nodes where appropriate.
7. Secondary, or Emergent, nodes were created where Primary nodes were not suitable in capturing the direct text selected from the document, and the text was deemed interesting or unexpected, or it confirmed what was known or assumed.
8. Again, the transcripts were read and re-read to be more familiar with the content.
9. Text from the transcripts was coded to the above Primary and Secondary nodes where appropriate.

10. Notional, or New, nodes were created where the primary and secondary codes were not suitable in capturing the implicit notion or intuitive meaning that was being conveyed in the text, for example, The notions of coach as expert, Different learning styles, or Socialising. These were coded observations that drew on theory, or contributed to developing the main themes in the later stages of the analysis. These themes also reflected the researcher's comprehension of coaching equestrian sports.
11. The nodes as Primary, Secondary, and Notional, were grouped or linked as appropriate, using Child nodes where needed to group a series of themes or sub-themes into seven main themes, Themes 1 to 7. These themes were checked through to ensure that they were in an analytical, rather than descriptive, form. Where needed, nodes were deleted, including any of the original set of Primary nodes that had no text coded to them. These decisions were guided by the research aim of addressing three research questions.
12. In relation to coded aspects of teaching and learning in equestrian sports, Themes 1 to 7 were categorised, Categories 1 to 3, as either the Same as, Similar to, or Different from general sports pedagogy, respectively. In this categorised form, it would seem that the research questions would be confidently addressed by these seven themes.

In summary, 11 Primary nodes, 36 Secondary nodes, and 34 Notional nodes were created in this theoretically-driven thematic analytical process. Eight of these nodes were then deleted as part of the process, for example, a primary node that contained no relevant information. From the active nodes remaining, seven main themes regarding ESP were generated and categorised in three ways, according to how each theme related to various theoretical aspects of general sports pedagogy. The themes that were similar to each other were grouped as categories. This process means that the seven themes were categorised as either the Same, Similar, or Different when compared with aspects of general sports pedagogy. Assigning themes to categories helps to address the research questions, particularly the third research question, RQ3. The results of this thematic analysis are presented in the next chapter, Chapter 4 (Results), and how these categorised themes address the research questions posed in this thesis is discussed in a later chapter, Chapter 5 (Discussion).

3.3. Summary of Research Methodology

In this third chapter, the mixed methods research methodology selected to address the three research questions has been detailed. How the research philosophy of the pragmatist informed the research design has been explained. In conjunction with the structure of the research questions, this information supports the rationale for selecting a mix of research methods. Such an approach was taken so that multiple aspects of teaching equestrian sports could be examined (Hall, 2014), as little was known of how equestrian coaches teach. These aspects include identifying the beliefs and observed actions of equestrian coaches and the opinions of lesson participants about their equestrian experiences.

Three research methods were employed: Survey questionnaire, Researcher observations, and Participant interviews, in three research stages (Stages 1 to 3 respectively) to address the three research questions (RQs 1 to 3). How each method was implemented has been detailed in this chapter, including processes of data collection and analysis. Each method is associated with its own procedure (Creswell, 2012). These methods and instruments for data collection, both quantitative and qualitative, have been linked through each stage of the research to enrich the data for analysis and strengthen the inquiry of the design.

The research methodology selected and presented in this chapter can more than adequately address the three research questions. Taking the approach where more than one method is used in a staged process to gather data has been successful. Multiple datasets have been created in both quantitative and qualitative form. Furthermore, with so little previously known about teaching styles in equestrian sports, any results and findings from the multiple methods used in the research and how it all relationally fits with general sports pedagogy will be valuable to sports pedagogists, equestrian coaches and developers of future coach education. New contributions can be made also to literature on equestrian sports, sports pedagogy, and coach education. These potential outcomes far outweigh any limitations identified. Therefore, it would appear that taking a mixed methods approach was a logical rationale that has best fulfilled the methodological requirements of the research. The results and findings from all three stages of the research are outlined in the next chapter, Chapter 4 (Results).

Chapter 4 Results

In the previous chapter, Chapter 3 (Research Methodology), the three research stages and three methods selected for the research methodology were outlined. A pragmatic research paradigm emerged from the requirement to address the research questions, and led to the selection of mixed methods. By adopting a pragmatic approach, the research design could be structured to explore, in a practical manner, the problem that little was known about how equestrian coaches teach. This information is required to support the development of improved coach education programs in equestrian sports and accommodate recent advances in equestrian teaching, such as Equine Facilitated Learning (EFL).

In this chapter, Chapter 4 (Results), results of the data analyses that relate to the three research questions are presented. First, the results are presented from the Survey questionnaire (Stage 1). As peoples' beliefs or their perceptions of a topic can be captured in a survey questionnaire (Fink, 2009), these results address the first research question, RQ 1, by identifying the teaching styles that equestrian coaches believe they use in their coaching practice. Next presented are the results from Observations A (Stage 2) to address the second research question, RQ 2, regarding the observed teaching practices of equestrian coaches. This stage was also designed to compare these results with those of teaching beliefs from the Survey questionnaire. Third, the integrated results are presented from Observations B (Stage 2) and Participant interviews (Stage 3) to address the third research question, RQ 3. In Observations B, researcher notes were used to describe the extra actions and behaviours of the same equestrian coach, student, and horse partnerships that were observed in Observations A. Eight participants from Observations A and B were interviewed as a means of unpacking their perceptions of teaching in equestrian sports, and to explore the influence of the horse in the teaching and learning process. These integrated results from multiple sources of qualitative data were designed to identify how the horse may contribute to the ways equestrian coaches teach in equestrian sports. Finally, a summary provides the main conclusions drawn from the results presented. All of these results have strong relevance to coach education practices, and are detailed in this chapter.

4.1. Survey Questionnaire

In Stage 1 of the research, 92 respondents completed the survey questionnaire *A Survey of Teaching Styles used by Equestrian Coaches* (Appendix D) online. Results from the three parts of the survey questionnaire: Part A (Demographics), Part B (Teaching Styles), and Part C (Additional information), are detailed in the following three sections. Due to the small dataset, a one-way analysis of variance (ANOVA) was not conducted. Thus, the results are not generalisable (Allen, 2012).

Nonetheless, results have been generated from summarising the data so that teaching variations and associations can be identified. Results from Part B are the most relevant in addressing RQ 1, which is aimed at identifying teaching beliefs of equestrian coaches. Typically, the respondents were Australian, their predominant teaching was in the equestrian sport of Dressage, and they were less likely to have any recognised formal coaching qualifications. The coaches indicated that they were motivated by the opportunity to acquire additional information to further their coach education, and would welcome more information on teaching in equestrian sports.

4.1.1. Part A: Demographics

In Part A (Demographics), equestrian coaches completed four pieces of demographic information by providing their contact details, the equestrian sports they coached, the equestrian sport they coached most frequently, and any formal coach qualifications they held in equestrian sport. This information is detailed in the next four sections.

4.1.1.1. **Contact details**

From the information gathered from the respondents' contact details, i.e. Name, Email, Country, and Telephone number, only a summary of nominated countries is reported here. Specific information is not reported for privacy reasons. Not all survey respondents offered their name or telephone number. Although the main target group was Australian equestrian coaches, the respondents came from fifteen countries, which are presented in alphabetical order and represent a wide geographical distribution (Table 4.1). The two countries with the highest percentages, Australia and United States, are highlighted in bold.

Table 4.1. Percentage of survey respondents for each of 15 countries represented.

Country	Percentage
Australia	63.0
Bulgaria	1.1
Canada	4.3
Denmark	1.1
Finland	1.1
India	1.1
Lebanon	1.1
Lithuania	1.1
Namibia	1.1
New Zealand	1.1
Romania	1.1
South Africa	1.1
Spain	1.1
United Kingdom	3.3
United States	17.4
Total	100

[N=92]

The highest percentage of survey responses came from Australia (63%) ($n=58$), followed by the United States of America (US) (17.4%) ($n=16$) (Table 4.1). The remaining responses (19.6%) ($n=18$) came from 13 other countries.

4.1.1.2. Equestrian sports coached

Equestrian coaches can potentially teach multiple equestrian sports (Equestrian Australia, 2015a), including Dressage, Endurance, EFL activities, Eventing, Horse agility, Jumping, Para-equestrian, Pony Club, Ready Steady Trot, Reining, Show horse, and Vaulting. In order to identify both the number of different equestrian sports that the respondents coach and the one equestrian sport that they coach the most, two questions on the survey were necessary. For both questions, the first 12 of 13 response options covered the 12 well-known equestrian sports in Australia listed above, as well as the newly-introduced concept of EFL, listed as EFL activities. The 13th category of Other was included so that coaches could nominate other, lesser-known or more-broadly labelled equestrian activities, such as Rodeo events, Cutting, Western Horsemanship, Campdrafting, or Natural Horsemanship that were not listed.

In Part A (Demographics), the results from the first question: “Which equestrian sports do you coach?” are reported below (Table 4.2), and the results from the follow-on question: “Which equestrian sport do you coach the most?” are reported in the next section as Table 4.3. For both questions and the subsequent results, the terminology of either coach or teacher is used interchangeably.

Table 4.2. Percentage of survey respondents for each number of equestrian sports they coach.

No. Sports	Percentage
1	38.0
2	17.4
3	19.6
4	14.1
5 or more	10.9
Total	100

[N=92]

The highest percentage (38%) ($n=35$) of survey respondents coached only one equestrian sport, which is highlighted in bold (Table 4.2). The percentage of respondents correspondingly decreased as the number of equestrian sports increased, whereby the lowest percentage (10.9%) of survey respondents coached five or more equestrian sports. Of the respondents who coached only one equestrian sport, the greatest number (48.6%) ($n=17$) nominated the category of Other equestrian sports, followed by Dressage (25.7%) ($n=9$) and Pony Club (17.1%) ($n=6$).

4.1.1.3. Most commonly coached equestrian sports

The results from the follow-on question about equestrian sports: “Which equestrian sport do you coach the most?” are reported in Table 4.3. The three highest percentages, which are in the categories of Dressage, Pony Club and Other, are shown as bold font in the table.

Table 4.3. Number and percentage of survey respondents for the equestrian sport they coach the most.

Category	Equestrian Sport	Number	Percent	Cumulative %
1	Dressage	23	25.0	25.0
3	EFL* activities	6	6.5	31.5
4	Eventing	4	4.3	35.9
5	Horse Agility	2	2.2	38.0
6	Jumping	5	5.4	43.5
7	Para-equestrian	1	1.1	44.6
8	Pony Club	14	15.2	59.8
9	<i>Ready, Steady, Trot</i>	3	3.3	63.0
10	Reining	1	1.1	64.1
11	Show Horse	4	4.3	68.5
13	Other**	29	31.5	100.0
Total		92	100.0	

* Equine Facilitated Learning.

** Other equestrian sports not listed.

Despite the 10 well-known equestrian sports listed in the results, the highest percentage (31.5%) ($n=29$) of respondents nominated the category of Other equestrian sports. However, which equestrian sports the respondents were referring

to is not known. It was expected that the 12 equestrian sports listed would be nominated more than the category of Other. It is possible that some of the names of sports used in Australia are not familiar to international coaches, and their particular sports were not included, so they chose to nominate Other. The next two highest percentages of respondent categories were Dressage (23.9%) ($n=22$) and Pony Club (15.2%) ($n=14$). No respondents nominated Endurance or Vaulting as the equestrian sport they coached the most, and they are therefore not listed in the table above. Six coaches (6.5%) nominated EFL activities as the equestrian sport they coached the most. Five of these coaches were internationally located, and one coach resided in southern Australia. Their locations meant that these coaches would not be available for researcher observations in Stage 2 of the research.

4.1.1.4. *Equestrian coaching qualifications*

Respondents were asked to nominate their equestrian coaching qualifications. Thirty-eight percent (38 %) ($n=35$) of the respondents held some form of formal equestrian coaching qualification recognised in Australia and listed in Categories 1 to 8. A similar percentage (40.2%) ($n=37$) of coaches did not hold any formal equestrian coaching qualifications, as shown in Categories 9 to 10. It is assumed that the 20 respondents who nominated Category 11 Other hold formal coaching qualifications not listed, otherwise, if they were not qualified, they would have nominated accordingly. Therefore, overall, a high percentage (59.8%) ($n=55$) of respondents were qualified as equestrian coaches.

Table 4.4. Number and percentage of coaching qualifications held by equestrian coaches.

Category	Number	Percent	Cumulative %
1 Certificate III	9	9.8	9.8
2 Certificate IV	1	1.1	10.9
4 EA* Introductory	2	2.2	13.1
5 EA Level 1 or equivalent	6	6.5	19.6
6 EA Level 2 or equivalent	6	6.5	26.1
7 EA Level 3 or equivalent	1	1.1	27.2
8 Pony Club	10	10.9	38.0
9 Teaching, not qualified	19	20.7	58.7
10 NQ, E and I**	18	19.6	78.3
11 Other***	20	21.7	100.0
Total	92	100.0	

*Equestrian Australia.

**Not qualified, experienced, and interested.

*** Other categories of qualifications not listed.

Of the 59.8% formally qualified or accredited coaches ($n=55$) in Categories 1 to 8 and 11, almost half (45.5%) ($n=25$) held coaching qualifications that are considered part of the professional pathway of coach education in Australia, as identified in Categories 1 to 7 (EA, 2015a; DET, 2016). The highest percentage (25.7%) of these professionally accredited coaches held a *Certificate III in Sports Coaching (Equestrian)*, which is represented by Category 1 ($n=9$).

4.1.2. Part B: Teaching styles

In Part B (Teaching Styles), participants were asked to self-identify the relevant teaching styles that they use in their coaching practice, based on Mosston and Ashworth's (2008) Spectrum. For each of the 11 styles, from Style A to Style K, an associated, unique teaching scenario was provided to guide their response. Although not specific to equestrian sports, a range of appropriately used Spectrum styles is recommended and encouraged by the ASC (Mallett, 2005).

Overall, the results suggest that equestrian coaches ($N=92$) believe they mainly use five Spectrum teaching styles: Style A (Command), Style B (Practice), Style D (Self-check), Style F (Guided Discovery), and Style H (Divergent Discovery). However, the results do show that the coaches reported using all of the 11 teaching styles, to varying degrees, when teaching equestrian sports. This set of five main styles is similar to the set of four styles that tennis coaches believe they mainly use: Styles A, B, F, and H. Style A (Command) and Style B (Practice) are two Spectrum teaching styles in a cluster of five (Styles A to E) (Figure 2.4), which are used to reproduce known knowledge. Styles F and H are two of six Spectrum teaching styles (Styles F to K) that are clustered as those that produce new knowledge for the student. The two clusters of teaching styles are separated by what is referred to as the discovery threshold (Figure 2.4). An overview of the statistical methods used to reach these results is presented in the next few paragraphs, and detailed information is provided in the following sections to show how using multiple methods of analysis was of benefit in establishing the results in the research.

Results of Part B (Teaching Styles) are reported in four ways. First, results are shown as a frequency distribution of five response categories in percentages (%). Second, the frequency distribution is ranked for five response categories of Never, Rarely, Sometimes, Often, and Always, from high (rank=1) to low (rank=5). Third, the

frequency distribution is ranked for 11 teaching styles, Styles A to K, from high (rank=1) to low (rank=11). As a fourth way of reporting, selected data extracted from previous results obtained by Hewitt (2015) using the Spectrum teaching styles in tennis are presented. The data were re-analysed to show the frequency distribution of teaching styles that tennis coaches believe they use (Appendix G), which is presented in the same format as that of the third set of data reported. The fourth analysis was conducted so that results from equestrian sports could be directly compared with those of another sport: tennis.

The results indicate which teaching styles were the highest frequency in each response category. Most commonly, these were Style A (Command), Style B (Practice), and Style F (Guided Discovery). For the equestrian data, the original frequency distribution did not show clearly which teaching styles were used. Nonetheless, the first way of ranking, as response categories, demonstrated that participants were more likely to use the specific response categories of Never rather than Rarely, and Sometimes rather than Often or Always, to convey their negative and affirmative responses, respectively. The second way of ranking, as individual teaching styles, Styles A to K, also presents a clearer interpretation of the dataset than that of the original frequency distribution of the five response categories. Within the dataset used for the rankings, there were no clear patterns or groupings identified in the subset of data from the six coaches who taught EFL activities. All 11 teaching styles were nominated as being used either Sometimes or Often, and the teaching style used most frequently by this small set of equestrian coaches was Style B (Practice).

4.1.2.1. Frequency distribution of five response categories in percentages (%)

The frequency distribution of the five response categories of Never, Rarely, Sometimes, Often, and Always for each of the 11 teaching styles, Styles A to K, as nominated by equestrian coaches in the survey, are displayed in percentages (%) (Table 4.5). The coaches stated that they used all of the 11 teaching styles to varying degrees. The teaching style with the highest percentage in each of the five response categories has been marked in the table with a bold font.

Table 4.5. Frequency distribution in percentages (%) of the five response categories for each of the 11 teaching styles.

Equestrian Coaches		Response Category (%)				
Teaching Style	N	Never	Rarely	Sometimes	Often	Always
A Command	92	19.6	15.2	39.1	22.8	3.3
B Practice	92	11.0	19.8	41.8	22.0	5.5
C Reciprocal	92	38.0	26.1	29.3	5.4	1.1
D Self-check	92	25.6	17.8	34.4	17.8	4.4
E Inclusion	92	40.2	16.3	31.5	9.8	2.2
F Guided Discovery	92	24.4	13.3	34.4	23.3	4.4
G Convergent Discovery	92	39.1	22.8	30.4	6.5	1.1
H Divergent Discovery	92	26.1	15.2	35.9	18.5	4.3
I Learner-Designed IP*	92	29.7	23.1	33.0	11.0	3.3
J Learner Initiated	92	32.6	28.3	29.3	8.7	1.1
K Self-teaching	92	57.6	21.7	17.4	1.1	2.2

*Individual Program.

From the 11 teaching styles of the Spectrum (Mosston & Ashworth, 2008), Style B (Practice) was nominated most frequently by the respondents as the style that was Always used (5.5%) or Sometimes used (41.8%) when teaching in equestrian sports. Style F (Guided Discovery) was nominated most frequently as the teaching style Often used (23.3%). Style J (Learner-initiated) was the most Rarely used teaching style (28.3%) and Style K (Self-teaching) was nominated most frequently as the style that was Never used by equestrian coaches (57.6%). Therefore, Style B (Practice) and Style F (Guided Discovery) were prominent as teaching styles nominated most frequently when comparing the three top response categories of Sometimes, Often, and Always.

When the percentages in the highest two response categories of Always and Often were added together, the order of nomination was Style F (27.7%), Style B (27.5%), Style A (26.1%), Style H (22.8%), and Style D (22.2%). With the percentage (%) of the three highest response categories: Always, Often and Sometimes, the order changed to Style B (69.3%), Style A (65.2%), Style F (62.1%), Style H (58.7%), and Style D (56.6%). In both summaries, Style A (Command), Style B (Practice), and Style F (Guided Discovery) had the highest three nominations of frequent use, and Style H (Divergent Discovery) and Style D (Self-check) remain in the fourth and fifth positions, respectively. When comparing three top response categories of Always, Often, and Sometimes, the average response of Styles A to E, the teaching styles in the reproduction of known knowledge cluster, was higher: Always (3.3%),

Often (15.6%), and Sometimes (35.2%) than the average of Styles F to K from the production of new knowledge cluster of teaching styles.

4.1.2.2. *Ranked frequency distribution of five response categories and 11 teaching styles*

In addition to exploring the magnitude of the responses in percentages from Table 4.5 above, relative rankings were assigned in columns as response categories and in rows as teaching styles, in order to identify any broader patterns of responses. When the frequency distribution in percentages (%) of five response categories: Never, Rarely, Sometimes, Often, and Always for each of the 11 teaching styles, from Style A to Style K, in Table 4.5 was replaced with rankings of high (rank=1) to low (rank=5) for the response category and rankings of high (rank=1) to low (rank=11) for teaching styles, two separate patterns emerged (Table 4.6 and Table 4.8).

Table 4.6. Rankings from high (rank=1) to low (rank=5) of the five response categories for each of the 11 teaching styles.

Equestrian Coaches Teaching Style	N	Ranking of Response Category (%)				
		Never	Rarely	Sometimes	Often	Always
A Command	92	3	4	1	2	5
B Practice	92	4	3	1	2	5
C Reciprocal	92	1	3	2	4	5
D Self-check	92	2	3.5	1	3.5	5
E Inclusion	92	1	3	2	4	5
F Guided Discovery	92	2	4	1	3	5
G Convergent Discovery	92	1	3	2	4	5
H Divergent Discovery.	92	2	4	1	3	5
I Learner-Designed IP*	92	2	3	1	4	5
J Learner Initiated	92	1	3	2	4	5
K Self-teaching	92	1	2	3	5	4

*Individual Program.

This statistical strategy produces a more definitive determination of positive and non-positive responses than that provided by examining the results from all five response categories.

The highest rank of one (1) was divided between the response category of Never in five teaching styles: Styles C, E, G, J, and K, and that of Sometimes used in six teaching styles: Styles A, B, D, F, H, and I. When the ranking of two (2) was also highlighted as shaded, results confirmed that the response categories of Never and Sometimes were most evident. In contrast, the lowest rank of five (5) was found in

the response category of Always for 10 of 11 Spectrum teaching styles: Styles A to J, and not Style K. These results suggest that survey participants used the response categories of Never, rather than Rarely, to convey their “non-use” of a particular teaching style. They also nominated Sometimes, rather than Often or Always to reflect their “use” of a teaching style.

The two response categories of Never and Rarely were grouped as *Low use* and the two response categories of Sometimes and Often were grouped as *High use*. The response category of Always was discarded due to its low rank of five (5). Two distinct groupings of teaching styles were seen: Never and Rarely and Sometimes and Often. Percentages in these two groups were recalculated to show a new frequency distribution of 11 teaching styles (Table 4.7). The highest percentage in each teaching style has been highlighted as shaded in the table.

Table 4.7. Frequency distribution (%) of the 11 teaching styles in grouping response categories as Never and Rarely, and Sometimes and Often.

Equestrian Coaches Teaching Style	N	Response Category (%)	
		Never and Rarely	Sometimes and Often
A Command	92	36.0	64.0
B Practice	92	32.6	67.4
C Reciprocal	92	64.9	35.1
D Self-check	92	45.4	54.6
E Inclusion	92	57.8	42.2
F Guided Discovery	92	39.5	60.5
G Convergent Discovery	92	62.7	37.3
H Divergent Discovery	92	43.2	56.8
I Learner-Designed IP*	92	54.5	45.5
J Learner Initiated	92	61.6	38.4
K Self-teaching	92	81.1	18.9

Table 4.7 clearly shows, in bold, five teaching styles that most equestrian coaches believe they use: Style B (Practice) (67.4%), Style A (Command) (64%), Style F (Guided Discovery) (60.5%), Style H (Divergent Discovery) (56.8%), and Style D (Self-check) (54.6%).

In addition to the frequency distribution of rankings that was based on the five response categories and presented earlier (Table 4.6), a frequency distribution of rankings based on the 11 teaching styles from Table 4.5 is presented in Table 4.8. Teaching styles were ranked from highest percentage (rank=1) to lowest percentage (rank=11) for each of the five response categories: Never, Rarely, Sometimes, Often, and Always. Where two teaching styles had the same response category percentage,

both were ranked at the mid-point number. Therefore, 16 ranking levels, from 1 to 11, were used to rank 11 teaching styles. Beginning with the highest rank (1), each response was highlighted, one at a time, looking for emergent patterns in the data. For the first five highest rankings, from 1 to 5, limited patterning occurred. When all six highest ranks, from 1 to 5.5, were highlighted, three distinctly separate response groups of teaching styles emerged: High use, Low use and Not Clear use (Table 4.8).

Table 4.8. Rankings from High use (rank=1) to Low use (rank=11) of the 11 Spectrum teaching styles for each of the five response categories.

Equestrian Coaches Teaching Style	N	Rank of Response Category (%)				
		Never	Rarely	Sometimes	Often	Always
A Command	92	10	9.5	2	2	5.5
B Practice	92	11	6	1	3	1
C Reciprocal	92	4	2	9.5	10	10
D Self-check	92	8	7	4.5	5	2.5
E Inclusion	92	2	8	7	7	7.5
F Guided Discovery	92	9	11	4.5	1	2.5
G Convergent Discovery	92	3	4	8	9	10
H Divergent Discovery	92	7	9.5	3	4	4
I Learner-Designed IP*	92	6	3	6	6	5.5
J Learner Initiated	92	5	1	9.5	8	10
K Self-teaching	92	1	5	11	11	7.5

*Individual Program

In Table 4.8, the same five teaching styles: Styles A, B, D, F, and H, from Table 4.7 are highlighted as teaching styles that equestrian coaches believe they frequently use in their teaching: High use. When three rankings of five styles from Table 4.8 were averaged, the order of preferred teaching style was Style B (Practice) (rank=1.6), Style F (Guided Discovery) (rank=2.6), Style A (Command) (rank=3.16), Style H (Divergent Discovery) (rank=3.6), and Style D (Self-check) (rank=4). This preferred order was similar, although not identical, to previous results from Table 4.7, which lists Styles B, A, F, H, and D as the order of preference. Similarly, in both instances, the first three preferred teaching styles remained as Style A (Command), Style B (Practice), and Style F (Guided Discovery).

In addition to the High use response group of teaching styles, Styles A, B, D, F, and H, the Low use response group contained Styles C, G, J, and K and the Not Clear use group contained Styles E and I. All three groups contained teaching styles from both the reproduction cluster, Styles A to E, and the production cluster, Styles F to K of the Spectrum (Mosston & Ashworth, 2008). Therefore, the results indicate that the

teaching styles that equestrian coaches mainly believe they use in their practice was limited to five of the 11 teaching styles: Styles A, B, D, F, and H. Additionally, these five nominated styles came from both the reproduction of known knowledge cluster, Styles A, B and D, and the production of new knowledge cluster, Styles F and H, of the Spectrum. The use of teaching styles from both clusters indicates that equestrian coaches believed they taught for both the reproduction of known knowledge and the production of new knowledge. A scenario by scenario breakdown of the five teaching styles in the High use response group, Styles A, B, D, F, and H, and how the teaching styles may have been interpreted by the coaches, is discussed in detail in Chapter 5 (Discussion) to offer an explanation for the results provided.

4.1.2.3. Teaching styles in equestrian sports and tennis

As part of the data analysis, equestrian results from the research presented in the previous section were compared with another study that used similar survey questions and a comparable cohort of respondents. In the selected example (Hewitt, 2015), a survey questionnaire (Hewitt et al., 2010) was designed to study the perceptions of tennis coaches. It was also based on the 11 teaching styles of the Spectrum (Mosston & Ashworth, 2008). These results from equestrian sports and tennis are directly comparable because similar Spectrum-based survey instruments were used to collect teaching style data in survey questionnaires. The results are not generalisable because there is insufficient data available to conduct a full analysis of variance with either dataset. Nonetheless, the results provide strong indicators of evidence that point towards similarities of teaching between equestrian coaches and tennis coaches.

A subset of data from *Teaching Styles of Australian Tennis Coaches: An exploration of practices and insights using Mosston and Ashworth's Spectrum of Teaching Styles* (Hewitt, 2015, Table 4.1, p. 142) was selected and re-analysed for comparison by the researcher. To compare the teaching beliefs of equestrian coaches with tennis coaches, using the same analytical process, increases the research validity (Creswell, 2009). A series of frequency distribution tables were generated from the data sourced from the teaching beliefs of tennis coaches regarding the Spectrum teaching styles ($N=208$). This information is detailed in Appendix G with only a summary being presented here.

The results of the re-analysis indicate that the four teaching styles that tennis coaches believed they used: Styles A, B, F, and H were a sub-set of the five teaching styles nominated by equestrian coaches as those they believed they used: Styles A, B, D, F, and H. However, in tennis, the frequency distribution in rankings from High use (rank=1) to Low use (rank=5) of five response categories was not as strongly patterned into two distinct groupings as was found in the equestrian data (Appendix G). The five response categories in tennis were: Not at all, Minimally, Here and there, Often, and Most of the time. However, because the highest response category in tennis, Most of the time, was ranked low, at rank=5 or 4, it was discarded, using the same procedure as for Always in the equestrian data. When the remaining response categories were grouped as two pairs, Not at all and Minimally, and Here and there and Often, and then recalculated, the results suggested that tennis coaches believed they used six teaching styles in this order: Styles B, A, H, F, G, and D. When a frequency distribution of rankings in tennis based on the 11 teaching styles was presented, only four teaching styles are evident: Styles B, A, H, and F. Only this set of four teaching styles was common to the results produced from these two different statistical methods of descriptive analyses. These were the same four teaching styles that Hewitt (2015) identifies as those that tennis coaches believe they use.

It is suggested that four Spectrum teaching styles could be commonly used by both equestrian coaches and tennis coaches. These styles are Style A (Command), Style B (Practice), Style F (Guided Discovery) and Style H (Divergent Discovery). Although, in both sets of data, the three teaching styles predominantly nominated were Style A (Command), Style B (Practice), and Style F (Guided Discovery). It could also be suggested that equestrian coaches and tennis coaches predominantly believed they used these three teaching styles when they taught. Two of these three teaching styles, Style A and Style B, are from the reproduction cluster of the Spectrum (Mosston & Ashworth, 2008), and Style F is from the production cluster. Suggestions that the teaching beliefs of equestrian coaches may be the same or similar to those of tennis coaches help to build a picture that positions teaching equestrian sports in relation to teaching other sports. These results potentially provide important information for equestrian coaches and for general coach education. The conclusions and implications of these results are elaborated upon in Chapter 5 (Discussion).

4.1.3. Part C: Additional information

Results from Part C (Additional information) provide potentially rich data that may assist in unpacking the equestrian coaches' earlier responses from Part B (Teaching Styles). In Part C (Additional information), respondents provided feedback on two questions (Table 4.9), and some provided comments on the survey questionnaire (Table 4.10). Although the information in these two tables is of value, it has not been further utilised in the research.

Table 4.9. Part C (Additional information): Respondents' feedback on two survey questions.

Q1. On reflection... <i>Did you find this useful in considering how you coach?</i>				
Yes	No	Maybe	Missing	Total (%)
62	5.4	29.3	3.3	100
Q2. Report... <i>Would you be interested in receiving a report [sic] and/or contributing to future research on this topic?</i>				
Yes	No	Maybe	Missing	Total (%)
76.1	3.3	17.4	3.3	100

Of the two questions, the first question, Q1, asked: "On reflection ... Did you find this useful in considering how you coach?" A high percentage of respondents (62%) ($n=57$) stated in the affirmative: "Yes". The second question, Q2, asked: "Would you be interested in receiving a report on teaching styles of equestrian coaches and/or contributing to future research on this topic?" More respondents (75%) ($n=69$) stated in the affirmative: "Yes" to Q2 than to Q1. The results also show a high affirmation when the responses of Yes and Maybe are combined: Q1 (91.3%) and Q2 (93.5%). These results suggest that equestrian coaches may be enthusiastic about their teaching and eager to learn more about the topic in the future.

From an optional comments box provided in the survey questionnaire, 24 comments were received as additional information (Table 4.10). Comments 1 to 24 are listed in alphabetical order. Minor editing was done without losing the message of the comments. Four comments, numbered 5, 9, 17, and 24 were truncated on receipt in the database, which was due to the limit on the number of characters available for this query.

Table 4.10. Part C (Additional information): Respondents' comments on participating in the Survey questionnaire.

No.	Comments from Part C (Additional information)
1	Definitely made me think!
2	Did not realise I used so many different styles.
3	Generally speaking, when I coach, I have a set goal, i.e. At pony club the task might be learning how to tack up or rise trot or ring craft etc.
4	Great survey! It lets me to step back and rethink if my methods are good. I always try to teach my students to think first and then "do" even as we know children can be impulsive.
5	I feel every day and every lesson is a learning experience for my students. I always have a backup plan as the student or horse may be having an off day and I want both horse and rider leaving the arena ...
6	I found it very interesting and informative and gave me other teaching ideas.
7	I most often use a combination of the above. Often, I let students choose objectives and often exercises, but I talk to them about criteria and assessment.
8	I often have individual lessons not groups. The questions have given me some extension ideas for coaching though.
9	I really enjoyed this survey! I have only been instructing my grandchildren. I cannot even go out with them every day and when I am able to go out, I have to sit down in a chair...
10	I teach private lessons only so I tailor them to the student - these are different avenues I can explore.
11	I want to get an international certification or diploma – How?
12	It is good to test which type of coach you are and to know your mistakes as well.
13	It offers ideas on techniques you can use to educate.
14	It's definitely given me food for thought in regard to instructing in the future, thank you.
15	Maybe some of the emphasis on "coaching" could have been shared with "teaching" as this does happen even when engaged as a coach!
16	Most of my students are very young and need a lot of guidance to be safe around horses or ponies. I am always interested in new ways to present lessons and approaches.
17	Often with RDAA lessons, side-walkers and leaders will be "mini coaches" to the riders and so often I would seek feedback from my leaders and side-walkers about riders. I'm not sure what style of coaching...
18	The equine activities I coach rarely fall under standard coaching principals.
19	These are very involved. When coaching children, is there much opportunity to use these coaching styles? Some examples would be useful with the questions. Thank you!
20	This is a great survey! I enjoyed taking it very much.
21	This made me think about how many different ways there might be to teach and I am willing to get some more info about learning.
22	Us coaches should not rely 100% on a "checklist"
23	Useful to realise how you move between styles perhaps driven by students' level.
24	Very helpful - thank you! I teach raw beginners, and your evaluating questions are helpful in determining the level of self-evaluation that is most helpful for different age groups...

[N=24]

Of the 24 participants who responded with a comment (Table 4.10), almost seventy-one percent (70.8%) ($n=17$) had previously stated in the affirmative that, Yes, on reflection, they found that the survey questions were useful in considering how they coach. Most of the comments are clearly positive or offer suggestions for

improvement. These responses affirm the value that coaches believed they extracted from engaging in the survey. This information reveals some insights into the personal qualities of equestrians interested in teaching equestrian sports. For example, coach's awareness of their teaching increased, as they had to think about how they taught, and they were thankful for the opportunity to do so. This information may be important for examining other aspects of teaching, other than teaching styles, that may impact on how equestrian coaches teach.

4.1.4. Summary of results: Survey questionnaire

Results from the Survey questionnaire have provided new information regarding the teaching beliefs of equestrian coaches to address the first research question, RQ 1, "What teaching styles do equestrian coaches believe they use in their coaching practice?" As outlined earlier, these equestrian coaches were typically Australian, taught dressage, did not always have any formal, registered coaching qualifications, enjoyed reflecting on their teaching practice, and were motivated by the opportunity to acquire important new information to further their coach education. This background information provides some context to the results obtained in Part B of the survey questionnaire.

An overall conclusion from the results is that equestrian coaches have similar beliefs of teaching practice to those of tennis coaches. Equestrian coaches believed they predominantly use three teaching styles of Style A (Command), Style B (Practice), and Style F (Guided Discovery), which was the same set of three teaching styles as that selected in tennis (Hewitt, 2015). Both equestrian coaches and tennis coaches believed they used teaching styles that produce new knowledge in addition to reproducing known knowledge, as the nominated styles are positioned across the Spectrum's two teaching clusters (Mosston & Ashworth, 2008). Knowing how these beliefs of coaches are similar in both sports is important because it helps to map the position of the pedagogy in equestrian sports in relation to sports pedagogy more generally.

The identified set of five High Use teaching styles, which includes Styles A, B, and F, are the most important of the 11 teaching styles discussed in the next chapter, Chapter 5. While important in establishing a baseline of teaching beliefs in equestrian sports, results from the Low use group and the Not Clear use group are

not discussed further. In addition, the feedback offered by equestrian coaches regarding the survey questions were generally positive, but are also not discussed further. The comments indicated that the survey respondents were generally supportive of the research on teaching styles in equestrian sports, which indicates that more research targeting pedagogy that is applicable to equestrian sports would be welcomed.

4.2. Observations A

The aim of Observations A is to add to new knowledge about the teaching styles of equestrian coaches, attained from results of the Survey questionnaire, by addressing RQ 2: “What observable teaching styles do equestrian coaches use in their coaching practice?” Utilising a second research method to build upon the first research method, to triangulate the results, is an established characteristic of a mixed methods research design (Creswell & Plano Clark, 2011). It is an important researcher check, and a logical step, to compare what equestrian coaches say about their teaching to what they are observed to do in practice. This comparative research process was achieved by recording observed teaching styles of selected equestrian coaches while they were teaching, and then comparing the results with the baseline indication of teaching beliefs already established. Compared with the survey results, which emphasised five Spectrum teaching styles, Styles A, B, D, F, and H, and particularly the three styles of Styles A, B, and F, observational data affirmed the participants’ use of only two Spectrum teaching styles: Styles A and B.

As explained in Chapter 3 (Research Methodology), the researcher observed 12 equestrian coaches from across southern Queensland teaching in 24 lessons. These are labelled as Observations 1 to 24. All coaches in Observations 1 to 24 had completed the Survey questionnaire from Stage 1 of the research. To extend the number of equestrian sports to include observances of Equine Facilitated Learning (EFL), an additional two coaches in two lessons teaching EFL activities were observed in the online environment. As explained in Chapter 1, observing coaches teaching or facilitating EFL activities is highly relevant in the research due to its association with principles of experiential learning for self-discovery (EAGALA, 2015; European Association of Horses in Education, 2015; Federation of Horses in Education and Therapy International, 2015; PATH Intl., 2015; RDAA, 2015). In

conducting the observations, there was an expectation from reviewing the literature that different ways of teaching might be employed in teaching EFL activities when compared with those in other equestrian sports. However, the results indicate that, as with the larger group, the two EFL coaches who were observed used only Styles A and B in their teaching.

Despite the interest of coaches in teaching EFL activities, the survey results typically indicated that the concept of EFL is not yet embraced by a significant number of coaches across Australia. The observed trends that their teaching is no different from teaching across all equestrian sports. As noted earlier, the small number of coaches who indicated that they taught EFL were not available for this next stage of research. For these reasons, two observations of equestrian coaches teaching EFL activities were drawn from alternative, existing resources online. It was not confirmed if either of these two coaches completed the Survey questionnaire from Stage 1 of the research. Neither coach was from Australia. As data sources in these latter observations, Observations 25 and 26 ($N=2$), were acquired online through YouTube, the data were differently acquired compared with those coaches ($N=12$) observed in the initial set of observations, Observations 1 to 24 ($N=24$). Hence, the overall results are presented so that the results of two separate groups within the research stage can be identified and reported separately.

All teaching behaviours of the 14 ($12+2$) equestrian coaches in Observations 1 to 26 ($24+2$) were systematically recorded across 12 categories of teaching by using a Spectrum-based observation instrument for coding behaviours of equestrian coaches (Figure 3.3). The 12 categories comprise 11 teaching styles of the Spectrum, Styles A to K, and a category of Management to record any lesson management activities outside of the actual teaching of students and their horses.

4.2.1. Observations of 12 equestrian coaches in 24 lessons

For each equestrian coach observed in the field ($N=12$), the number of lessons recorded ranged from one to four. In total there were 24 observations from six different types of equestrian sports, in seven equestrian centres, each with various activities observed and the teaching styles categorised. The sports were: Dressage,

Endurance, Horsemanship, Jumping, Pony Club, and Riding for RDAA riders.

Teaching style data, recorded each 30 seconds during the lessons, were descriptively analysed as a frequency distribution of percentages (%) of the total lesson time. As no teaching styles from Style C to Style K were recorded, only results from Style A (Command), Style B (Practice), and Management are presented (Table 4.12). Results for five equestrian sports with more than one lesson observation are reported in Table 4.11 and results from one coach teaching the three sports of Horsemanship, Dressage, and Jumping are presented in Table 4.12.

Table 4.11. Frequency distribution (%) of three teaching categories recorded by observing 12 equestrian coaches in 24 lessons.

Coach	Observation	Observation Category (%)		
		Style A (Command)	Style B (Practice)	Management
1 Claire	1 Dressage	60.0	16.6	23.4
1 Claire	2 Dressage	58.0	30.0	12.0
2 Andrea	3 Horsemanship	27.2	57.8	15.0
2 Andrea	4 Dressage	54.4	44.1	1.5
3 Tracey-Lee	5 Horsemanship	10.0	80.0	10.0
3 Tracey-Lee	6 Jumping	46.0	43.7	10.3
3 Tracey-Lee	7 Dressage	47.4	52.6	0.0
4 Janet	8 RDAA*	45.0	35.0	20.0
4 Janet	9 RDAA*	35.0	45.0	20.0
5 Rachael	10 Dressage	56.0	41.0	3.0
5 Rachael	11 Dressage	56.8	39.9	3.3
6 Marcel	12 Jumping	68.7	30.0	1.3
6 Marcel	13 Jumping	66.7	28.3	5.0
7 Paul	14 Jumping	20.5	64.4	15.1
8 Kerry	15 Horsemanship	47.5	49.5	3.0
8 Kerry	16 Dressage	41.2	47.1	11.7
8 Kerry	17 Dressage	66.7	30.0	3.3
8 Kerry	18 Endurance	10.5	84.2	5.3
9 Emily	19 Dressage	31.4	62.8	5.8
10 Lucy	20 Jumping	44.9	47.4	7.7
10 Lucy	21 Jumping	25.4	72.1	2.5
11 Robert	22 Pony Club	45.5	42.3	12.2
11 Robert	23 Pony Club	52.1	32.2	15.7
12 Melinda	24 Pony Club	43.5	46.4	10.1
	MEAN	44.2	46.8	9.1
	MEAN**	48.6	51.4	N/A

* Riding for the Disabled Association.

** Percentage totals of 11 teaching styles disregarding time in management.

Overall, the percentage of time that equestrian coaches were observed using Style A (Command) ranged from a high of 68.7% in Observation 12, to a low of 10.0% in Observation 5. For Style B (Practice), the percentage of time ranged from a high of 84.2% in Observation 18, to a low of 16.6% in Observation 1. On average, the

coaches were categorised as spending a similar amount of time in Style A (48.6%) and Style B (51.4%) when Management time was disregarded. From the data, it is not easily ascertained if the horse had any influence or impact on which teaching styles equestrian coaches selected in their teaching practice. Thus, the role of the horse in ESP is not clearly identified.

There is variation in the percentages of both Style A and Style B amongst five equestrian sports that were observed on more than one occasion: Dressage, Horsemanship, RDAA, Jumping, and Pony Club (Table 4.12). Endurance is not included in Table 4.13, as it was only observed on one occasion, with the results presented in Table 4.12.

Table 4.12. Frequency distribution (%) of two teaching styles observed in five types of equestrian sports.

Equestrian sport	No. Observations	Observation Category (%)	
		Style A (Command)	Style B (Practice)
Dressage	9	56.9	43.1
Horsemanship	3	30.7	69.3
RDAA*	2	50.0	50.0
Jumping	6	48.3	51.7
Pony Club	3	54.0	46.0
MEAN	4.6	48.0	52.0

* Riding for the Disabled Association.

Of five types of lessons observed, the most time spent teaching in Style A (Command) was found in Dressage (56.9%), and the most time spent teaching in Style B (Practice) was in Horsemanship (69.3%). From these five types of lessons observed, the average time spent in Style A was 48.0%, and the average time spent in Style B was 52.0%, which are regarded as similar percentages for these two teaching styles.

There is also an observed variation reported amongst equestrian sports that were taught by an individual coach, for example, Tracey-Lee, who was an experienced coach and coach educator (Table 3.4). In Table 4.13, which depicts this coach teaching three different equestrian sports, the amount of time spent in Management is disregarded to recalculate the frequency distribution of two teaching styles observed: Style A (Command) and Style B (Practice).

Table 4.13. Frequency distribution (%) of two teaching styles of one experienced equestrian coach teaching three different equestrian sports.

Equestrian sport	Observation Category (%)	
	Style A (Command)	Style B (Practice)
Horsemanship	11.1	88.9
Jumping	51.3	48.7
Dressage	47.4	52.6
MEAN	36.6	63.4

In this teaching snapshot of one equestrian coach, the variation of observed use of Style A (Command) ranges from a low of 11.1% when teaching horsemanship, to a high of 51.3% when teaching jumping. A similar percentage of variation exists in using Style B (Practice), which ranges from a low of 48.7% in jumping, to a high of 88.9% in horsemanship. These data indicate that the particular requirements of teaching equestrian sports may influence the type of teaching style selected, and the time spent in each of those styles. Overall, this coach spent almost twice as much time in Style B as in Style A. Compared with the mean frequency distribution of 24 coaches, these results suggest that more experienced coaches tend to use a greater percentage of teaching time in Style B than the time spent by lesser experienced coaches. However, this situation may be dependent on factors such as the individual coach and competencies of the student and the horse. Style B is closer than Style A to the discovery threshold, which is positioned between the Spectrum teaching styles of Style E and Style F, suggesting that more decisions were made by students than coaches in these lessons when Style B was observed.

4.2.2. Observations of two coaches teaching EFL activities

An additional two observations from video recordings of equestrian coaches teaching EFL activities were coded as Observation 25 and Observation 26 so that it could be included as an additional equestrian sport, for comparative purposes only. Similar to the Observations 1 to 24, only categories of Style A (Command), Style B (Practice), and Management were observed, coded, and recorded (Table 4.14).

Table 4.14. Frequency distribution (%) of three teaching categories recorded by observing two EFL equestrian coaches two lessons.

Coach	Observation	Observation Category (%)		
		Style A (Command)	Style B (Practice)	Management
13 Frank	25 EFL* activities	45.2	31.9	23
14 Jennifer	26 EFL activities	31.6	36.8	31.6
	MEAN	38.4	36.8	27.3
	MEAN**	52.7	47.3	N/A

* Equine Facilitated Learning.

** Percentage totals of styles observed, disregarding time in management.

These two observations of coaches, Frank and Jennifer, similarly identified a variation of times spent in Style A (Command) or Style B (Practice) to that of Observations 1 to 24. However, in these observations, the range of Style A (31.6% to 45.2%) and of Style B (31.9% to 36.8%) was less than that of the first group of coaches observed. A lesser variation may be expected from such a small dataset from one specific sport, which has a mean of 52.7 % of time spent in Style A and a mean of 47.3% in Style B. Nonetheless, these percentages are similar to results from the first 24 observations where times spent in either teaching style, Style A or Style B, were also recorded as relatively even percentages. Although not generalisable, the results indicate that there was little difference in the teaching styles selected by participants across all of the equestrian sports. The results also indicate that none of the participating coaches used teaching styles of discovery learning from the production of new knowledge cluster, but instead they only used direct teaching methods from the reproduction of known knowledge cluster. Teaching styles for discovery learning and student-centredness are promoted in Game Sense (den Duyn, 1997; Light, 2013) and EFL (Hallberg, 2008). Thus, the results suggest that equestrian coaches are not using teaching styles that would be suited for teaching Game Sense and EFL.

4.2.3. Comparison of Survey questionnaire and Observations A

Results from the Survey questionnaire and Observations A were used to compare coach perceptions of teaching style use with researcher-observed teaching style use. The survey results indicate that equestrian coaches believed they frequently used a range of three Spectrum teaching styles: Styles A (Command), B (Practice), and F

(Guided discovery). However, only two Spectrum teaching styles were observed in their lessons: Styles A and B. This difference suggests that there is a discrepancy or divergence between how equestrian coaches perceived they teach compared with how they were observed to teach. Also significant is that by using Styles A, B, and F, coaches believed they taught from both the production of knowledge and reproduction of knowledge clusters of Spectrum teaching styles. By contrast, observation results of Styles A and B indicated that coaches may only be teaching from the cluster where known knowledge is reproduced by students, rather than being created.

4.2.4. Summary of results: Observations A

Using Mosston and Ashworth's (2008) Spectrum as a guiding framework for implementing and recording the observational data in Observations A has provided valuable information about the teaching styles used in equestrian sports. This dataset has addressed the second research question, RQ 2: "What observable teaching styles do equestrian coaches use in their coaching practice?" Additionally, comparing the results from Observations A with those from the Survey questionnaire, as a form of triangulation, has extended the existing baseline knowledge about equestrian coaches' declared teaching styles.

The overall results from Observations 1 to 26 indicate that equestrian coaches only used Style A (Command) and Style B (Practice) in their teaching. From the first 24 observations, Observations 1 to 24, Styles A and B were observed as being used in almost equal proportions, with the mean percentage slightly higher in Style B (51.4%) than in Style A (48.6%). Similar indications were noted in observations of two additional lessons, Observations 25 and 26, where coaches were teaching EFL activities. These indications highlight that, in the context of the Spectrum, there may be little difference in the teaching styles used in EFL compared to those used in other equestrian sports. This may also suggest that equestrian coaches already possess the teaching skills that they need to teach EFL activities.

The comparison of results from Observation A with those of the Survey questionnaire indicate a possible difference between the coaches' and researcher's interpretations of Style F (Guided Discovery). The coaches believed they used this teaching style, whereas the observer did not believe this to be the case. The

comparative result is important because coaches in Australia are encouraged to use a range of teaching styles, including both traditional and contemporary forms of teaching (Pyke, 2001; ASC, 2006). The difference in perceptions may parallel the differing interpretations of Style F (Guided Discovery) and those of guided discovery or discovery learning from other educational sources in sports, such as Game Sense (den Duyn, 1997; Light, 2013). It was apparent that equestrian coaches believed they taught by using forms of discovery teaching in addition to traditional forms of direct teaching. In contrast to the indications given in Observations A only, this difference could be interpreted as indicating that identifying how equestrian coaches teach needs to be further explored beyond the lens of the Spectrum's Style F (Guided Discovery).

While using the Spectrum to explore how equestrian coaches teach produced some useful results, its use did not permit consideration of the role of the horse. As the Spectrum results may demonstrate, it is possible that equestrian coaches select particular teaching styles based upon the needs or requirements of the coach and student without considering those of the horse. However, the limited information on the coaches' role in teaching equestrian sports (Cumyn, 2000; Wolframm, 2012) would indicate that such a conclusion is unlikely. Alternatively, it is possible that the horse is considered in how the equestrian coach teaches, but that such a consideration is not captured with the Spectrum-based observation instrument. For the coach who considers the horse, other aspects of teaching beyond the Spectrum are being implemented. Specifically, observations that are based on the Spectrum limit the data collection and analysis to only the coach and student decision-making. Consequently, other methods of research were required to better identify when and how the horse was contributing to how the equestrian coach was teaching in these lesson observations. More information on how equestrian coaches teach was elucidated by collecting additional data to extend what was originally collected as part of Observations A, and by talking with people who had participated in observed lessons about teaching equestrian sports.

4.3. Observations B and Participant Interviews

In this section, results are presented from the integrated analysis of qualitative data collected during Observations 1 to 24 from Observations B, and Interviews 1 to 8

from Participant interviews. These integrated results have been generated from two complementary datasets that were combined and analysed as a whole. The data were analysed and organised as three broad categories, which were based on whether aspects of the observed teaching and learning activities in equestrian sports were interpreted as being either the same, similar, or different from comparative aspects found in general sports pedagogy. The three categories are labelled as Category 1 (Same), Category 2 (Similar), and Category 3 (Different), and hold a total of seven themes, Themes 1 to 7 (Table 4.15). The themes are grouped according to how the observed activities within the proposed concept of Equestrian Sports Pedagogy (ESP) could be characterised in the thematic analysis. Each theme indicates either that sometimes teaching in equestrian sports is like that of other sports, or sometimes it is not like other sports at all. It was hoped that, in particular, the results grouped under Category 3 (Different) would help to differentiate equestrian teaching styles or practices from those of more general sports pedagogy. These findings would help to specifically address the third research question, RQ 3, by identifying some of the ways that horses may contribute to teaching in equestrian sports.

Table 4.15. Categories, themes, and sub-themes show that aspects of ESP is perceived as the same, similar, and different from aspects of pedagogy in other sports.

Category	Theme	Sub-theme	Theme and Sub-theme Description	
1	Same as general sports pedagogy in various aspects of teaching.	1*	Equestrian sports pedagogy is the same as general sports pedagogy. Sub-themes include: Matching teaching styles and student needs, Different definitions of teaching styles, Associations of teaching styles and student-centredness, Associations of teaching styles and teaching paradigms, and Value of both direct and discovery teaching styles for effective student learning.	
2	Similar to general sports pedagogy in cultural, social, and emotional activities.	2	Cultural indicators evident in equestrian sports. The quick-release knot as a cultural indicator.	
		3	Social learning happens in equestrian communities. There is a progression of learning in a social community.	
		4	Emotional connections happen with horses. Patting the horse can establish an emotional connection.	
3	Different from general sports pedagogy in that the role of the horse is important in ESP.	5	Teaching and learning equestrian and equine safety is essential in equestrian sports.	
			1	Student's learning with the horse happens away from the coach.
			2	Student's personal competencies are developed while spending time with horses.
			3	Developing and retaining a high level of safety awareness is important with horses.
		6	4	Students learn equestrian and equine safety from others.
				Horses do impact on how decision-making is perceived in equestrian sports pedagogy.
			1	Horse as a decision-maker.
		7	2	Coach as a decision-maker.
			3	Complex and dynamic interactions happen with horses.
				Adaptive equestrian coaches respond to the horses' behaviour in addition to that of the student.
	1	Coach as an interpreter of the language of the horse, and a translator of that language for the student.		
	2	Coaches' language as indicator of their ability to translate and interpret the communication between horses and students.		
	3	Educating coaches to be adaptive teachers.		

* Sub-themes of Theme 1 are too numerous to list in the table.

Category 1 highlights ways in which various aspects of ESP were perceived as the same as the pedagogy in other sports where the horse is not a participant. The sub-themes of beliefs or activities, grouped as Theme 1, relate to various interpretations

of the observed or recorded teaching and learning interactions between the coach and student, without involving the horse. Although these sub-themes are identified in the context of equestrian sports, the topics or issues are also prominent in general sports pedagogy literature in regard to the interactive coach and student dyad (Pyke, 2001: ASC, 2006). Thus, these pedagogical topics from equestrian sports are directly comparable with those of other sports, and likely dealt with in the same ways. All sub-themes identified in Theme 1 may support some of the earlier results that aligned with addressing RQs 1 and 2 where the horse was not considered. However, as they do not contribute to addressing RQ 3, no sub-themes of Theme 1 will be presented here.

4.3.1. Category 2: Similar to teaching general sports

Category 2 highlights occasions where particular aspects of ESP were perceived as similar to those in general sports pedagogy in cultural, social, and emotional learning activities. It differs from Category 1 because the activities and participant comments have been interpreted as representing ways that teaching equestrian sports is contextualised by the presence of the horse. The three themes in Category 2, Themes 2 to 4, generally refer to data reflecting interactions between coach, student, and horse, and represent some of the cultural, social, and emotional aspects of ESP, respectively. Although the data analysis revealed that there were other recognised dimensions of learning common in education, for example, physical, cognitive, mental, intellectual, moral, or ethical (Bloom, 1976; Krathwohl, 2002; Mosston & Ashworth, 2008), the cultural, social, and emotional aspects of pedagogy were perceived as more strongly evident in the research.

The interpretations presented in these themes were drawn from the researcher's knowledge about the context of equestrian sports, of keeping a horse in an equestrian centre, and of how that may influence the learning that takes place. An equestrian centre can be thought of as a community of practice (Lave & Wenger, 1991, 1998), where learning is situated within authentic cultures, contexts and settings (Lave & Wenger, 1990). Equestrians have opportunities for social learning (Bandura, 1977) and peer learning (Boud, Cohen, & Sampson, 2014). Students are able to advance their learning through collaborative, social interactions to create a social construction of knowledge. As peers, they learn from interacting with each other through

language and shared activities. When a novice student is working with a coach, it is possible to interpret their learning as a “cognitive apprenticeship” (Brown, Collins, & Duguid, 1989). This type of learning environment is where the methods and traditions of equestrianism are authentically passed down from an expert to the student as a form of socio-cultural learning.

4.3.1.1. Theme 2: Cultural indicators evident in equestrian sports

Data from the observation notes and interviews highlight instances where culture is maintained through social learning in these equestrian communities. Forms of culture are recognised in sports (Schirato, 2007). Theme 2, as a cultural theme, contains only Sub-theme 1, which refers to the quick-release knot as an indicator of culture. At all seven of the equestrian centres where teaching was observed, at some stage, there were horses “tied up” with a quick-release knot to keep them secure and easily untied. Equestrian centres, or stables, are recognised as cultural spaces (Gilbert, 2014). Overall, two main different types of the quick-release knot were observed to be in use, which was perceived as representative of the prevailing type of coach education at each centre. These variations of the quick-release knot were discussed with participants in three interviews (Interviews 5, 6, and 7).

In Observation 3, one lesson objective was for students to learn how to tie up a horse safely (DET, 2016). A quick-release knot is used as part of a safe equestrian procedure, so that both the horse is held securely and, if needed, the rope can be quickly untied. Although the observed activities in themselves could be interpreted simply as practising good horsemanship, it was also possible to attribute cultural connotations to the exercise as a result of the observed variations of the knot that were used in different equestrian centres (Researcher notes, Observations 1 to 24). Each participant’s “correct” variation of the knot was exclusive to each equestrian centre, and could likely be traced back to the coach education provided by either Equestrian Australia (EA) or Pony Club (PCAA). Maw (2012) similarly observed cultural characteristics of teaching equestrian sports when she queried one coach’s educational background. Although that particular coach had been teaching in Australia for many years, Maw (2012) perceived, correctly, that the coach had been trained in the UK through the British Horse Society (BHS) system. The “BHS style”

was correctly interpreted by Maw, due to her own familiarity with the British accreditation processes for equestrian coaching.

One coach, Andrea, was teaching a student, Jamieson, how to tie up a horse safely at the Carrington Equestrian Centre (Researcher notes, Observation 3, 6th July, 2013) with a PCAA version when, at this centre, only the EA version was taught. Interview data affirmed that this coach had learnt that same knot at both Pony Club and then at TAFE, and that she realised that her knot was not the same as that taught at the EA centre. A connection between Pony Club and TAFE was evident, as she explained about the knot she already used:

It is exactly the same knot that she taught us [at the new centre], except that I learnt to tie up around the post [at the previous centre], where you don't have the loop already. So that first little loop that I make is already made in the knot that she taught me. But because it is around the pole, it just takes that bit extra to get it around the pole when the horse pulls back. (Andrea [coach], Interview 6, 26th July, 2013)

Interview data from two participants confirmed that after this lesson they only used the EA version of the quick-release knot. These data shows that in at least one aspect of their equestrianism, both had shifted from operating in a Pony Club culture to operating in an EA culture. Andrea said: "This is my new favourite knot, and I don't use anything other than it ... It is the only knot that I would recommend now" (Andrea [coach], Interview 6, 26th July, 2013) as did Jamieson: "Yes, I have been using that knot actually. It is an excellent knot! It's easy, it's effective. Yes, and it was easy to learn" (Jamieson [student], Interview 5, 17th July, 2013). Cultural change through social learning was further evident in the interview data, where Andrea said "I showed my sister the knot. She likes it, she uses it, and she uses it all the time (Andrea [coach], Interview 6, 26th July, 2013).

Observation data from another equestrian centre, the Butler RDAA Centre, similarly indicated cultural variation related to this task. The horses at this centre were tied up with the Pony Club version of the quick-release knot (Researcher notes, Observation 5, 5th August, 2013). Interview data relating to this observation confirmed that the Butler Centre used the PCAA knot because, "Well, that is just the RDAA way" (Janet [coach], Interview 7, 5th August, 2013), which is based on the content of the

RDAA (2015) coaching manuals. This response may reflect a close cultural connection between PCAA and RDAA in terms of their coach education programs.

A similar variation in tying up a horse safely was observed at a third equestrian centre. Observation notes show that, “the Grand Stables’ version of the quick-release knot includes multiple loops through the lead rope” (Researcher notes, Observation 15, 4th September, 2015). It was assumed by the researcher, that this version of the knot was used for safety reasons, as these horses were not individually yarded. Their use of this knot may reflect how the culture of this equestrian community has evolved due to this specific characteristic of their learning environment. It was clear from the data that there was more than one way to tie a quick-release knot, and that the choice of knot may depend on the source of education and its established culture, as used by the individual equestrian coaches or riding establishments.

4.3.1.2. Theme 3: Social learning happens in equestrian communities

Data from the observation notes and interviews provided other instances, in addition to those associated with cultural learning, that indicate social learning happens in equestrian centres. In the data from observations at all seven equestrian centres, there were 14 observed instances of social learning occurring as part of group teaching, which included more than two students (Researcher notes, Observations 1 to 24). It was perceived that learning in such a social setting offered multiple opportunities for learning. Both learning in a social context from others as social learning (Bandura, 1977) and learning from peers as peer learning (Boud, Cohen, & Sampson, 2014) was observed by the researcher. Data from several interviews supported this interpretation (Interviews 2, 5, and 8). Therefore, it was apparent that opportunities for learning in a social setting were available at all of the equestrian centres, and on a range of topics associated with developing equestrian skills of effective horsemanship.

A social context of learning in ESP was affirmed in interview data by Jamieson, who said: “Yes, we [Jamieson and Andrea] were just talking the other day about how effective the quick-release knot is, and how we are both using it now” (Jamieson [student], Interview 5, 17th July, 2013). Again in the context of learning good horsemanship with the quick-release knot, it was noted that in learning new

equestrian knowledge, “the new volunteers learn from the experienced volunteers”, and the volunteers themselves explained that “socialising is an important part of volunteering here and in learning how things are done” (Researcher notes, Observation 5, 5th August, 2013). A similar example of social learning was observed at Grand Stables, in regard to tying up the horse safely. Notes from Observation 15 show that,

All of the students saddle up horses in allocated places in the stables. The older, or more experienced students, show the new students how to do all of the tasks associated with saddling up the horse, including teaching them how to tie the horse up safely. (Researcher notes, Observation 15, 4th September, 2015)

Other tasks were associated with the saddling up procedure that newcomers learnt socially rather than formally. These social activities included activities before riding: catching, unrugging, and grooming, or brushing the horse, and after riding: washing, brushing, rugging and feeding the horses. These data highlighted that the social activities associated with learning how to tie up a horse safely were complemented by additional opportunities of learning through social activities within equestrian communities. Grand Stables was perceived as a community of practice (Lave & Wenger, 1991, 1998) as all members had a shared commitment to their horses and to practicing effective equestrianism.

Another example of the social aspect of student learning was observed with a group of students at Grand Stables, where there was “excitement in the group when one of the students was advised that they had progressed to a stage where they could ride Red Socks (a more advanced school horse) for their next lesson”. The other students congratulated the advancing student. Then one of them asked the coach, Kerry: “Am I ready to ride Red Socks too?” to which Kerry replied: “Soon” (Researcher notes, Observation 16, 4th September, 2015). On these occasions, such as unsaddling after a lesson, which generated social interactions, encouragement, and inter-group discussions, the students were learning from each other in a social environment (Bandura, 1977; Boud, Cohen, & Sampson, 2014). However, there was an element of competitiveness within the learning in this context. Training for competitions is often part of learning equestrian skills, as indicated by these students’ goals to improve their riding. On this occasion, their competitive learning could be perceived as part of

the authentic culture, context, and settings of situated learning (Lave & Wenger, 1990) that characterise equestrian centres such as Grand Stables. As such, the evidence from the observational and interview data reveals that an effective equestrian coach can recognise the advantages and disadvantages of these social interactions in terms of how they provide support, encouragement, and effective learning for their students.

Interview data from the coach's perspective on the topic of how these students learn affirmed what was previously interpreted as evidence of social learning. As one coach said: "As the new students become experienced students, they can then repeat the procedures when teaching another group of new students" (Kerry [coach], Interview 8, 21st September, 2015). Data from another interview also suggests that in these communities, social learning could occur in formal lessons, then extend to informal occasions, and from there to opportunistic learning opportunities simply by being in that type of environment. This includes competitive environments, which are often a normal part and a main focus of some equestrian centres. A desire and ability to learn from others was affirmed by Coach Rachel who said that being surrounded by other riders and riders of different levels helped her learn about horses and contributed to her desire to be a better coach (Rachel [coach], Interview 2, 29th July, 2013).

4.3.1.3. Theme 4: Emotional connections happen with horses

The data shows that, in the observed lessons, establishing an emotional connection with the horses through patting was specifically encouraged by three coaches: Janet, Lucy, and Kerry, (Researcher notes, Observations 1 to 24). Two of the three coaches were interviewed, and confirmed the importance of the pat (Interviews 7 and 8). Additionally, many of the students in all of the lessons were observed giving their horse an occasional pat of encouragement or appreciation (Researcher notes, Observations 1 to 24). Data from one observation (Researcher notes, Observation 2, 6th July, 2013) and one interview (Melissa, [student], Interview 4, 24th July, 2013) highlighted the link between establishing an emotional connection with the horse and developing confidence with horses. Additionally, data from one interview indicates

how the emotional connections established between students and horses can have an emotional impact on others (Interview 7).

People develop deep, emotional connections to horses (McCormick, McCormick, & McCormick, 2004), and patting the horse, as part of gaining trust and confidence to manage the horses, appears to be part of establishing that connection. For example, interview data affirmed that, at one riding establishment, patting horses was encouraged for everyone (Janet [coach], Interview 7, 5th August, 2013).

Observational data showed that one coach, Lucy, insisted on many pats for the horse in the training process, and extended the appreciation of achievement to the student themselves by saying “Give your horse a pat, give yourself a pat” (Researcher notes, Observations 20 and 21, 5th September, 2015). Similarly, another coach, Kerry, encouraged the students to pat their horse as a reward within the training program by often saying: “And remember to give him a pat” (Researcher notes, Observation 16, 4th September, 2015). Speaking about this issue, this coach affirmed that the pat needs to become an “automatic appreciation of the horse by the student” (Kerry [coach], Interview 8, 21st September, 2015). The pats observed and encouraged in these lessons are the same kind of appreciative pats given by people to their horses at all levels, from first meetings to elite competitions such as the Olympic games, showing that connecting with horses in this way is widely known and an accepted part of equestrian culture.

It was apparent from the data that students were building their self-confidence with that patting while they were spending time with horses in a safe environment. In Observation 2, it was noted that student Melissa “pats her horse, Sunshine, often” throughout the unsaddling process (Researcher notes, Observation 2, 6th July, 2013). Interview data confirmed that she had an emotional connection to her horse when asked what she thought of him, she responded: “He is amazing!” (Melissa, [student], Interview 4, 24th July, 2013), confirming the earlier sense that “it seems like pats are a physical form of social connection of a person to a horse which can develop into an emotional connection” (Researcher notes, Observation 2, 6th July, 2013). Melissa went on to confirm that her confidence had grown, by saying: “Yeah, I am just getting better at the little things” (Melissa, [student], Interview 4, 24th July, 2013).

However, it was also apparent that different students built that confidence at varying speeds and were comfortable in operating at what appeared to be different levels of risk. For example, Melissa said that she voluntarily focused on slowly improving her riding of the three loop serpentine by herself with her horse over the next few days (Melissa, [student], Interview 4, 24th July, 2013). By contrast, it was evident that Jamieson, another student, was already more confident and therefore more open to learning from others than Melissa. Observation data shows his willingness to participate to help others confidently (Researcher notes, Observation 3, 6th July, 2013). This was confirmed in later interview data, where he said that he was “a bit more confident than before. Actually, I have got a lot more confidence now” (Jamieson [student], Interview 5, 17th July, 2013). Jamieson confirmed that he was quite confident in catching and tying up any of the horses at Carrington in the correct manner, and he had done so since that previous lesson. It was apparent that Jamieson was naturally able to develop equestrian confidence at a faster rate and in a different way than Melissa’s approach to confident learning. It was also evident from the data that there is a risk in equestrian sports of students developing confidence at a rate that is faster than their actual capability develops. Although it seemed that student Andrea could make sensible judgements on some occasions, there was a danger of being over-confident:

I have all the confidence in the world in horses. I think I trust them a little bit too much, but if you are going to go in there with a negative attitude, like “They might kick me” or “They might bite me” and things like that, chances are they are going to do it. But if you walk in with all confidence and say [to the horse] “Just get over here, and stop being a rat”, I find that it works much better. (Andrea [coach], Interview 6, 26th July, 2013)

Building confidence appeared to be an individualised learning competence for students. Melissa’s progress was slow and she was happy to work on her own with her horse to consolidate her learning in her own way. Jamieson liked to be supported by others in his learning with the horses, and Andrea was happy for others to show her how to do the required tasks of teaching the horse. Andrea was already confident, perhaps overly confident relative to her ability, in working safely with horses.

Additional data showed how an emotional connection established in a student and horse partnership was extended to include parents and the coach. One coach, Janet, talked about how much some students have improved from spending their time with the horses, to the extent that one student's parent commented to Janet, "Oh, look this [riding horses] is amazing for my child" (Janet [coach], Interview 7, 5th August, 2013). The connection had indirectly increased parent satisfaction. Janet had received plenty of feedback from parents and teachers about many of the students to affirm that "their behaviour at home has improved so much - they can hardly wait to come to the horses" (Janet [coach], Interview 7, 5th August, 2013). Additional interview data affirmed that for Janet, seeing the improvement in the students was also emotionally satisfying. "I guess it is the satisfaction and joy that I get out of seeing the students improving that makes this coaching role definitely worthwhile" (Janet [coach], Interview 7, 5th August, 2013). These data reinforce that in addition to the emotive experience for the student, emotion could also be experienced by people who were observing a student and horse partnership in action.

4.3.2. Category 3: Different from teaching general sports

Category 3 highlights the learning and teaching activities created from an equestrian sports perspective that differed from those found in general sports pedagogy due to the role played by the horse. Three themes in Category 3, Themes 5, 6, and 7, foregrounded the most important aspects of ESP to consider in identifying how horses influenced teaching and learning in equestrian sports.

Themes 5 to 7, with a total of ten sub-themes, generally referred to interactions either between the student and horse, or the coach and the horse. Data shows that the horse contributed to the teaching and learning that occurred in all of these interactions. Theme 5, with four sub-themes, represents the observed and reported equestrian sports activities related to maintaining a level of safety around horses, which is paramount in all forms of equestrian sports. Theme 6, with three sub-themes, highlights occasions where it appeared that the horse had an impact on how decision-making was perceived in ESP. Theme 7, with three sub-themes, includes observations of, and participants' beliefs about, how adaptive equestrian coaches respond to the horse's behaviour, as well as to that of the student.

As stated previously, interpreting aspects of the horse's behavior and perceptions on these occasions may require the expertise of a specialist researcher who has equestrian knowledge, as some of the subtleties of language from the horse, *Equus*, may not be easily observed or understood by those who are unfamiliar and inexperienced with horses. This category highlights, to a greater extent than in other sports, the idea that equestrian coaches must ensure that students learn to be safe with horses, particularly when the coach is not present. This category will also present instances where it is feasible to consider the horse as a decision-maker in the pedagogy of equestrian sports.

4.3.2.1. Theme 5: Teaching and learning equestrian and equine safety is essential in equestrian sports

Theme 5 incorporates four sub-themes, 1 to 4, which are linked to each other through the commonality of safety requirements associated with teaching and learning in equestrian sports. Having procedures and protocols in place helps to ensure a safe equine and equestrian environment (Finch & Watt, 1996). The data presented expresses equestrian perceptions regarding the importance of teaching and learning of both equine and equestrian safety in equestrian sports. Sub-themes 1 and 2 are concerned with recognising skills that are learned while spending time with horses, in addition to the physical skills associated with riding. This includes developing personal skills or competencies such as those acquired through social and emotional learning. Sub-themes 3 and 4 focus on learning and teaching activities that ensure safety when interacting with horses, and including that a need for safety extends beyond the lesson. Coaches are responsible for teaching safety so that students know how to remain safe with their horse when the coach is not present (EA, 2015; OHC, 2015).

Sub-themes 1 and 2 were initially generated from data in Observation 2 which was focused on a learning and teaching incident where Melissa and Bridget were unsaddling their horses in the yard enclosures after their lesson with Claire, the coach (Researcher notes, Observation 2, 6th July, 2013). These students implemented safe practices. When the students were unsaddling their horses, each horse was tied up in a safe manner, the saddle and bridle were removed, and then the horse was groomed (Researcher notes, Observation 2, 6th July, 2013). In this instance, stirrup irons had

already been “run up” the stirrup leathers, and the horse was tied up with a quick-release knot, all of which provided evidence of the employment of safe practices in equestrian situations. The coach was not observed as part of the unsaddling procedure, only the student and their horse was present: a situation which does not occur in most other sports. The ways that students complete the tasks required for a safe unsaddling procedure highlights the role of the equestrian coach in developing the safety-oriented skills of the student. Therefore, students can independently manage themselves and their horses in a safe way. The data analysis results also suggested that requirements for safety with horses extended beyond the riding arena.

4.3.2.1.1. Sub-theme 1: Student’s learning with the horse happens away from the coach

Data organised under Sub-theme 1 came initially from researcher observations of one student, Melissa, when she was unsaddling her horse after her lesson with Claire, the coach (Researcher notes, Observation 2, 6th July, 2013). Her experiences of learning with the horse away from the coach were evident in the interview data (Interview 4). Additionally, two coaches specifically mentioned how they taught to establish an emotional connection between student and horse so that students developed the confidence to spend time alone with the horse away from the coach (Interviews 2 and 3). However, it is likely that all students in the observed lessons, except for Observations 8 and 9 were at one time or another with their horses, while away from the coach (Observations 1 to 24). Thus, the opportunity to learn with or from the horse was perceived as commonplace in many equestrian centres.

Notes on the process of unsaddling reveal that Melissa continued to learn important equestrian and personal skills after the lesson, when the coach was not present. Melissa was learning to master the skills of horsemanship. Also noted was the social interaction of student and horse that occurs in equestrian sports, with “lots of physical contact between horse and human in the unsaddling process. Here is the social interaction [of the student] with a non-verbal partner” (Researcher notes, Observation 2, 6th July, 2013). The fact that the student was exposed to potential danger by being with a horse meant that these students needed to be able to manage the horse, and that the coach needed to ensure they had taught the students how to do so. Knowledge of horse behaviour and educating students on safety awareness are

essential in equestrian sports (Finch & Watt, 1996). The coach is also responsible for teaching or training the school horses to be manageable for students (EA, 2015; OHC, 2015).

When interviewed, the data affirmed that Melissa believed she had become more competent in unsaddling the horse. She referred to an earlier occasion when she was “not sure what to do next. Yes, remembering all of those things to do when unsaddling” (Melissa [student], Interview 4, 24th July, 2013). Melissa also referred to more recent experiences in her interview: “When I do the unsaddling now, I am more focused on thinking about the lesson ... because I am used to it all now, yes” (Melissa [student], Interview 4, 24th July, 2013). Melissa had mastered the unsaddling process through repetitive practice on her own, accrued over time. Her knowledge had become embedded in the activity that she was learning, which could be described as situated learning or cognition (Brown, Collins, & Duguid, 1989). When the process became more automatic, there was room for Melissa to think about improving her physical riding skills by reflecting on the previous lessons in the arena.

Analysis of observational and interview data suggests that the learning of some skills is occurring for the student away from the riding arena. This finding was affirmed by the coach, Claire, who explained: “Well, we actually let the students groom and saddle the horse up before they ride ... so that they can get that bond with the horse, and then I would bring them into the riding arena” (Claire [coach], Interview 3, 16th July, 2013). Another coach, Rachel, also recognised that students learn in the time before and after the lessons. As Rachel said of her students, “they learn a little bit of horse behaviour ... and they are grooming and saddling, that sort of thing ... so that is developing their confidence a little bit” (Rachel [coach], Interview 2, 29th July, 2013). Learning how to groom horses is an effective way of establishing connections between people and horses (Gage, 2012). The comments from coaches highlight that coaches recognised that students learned more than riding skills, and that they could develop personal skills such as building confidence, when they spent time with horses away from the lesson.

4.3.2.1.2. Sub-theme 2: Students' personal competencies are developed while spending time with horses

Data organised under this sub-theme highlight coach perceptions (or beliefs) of the personal benefit to students of their experiences with their horse. In the interview data, one coach, Claire, voluntarily and explicitly spoke at length about the personal benefits she perceived accrued from spending time with horses (Interview 3). Other coaches had implied they understood the social and emotional benefits of being with horses for both themselves and others. For example, previous data on building confidence by spending time with horses was sourced from various interviews (Interviews 2, 3, 4, 5, and 6). Claire spoke passionately about the impact of her learning with horses on how she lived her life. She explained that this is, “because horse-riding is not just about riding, it’s about being part of all groups of life, it’s about caring for others, helping them and supporting them, in your family, in your job” (Claire [coach], Interview 3, 16th July, 2013). Claire believed that students were able to improve their personal skills as a result of spending time with horses:

That’s because you will have a number of people come up who haven’t ridden a horse. Yes, and they will come with really low esteem, and then with a couple of weeks, their esteem will go up, and their confidence in everything will go up. And I see that constantly. (Claire [coach], Interview 3, 16th July, 2013)

Claire explained that for some students, simply being with the horse was enough to help them learn “self-esteem and confidence” (Claire [coach], Interview 3, 16th July, 2013), because the horse “just lets them take the lead and he does what he is asked to do” (Claire [coach], Interview 3, 16th July, 2013). Many of Claire’s students had no previous experience with horses. Her perception that horses help people to develop positive personal skills is supported by the work of Hauge (2014) who found that self-esteem and self-efficacy increased in at-risk adolescents who participated in activities with horses. Claire said that the horse responded to the student, “with a free spirit: like he’s not forced into doing anything, he [the horse] knows what to do: it’s just being able to teach the person about what he thinks and feels” (Claire [coach], Interview 3, 16th July, 2013).

It was apparent from the interview data that Claire could relate to the students' personal development stories from her earlier experiences of observing and coaching others. Claire said:

Well, I was basically working in an alternative girls school program, and everyone who went to the equestrian centre ... every day they would come and ride and I would see a complete difference in everyone. (Claire [coach], Interview 3, 16th July, 2013)

Claire explained that she thought it would be a great idea to become part of the riding program, and that she subsequently experienced these personal benefits herself from spending time with horses. Claire had observed the same effective development of personal competencies in others. As she said, "Some of them [students] have had a bad day [before they come], and you just want to lift them up and make them happy so they come back and they just fall in love with the horses" (Claire [coach], Interview 3, 16th July, 2013).

These results indicate that Claire perceived the horse to be an important member of the equestrian partnership, in that if she was teaching, she was aware of how the horse had a positive, emotive effect on the student, and she was mindful of how the horse's attitude was important in the partnership. There was no observational data of Claire's teaching that offered comparable perceptions of teachings, as provided by the interview data.

4.3.2.1.3. Sub-theme 3: Developing and retaining a high level of safety awareness is important with horses

Data that contributed to Sub-theme 3 suggest that having teaching practices and procedures for knowing equine and equestrian safety was an essential requirement in equestrian centres. Notes from observations of lessons at all equestrian centres showed that there was a high level of safety procedures and practices implemented at all equestrian centres (Observations 1 to 24). No major issues of safety concerns were noted. An example of implementing safe equine practices is the use of the quick-release knot, as discussed in Theme 2. In this sub-theme, there is another example of how safety in practice was implemented, taken from data in one interview (Interview 4). Data shows how students learned to realise that being aware

of the horses' behaviour was important for their own safety. Additionally, data from two interviews show that, as part of their role as a coach, they knew that it was their responsibility to keep both the students and the horses safe (Interviews 1 and 3). Although aspects of safety were not explicitly discussed in the other interviews, teaching with a level of safety for both students and horses is a pre-requisite in equestrian coach education (EA, 2015; OHC, 2015).

Interview excerpts presented here in Sub-theme 3 build on the data analysis organised under Sub-themes 1 and 2. It supports the finding that the coach, student, and horse partners all contribute to establishing safety for equines and equestrians. The following excerpt from Melissa illustrates how students learned to develop an awareness of the horse's behaviour, as an important aspect of staying safe. As she explained:

At the moment, I am just learning to be around the horses. Before, I didn't really know any of the signs that one horse was getting angry, I would have not known to get out of there. Like this morning, I was getting Starshine [her horse] his feed and he was not happy. And before I would not have known that his ears were back, so just observing them [the horses] and just be around them and see their habits, it's the best thing. (Melissa, [student], Interview 4, 24th July, 2013)

Interview data also showed that the coach, Tracey-Lee, considered it to be essential for equestrian coaches to take the horses' behaviours into consideration when they were teaching. She explained that, "the welfare of the horse and safety are higher priorities than the student coaches, but these coaches should be at the level where they are already assessing the welfare of the horse and safety" (Tracey-Lee [coach], Interview 1, 11th July, 2013). This response demonstrates that the students needed to be aware and to manage the individual horse's behaviour, and that the coach was responsible for creating this safe level of competence in both the horse and the student. Retaining safety for students and for horses is a major responsibility for equestrian coaches in a potentially dangerous environment. Part of this training for safety is that coaches need to take into consideration that, at times they may be present with students and horses, and, at other times, they are not present. It is their responsibility, to some extent, to extend their teaching by establishing safe procedures, so that students and horses are safe when they are not physically present.

Analysis of observational and interview data reinforces that coaches assessed competencies of both horses and students when partnering them for learning. Horses, themselves, present differing levels of danger to students. For example, in her lesson, Melissa was partnered with the horse, Starshine (Researcher notes, Observation 2, 6th July, 2013). Starshine was a school horse with a reputation of being quiet and reliable, safe enough to “forgive” the mistakes that Melissa might make in learning how to master the saddling and unsaddling process (Claire [coach], Interview 3, 16th July, 2013) , July 6th, 2013). Claire had commented that Melissa may not be in the same safe space if she was saddling or unsaddling a less-quiet and reliable horse, such as Charmer (Claire [coach], personal communication, 6th July, 2013). In comparison, Charmer would be more likely to react physically to any mistakes that Melissa might make. This was likely due to such factors as the younger age and less experience of Charmer compared to Starshine. This situation would be potentially dangerous for both student and horse. In keeping Melissa safe, conversational data from coach Tracey-Lee confirmed that Melissa would partner with Starshine until she was assessed as being competent enough to progress to working with another, more responsive and sensitive horse like Charmer (Tracey-Lee [coach], personal communication, July 6th, 2015).

4.3.2.1.4. Sub-theme 4: Students learn equestrian and equine safety from others

Data from researcher observations and participant interviews that have contributed to Sub-theme 4 suggest that necessary knowledge of equestrian and equine safety can be learned from others, including from both people and horses. Themes in Category 2 (Similar) explored how people learned from other people in equestrian communities in a similar way to social learning in other sporting communities. It was mentioned in the previous sub-theme (Sub-theme 3) that there was a high level of safety procedures and practices in place at the equestrian centres (Observations 1 to 24). Data presented in this theme is an example of how those processes and protocols for equine and equestrian safety were learned from both other people and from being aware of the horses’ behaviours. This time the student learned about managing horses safely and directly from their interactions with the horses.

In the interview data from Claire, the coach, it was apparent that she had played a role in teaching student Melissa to be aware of her horse's demeanour, and, in addition, to be aware that other horses may not behave in the same way. It was also apparent that the horse's behaviour had contributed to how and what Melissa had learned about horses and how they behave, as in this excerpt:

Melissa is learning, more and more, that horses are unpredictable animals, and you can't predict in any way how they are going to react to something. So she knows that she has to be very careful and aware around them: all horses. I have taught her how to do that. (Claire [coach], Interview 3, 16th July, 2013)

As an observation of how students learn from each other, it was noted that Bridget, another student, appeared to be modelling Melissa's behaviour in the unsaddling process (Researcher notes, Observation 2, 6th July, 2013). Researcher notes state that Bridget was consistently one step behind Melissa in the process, and that Bridget appeared to be intentionally and discreetly following Melissa's actions in implementing safe procedures. On this occasion, both students and horses were in a safe environment for learning, so that it was not totally necessary for Bridget to fully know the finer points of good horsemanship. Both students were almost totally reliant on the fact that both horses were quiet, well-trained, and reliable school horses.

Notes from another observation indicated that there was a similar process of learning from each other, in order to establish safe procedures regarding horses (Researcher notes, Observation 5, 17th July, 2013). When speaking about activities at the Butler Centre, the coach, Janet, explained:

If someone new comes in, right from early in the morning, then I would try and take them under my wing, and show them how to groom and saddle properly. And then, from then on, I get one of the older, more experienced volunteers to mentor them. (Janet [coach], Interview 7, 5th August, 2013)

This sub-theme reflects the way that these volunteers were mentored by other members in this equestrian community to highlight the role of the equestrian coach in creating a systematic process of managing horses safely. Again, these people were working in the relatively safe environment that came from having quiet, reliable

school horses in the equestrian centre. In these centres, the coach took responsibility to ensure that the horsemanship was conducted in a safe manner, and then trusted experienced volunteers to continue helping new people learn safe standards of horsemanship. However, it must be realised that not all horses are safe and reliable school horses and that in transitioning to a less reliable equestrian environment away from these “schoolmasters”, learning from the horse becomes increasingly important.

In summary, it was evident in all of these researcher observations that students learned how to be safe when with horses, in a range of situations and environments, and that the coaches took responsibility for creating a safe learning environment in their teaching of both students and horses (Researcher notes, Observations 1 to 24). By establishing safe partnerships between the student and the horse, the coach implicitly provided an opportunity to learn equestrian and personal skills with horses away from themselves and the formalities of their lessons. Many of the interviewees portrayed learning and implementing safe practices as a critically important element of how they operated around horses, and recognised that it was imperative for students to learn safe practices (Researcher notes, Interviews 1 to 8).

4.3.2.2. Theme 6: Horses do impact on how decision-making is perceived in Equestrian Sports Pedagogy

From the thematic analysis of the integrated dataset, Sub-themes 1 to 3 in Theme 6 highlight three ways of interpreting the role of the horse in decision-making. Horses make choices in regard to their behaviour and training (McGreevy and McLean, 2012). These sub-themes extend earlier results presented from Observations A, where teaching styles of equestrian coaches were observed and coded using an instrument based on Mosston and Ashworth’s (2008) Spectrum structure. In the Spectrum, only the teacher or student makes the specific key decisions that characterise the teaching styles. However, it was apparent when collecting and interpreting data from Observations B and the Participant interviews, that the horse was capable of making decisions, creating behaviour, and having an effect on how the coach and student responded, hence Sub-theme 1. It was also apparent that when coaches made key decisions, they considered the horse’s behaviour, hence Sub-theme 2. From Sub-themes 1 and 2, Sub-theme 3 was generated, which was focused on instances where coaches, students, and horses interacted in a dynamic manner.

4.3.2.2.1. Sub-theme 1. Horse as a decision-maker

It was apparent in the data from Observations 1 to 26 that the horse could be perceived as a decision-maker, and on some occasions as capable of making or influencing key decisions made, as identified in the Spectrum (Mosston & Ashworth, 2008). This sub-theme is about horses, even those who are well-educated, having the capability to make choices that influence teaching outcomes. However, because identifying decision-making in the observation process is not always clear, only the key decision regarding pace and rhythm is discussed further here, with two examples of observations data providing evidence for Sub-theme 1 (Observations 2 and 22). Nonetheless, if decisions made outside the Spectrum framework are considered, it is apparent that there are countless examples of how horses make choices that dictate their behaviour. For example, there were a few instances observed, particularly in the group lessons with the coach Lucy, where several horses refused to jump over an obstacle when first asked by their rider to do so (Observations 20 and 21). Such behaviours from the horse lead to responsive changes in behaviour from both the student and the coach. This is the type of decision-making that is examined in Sub-themes 2 and 3.

Pace and rhythm

The thematic analysis of data from Observations B indicated that it was not possible for the student and horse to maintain a precise pace in following the commands given by the equestrian coach in Style A (Command). This was particularly evident in Observation 22, where Robert, the coach, was instructing a group of students how to ride in a formation known as Troop Drill. Notes on this observation detail that it was never going to look like a marching band (Researcher notes, Observation 22, 6th September, 2015). This was mostly because the horses were not listening to Robert and the students were not experienced enough to maintain the required precision in the group. In equestrian sports, it is the horse's pace and rhythm that the student can influence, rather than the decision of determining pace and rhythm exclusively belonging to the student. How the horse can impact, or influence, and perhaps contribute to the decisions made on pace and rhythm within the equestrian triad was observed and noted. An example of data collected from Observation 2 is provided, where students, Melissa and Bridget, were riding their horses in the arena when the

coach, Claire, gave the command to “Trot”. It was noted that, “These two students make the transition from walk to trot at different times from each other so they certainly are not matching each other, they are preparing and transitioning in their own time within an acceptable timeframe. The horses appear to have their own ideas about how fast or slow they would like to go today” (Researcher notes, Observation 2, 6th July, 2013).

In equestrian sports, maintaining both pace and rhythm are two distinct tasks, which are then combined (German National Equestrian Federation, 1997). How well this is achieved depends upon the abilities of both student and horse, and is heavily dependent upon the individual characteristics and natural gait of the horse.

Nonetheless, within that ability, there is scope for a horse to decide to steady or quicken the pace. Sometimes, no matter how well-trained both horses and riders are, the horse chooses not to respond in a way that is expected. This equine individuality means that a team of equestrian students riding their horses would rarely, if ever, perform in unison of pace as would be the case in other sporting activities such as synchronised swimming, cheerleading, or a marching band. Despite their lack of synchronicity, the teaching style of the coach on this occasion would have been categorised as Style A (Mosston & Ashworth, 2008) in Observations A of the research despite the differentiating pace and rhythm emanating from horses in the combined student and horse behaviour. This sub-theme reflects the complexity that exists in equestrian sports pedagogy where the teaching process extends beyond the student to include the behaviour of the horse.

4.3.2.2.2. *Sub-theme 2. Coach as a decision-maker*

Data in this sub-theme were sourced primarily from one observation of two coaches and two students and a follow-up conversation with one of the coaches observed in that lesson (Observation 2). Notes taken in Observations B show that it was apparent to the researcher that different key decisions than those listed in the Spectrum (Mosston & Ashworth, 2008) were implicitly being made by the coach, Tracey-Lee. Her decisions were made in regard to the behaviour and competence of both the student and the horse. It was also apparent that the number of key decisions being made by Tracey-Lee, an experienced coach, was higher than the number made by Claire, a novice coach, and that the discrepancy needed to be further examined. In

the lesson, Claire was teaching students Melissa and Bridget how to ride a three loop serpentine in the dressage arena (Researcher notes, Observation 2, 6th July, 2013). Coach educator Tracey-Lee was also present to help Claire with learning and practising how to teach as this was a “Train to Teach lesson. Notes show that while Claire was predominantly teaching, occasionally Tracey-Lee would tell Claire what to do next. It was apparent that Claire was teaching to the prepared lesson plan whilst Tracey-Lee was teaching in response to what she observed behaviourally. Tracey-Lee had a higher level of qualifications and expertise, but the command-giving behaviour of both coaches was categorised as Style A (Command) in Observations A. Data shows that the extra key decisions implicitly made by Tracey-Lee between commands appeared to be, for example, a process of decision tasks: Scan, Observe, Interpret, Visualise, Translate, Evaluate, and Vocalise (Figure 4.1). These decisions all involved a consideration of the horse’s performance and its behaviour in response to the student’s communication through their riding or training aids.

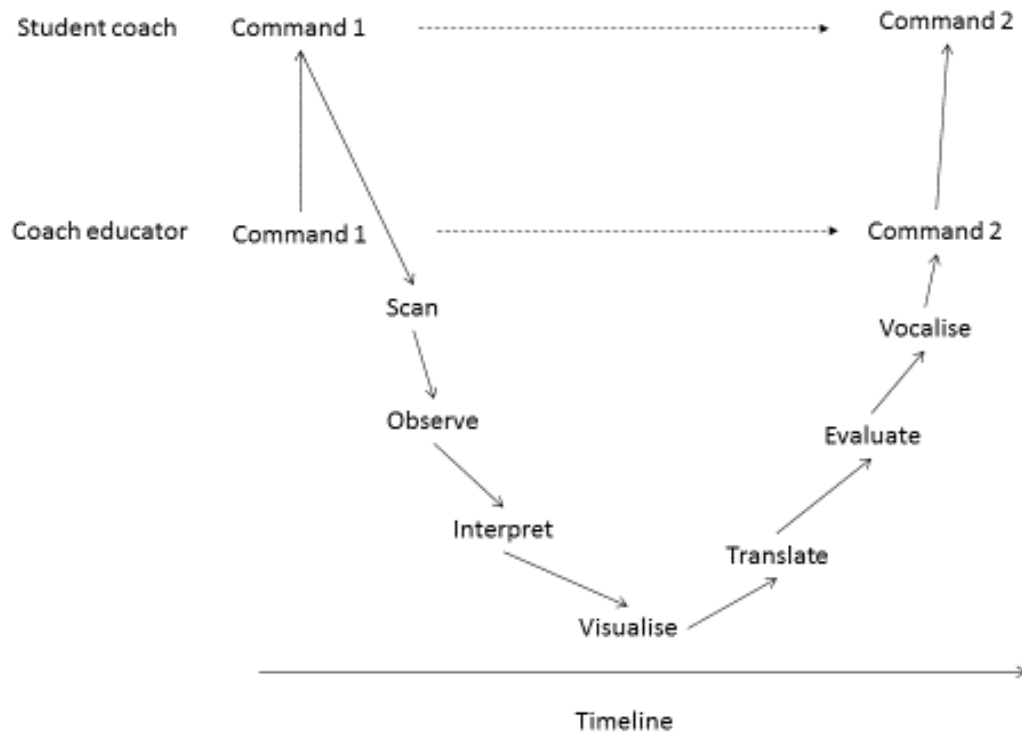


Figure 4.1. Decision tasks made by a coach educator in-between commands made by a student coach in equestrian sports.

Figure 4.1 represents an observed timeline from one command to the next that can be regarded as typical in showing how a coach educator makes more educated decisions than a coach learning to teach (Researcher notes, Observation 2, 6th July, 2013). This pattern of the coach as a decision-maker may appear to be similar in other sports. However, it is unique in equestrian sports because the pedagogical consideration of the coach involves the behaviour of the horse. Indeed, the equestrian coach must always consider the horse's behaviour in any decision-making. Thus, integrating equine and equestrian knowledge is key in equestrian sports pedagogy.

Notes taken from a conversation after researcher observations affirmed that Tracey-Lee believed that her decisions in Figure 4.1 were typical of the increased number and quality of decisions made by a coach educator, compared with those made by a less-experienced or less-credentialed coach (Tracey-Lee, personal communication, 17th October, 2014). Tracey-Lee also explained that due to her extensive equestrian experience, she was better than Claire at reading the horse's movements and responses to the student's actions. It was evident from these researcher observations and conversations that it was the equestrian coach's responsibility to make key decisions based on considering the welfare and safety of themselves, student coaches, students, and horses.

4.3.2.2.3. *Sub-theme 3: Complex and dynamic interactions happen with horses*

Sub-theme 3 represents the multiple occasions where the data analysis highlights complex and dynamic interactions of coaches, students, and horses. Dynamic interactions were observed by Cumyn (2000) who reported visual, audible, and kinaesthetic forms of communication of the equestrian coaching triad in Dressage. Similar forms of interactions were observed in all of the lessons and discussed with all of the participants (Observations 1 to 24 and Interviews 1 to 8). Horses can react or respond differently with different people, or differently with the same people on a different day, or differently with the same people in a different situation. These actions, interactions, and resultant behaviours and reactions can affect the coaching or teaching process. The way in which different students handle different horses in various procedures highlights the role of the coach in being aware of, and able to manage, each of these unique situations safely. Analysis of the interactions between

the three members of the coach-student-horse triad in these lessons represents the horse as an individual who contributes its own personality and competence to the existing dynamism of the coach and the student that is generally recognised in sports (Cassidy et al., 2009). It is not clear how theoretical concepts of learning, such as social learning, which is conceptualised between people, can be reconceptualised to include the interactions of people and horses in an equestrian coaching situation. Four examples of complex and dynamic interactions are presented next to support this position.

Deciding the subject matter

Observation and interview notes highlighted instances where the horse was observed or perceived as making decisions that contributed to determining the subject matter in teaching equestrian sports. An example is given, taken from the data in Interview 1. Equestrian coaches prepare lesson plans in a similar way to coaches in other sports. However, when one coach, Tracey-Lee, was asked if she took into consideration what the horse was doing or saying, she replied, “Definitely, yes, and that is why every horse is different. Every lesson is different because the horse is different. The student is different. The whole situation is different” (Tracey-Lee, Interview 1, 11th July, 2013). As coach Tracey-Lee explained about her own approach to teaching more experienced students:

I think that I like to look at the big picture. I like to focus on what the student is looking at. There is no point me trying to teach someone to be Grand Prix when all they want to do is have a nice safe trail ride. It is the customer that speaks; it is the student who talks. The person I am teaching needs to let me know what it is they are asking me to teach them. (Tracey-Lee [coach], Interview 1, 11th July, 2013)

Rather than having a pre-determined agenda, these personalised goals are in themselves driven by the student’s partnership with the horse. Usual forms of setting goals by the coach and the student need to take the horse into consideration when deciding their future directions together. Tracey-Lee continued by saying:

So, while someone might be at a very basic level, if the horse won’t go on the correct canter lead, I would be looking at straightness [of the horse and student], and the way they walk [the horse]. I am not just thinking “I have got to get this horse

on the correct lead”. (Tracey-Lee [coach], Interview 1, 11th July, 2013)

This quote highlights the contributions that the student and the horse make to the events within the lesson. The horse’s behaviour and the decisions that it makes, in regard to staying straight and cantering on the required lead, help to determine the direction of the lesson, including the subject matter to be taught. How much cantering was done by the horse, or how the correct canter lead was achieved by the student, is in part determined by Tracey-Lee’s ability to read the responsive or reactive behaviours of both student and horse. As Tracey-Lee stated on the subject of achieving the correct canter lead:

That depends on me as the coach and the horse. So the horse tells me what I need to know and I will head in a general direction of where I think we [coach, student, and horse] should be going. So the rider might say, “Right, this is where I want to arrive” and I will put the steps in place, to say, “Okay, we go through these steps, and in this direction”. But the horse might put up detours and road blocks and resistance. (Tracey-Lee [coach], Interview 1, 11th July, 2013)

It is difficult to provide the horse’s perspective on the same scenario without more information. In equestrian sports, it is the coach’s and student’s responsibility to determine the horse is sound and healthy, for example, to ensure that the horse is not lame or sore in a particular leg or shoulder that would prevent the canter. They must judge if the task of cantering is not more than the horse is capable of performing, and they must be aware of the horse’s natural preference of one canter lead over another. Thus, the coach’s expertise, in regard to empathising with the horse’s perspective, will also determine how the lesson progresses.

Furthermore, the researcher concluded that throughout the lessons, effective equestrian coaches continually considered the abilities, needs and wants of both the student and the horse in deciding how the lesson progressed, or was adapted, so that the objectives were achieved. Adaptive planning in teaching is the key, as the initial objective may not always be the same as that which is achieved. Although the considerations were not always explicitly expressed during the lessons observed, the researcher’s conclusion was affirmed by data from the majority of the lesson participants who spoke in the interviews (Interviews 1 to 8).

Charmer the horse with Tracey-Lee the coach and Jamieson the student

Interactions between the coach, student, and horse in this lesson were interpreted as representing a snapshot of the evolving nature of these dynamic interactions over time. Forms of social learning (Bandura, 1977) and social cognition (Bandura, 1986) were evident in these interactions, as people and horses learnt from each other, by observing, imitating, and modeling the behaviours of others (Observations 1 to 24 and Interviews 1 to 8). Especially noted were the interactions between Tracey-Lee, Jamieson, and Charmer, as those of the novice learning skills from the expert (Researcher notes, Observation 5, 5th August, 2013). These interactions were interpreted as forms of a cognitive apprenticeship, as an important aspect of situated learning (Brown, Collins, & Duguid, 1989). In equestrian sports, perceptions of observing a cognitive apprenticeship between the student and the coach extend to that of coach and horse and horse and student.

Notes from lesson observations indicated that Jamieson realised he had not yet fully learned the hands-on skills that were required to effectively long-rein a horse and to read and respond to their behaviour: “Charmer, the horse, responded in a calmer manner when Tracey-Lee, the coach, was long-reining him than when Jamieson, the student, had done the long-reining” (Researcher notes, Observation 5, 5th August, 2013). Jamieson, the student, was watching Tracey-Lee long-reining the horse. He had previously attempted to do the long-reining, as he thought he knew how to do it. As he explained, “I watched a few YouTube videos, and I have a reining book at home, a western and reining book, so I read through that, and they were doing the long-reining, and I came up [to the equestrian centre] and gave it a failed attempt that didn’t work” (Jamieson [student], Interview 5, 17th July, 2013). His words were interpreted as describing a situation where he had lost confidence in his equestrian ability because the horse had lost trust and confidence in him, as he did not know as much about horses as he thought he knew. He said:

You can look at all the videos and you can read as many books ... and it’s like anything I suppose, you can read into it [long-reining] and you have a good knowledge of it, but to actually take it onto the field and to do it in person is a totally different thing. (Jamieson [student], Interview 5, 17th July, 2013)

Jamieson's comment illustrates that he also realised that learning from someone with more equestrian expertise than him was valuable. As he affirmed, "As soon as I saw Tracey-Lee [the coach] start with the long-reins with my horse, I could see that she knew what she was doing, and how she was training him" (Jamieson [student], Interview 5, 17th July, 2013). His observation gave him a level of confidence in the coach's ability to manage his horse. Additional data showed that the coach's high level of confidence and equestrian expertise impacted positively on the horse's responses to the long-reining activity, so that the horse's learning progressed to becoming a more responsive partner (Researcher notes, Observation 5, 5th August, 2013). In each episode of teaching with the coach, the horse was calmer and more responsive than the previous encounter. This conclusion from the researcher's observations was affirmed in the interview data, where Jamieson explained: "So when I saw Tracey-Lee start to long-rein Charmer on a circle and he was a bit nervous, she drove him on and I could just see that she knew exactly what she was doing: he wasn't so nervous anymore" (Jamieson [student], Interview 5, 17th July, 2013). Tracey-Lee's confidence instilled a calm state in the horse, and also appeared to give Jamieson confidence in his ability to long-rein Charmer (Researcher notes, Observation 5, 6th July, 2013). The horse learned to be calm and receptive in the coach's presence. Then the coach was able to give the horse more responsibility to choose the "correct" actions required. As the horse became calmer, the coach became more confident in asking for more from the horse and trusted that the horse would make the desired choices. This was important because, as Keeling, Jonare, and Lannenborn (2009) indicate, nervous people can have a negative impact on horses, and the horse can become nervous as a result. A nervous horse needs a calm trainer to instil a sense of confidence in the horse.

Additional notes from Observation 5 showed that, next, student Jamieson came into the arena, and stood at the shoulder of Tracey-Lee, the coach, while she long-reined the horse (Researcher notes, Observation 5, 6th July, 2013). Tracey-Lee's objective was to incrementally progress Jamieson's ability towards being competent enough to independently long-rein Charmer. Speaking about this issue, Jamieson explained, "And then Tracey-Lee was guiding me through what she was doing, telling me exactly what she was doing, and why, and how she was giving and asking of

Charmer. Then I took over, and started doing the long-reining, and she guided me from my shoulder” (Jamieson [student], Interview 5, 17th July, 2013).

Jamieson was soon able to competently long-rein Charmer in walking, trotting, and halting on a circle, and also on the straight tracks of the arena. If the horse decided to increase his pace, Jamieson directed him into a circle to regain control and instil calmness, just as Tracey-Lee or Jamieson would do when riding any horse in the arena. As he was learning from Tracey-Lee’s expertise, Jamieson could now recognise from Charmer’s demeanour when a circle was necessary, as well as the subsequent beneficial impact on Charmer’s physiological stance from doing so. In conversation, Jamieson mentioned:

Well, Charmer got a bit nervous when we were doing the long-reining the other day. When we were going along just walking Charmer around the outside circle [straight track] of the arena, he got a bit nervous down towards the traffic end and Tracey-Lee said just bring him up and get him back on a circle, because you could see that he was a bit nervous. And as soon as I brought him back up and put him on a circle, his poll lowered [sign of relaxation] and he, it was just like, he relaxed again. He has that “do a circle and relax” down pat now. (Jamieson [student], Interview 5, 17th July, 2013)

Andrea, another coach, had observed Charmer’s learning progress over the weeks of long-reining. When Andrea’s new horse, Blue Moon, had arrived at the equestrian centre, Andrea had asked Jamieson to long-rein her horse. She considered Jamieson to have enough expertise at long-reining, as a result of how Charmer was performing, for her to learn from him how he trained horses. In her reasoning of the situation, Andrea explained:

Because I have not actually had experience in long-reining, and I don’t want people to see me doing it incorrectly, I would rather do it by myself and learn for myself [by watching Jamieson], and then go “Okay, I can teach this to my horse”. So the next time we do the long-reining [after Jamieson had already done so], I will have a go, now that I know what the horse is going to react like. (Andrea [coach], Interview 6, 26th July, 2013)

In additional interview data, Andrea mentioned that Jamieson was “confident when long-reining Blue Moon” (Andrea [coach], Interview 6, 26th July, 2013). She indicated that Jamieson was simultaneously able to explain what he was doing, so that Andrea would know what to do next time: “Well, like Jamieson said to do, I am just going to ask her [Blue Moon] to go this way, and if she pulls too much, then just let the outside rein go so she can go forward” (Andrea [coach], Interview 6, 26th July, 2013). Andrea suggested that she learned from Jamieson how to best manage her horse, and that he was capable of using his new-found long-reining skills from working with Charmer to partner with another horse.

Additionally, interview data affirmed that as Jamieson had become more competent over time, he had learnt how to encourage Charmer to be calm and responsive to his commands. The long-reining was successful, and Jamieson learned enough to be competent and confident in transferring those skills to long-reining another horse, Blue Moon. (Jamieson [student], Interview 5, 17th July, 2013 and Andrea [coach], Interview 6, 26th July, 2013). Additionally, the riding partnership between Jamieson and Charmer improved from the confidence developed by both in the long-reining activities (Jamieson [student], Interview 5, 17th July, 2013).

In reflecting on the dynamism evident in teaching equestrian sports, what is also of interest is Jamieson’s positional shift from being a student learning from Tracey-Lee, the coach, and Charmer, his horse, to one of a teacher, with Andrea as a student with her horse, Blue Moon. Thus, the social relationship of Andrea and Jamieson, as coach and student, respectively, evidenced earlier in Theme 2, has changed in Theme 6, where their positions are reversed. It is argued that part of that transition for Jamieson was due to the evolving social relationship between himself and his horse, Charmer, and the development of trust and confidence in that relationship.

Emma the student with Misty the horse and Red the horse

Data from Observation 15 show that student Emma was riding Misty the horse in the lesson and another student, Johanna, was riding a horse named Red, whereas in the next lesson, data from Observation 16 show that Emma rode Red, and another student, Jacinta, rode Misty (Researcher notes, Observations 15 and 16, 4th September, 2015). When Emma rode, both of her horses continually trotted at a faster pace than either horse did with the other two riders, rather than the more

desirable option of the horse being more engaged by the student, and the student establishing a pace and rhythm in the trot.

It appeared on these occasions that the horse set the pace. Nonetheless, the student who was riding each horse could modify how fast or slow that pace was set by the horse, depending on their level of riding competence. It was the coach's role to help the students to control the pace, and it was evident that different riders affected the same horse in different ways. In the observed lessons, Kerry, the coach, would respond by saying to Johanna who was riding Red at a slow, steady pace: "Come on, encourage him to go more", (Researcher notes, Observation 15, 4th September, 2015), whereas she later would say to Emma riding the same horse, Red, at a continually faster pace "Just keep it steady and even in the trot. No faster" (Researcher notes, Observation 16, 4th September, 2015). The coach's role was to help the individual students realise how they were affecting each horse's behaviour, and how to establish the desired pace and rhythm. In Maw's (2012) notes, she recorded that the lessons she observed were all, at some time, focused on developing the partnership of student and horse. Horses generally take the easy option, so it is the students' responsibility to create options that make the desired behaviour easy and the undesired option more difficult (Roberts, 2004). Notes taken of conversations after the observations stated that Kerry confirmed how Emma had an "electric seat", and that she had a similar impact of rushing the trot on most of horses she rode, which it made it difficult for her to engage the horse in good form (Kerry [coach], personal communication, 4th September, 2015).

Starshine the horse with Melissa the student, Andrea the coach, and Claire the coach

Interview data and conversational notes from two students and a coach at an equestrian centre provided an example to show how peoples' perceptions of the same horse were different (Interviews 4 and 6). The difference may be partly due to how they interacted with the horse as part of the learning and teaching process of equestrian sports. Although all three participants were members of the same equestrian community, where horses were the focus, their differing perceptions could also be due to their differing prior experiences with horses, and the individualised relationship that they had with the same horse. Starshine was a school horse at

Carrington Equestrian Centre so he was available for both coaches and students to engage with in a host of riding and horsemanship activities. Student Melissa, who had been learning more about riding and horsemanship, said that Starshine was “pretty cool and I have learnt a lot from him” (Interview 4, 24th July, 2013). By contrast, coach Andrea, who coached some of the beginner students who were learning to ride, did not like Starshine as much as Melissa did, because he was like all school horses, and “all school horses are lazy” (Interview 6, 26th July, 2013). Nonetheless, from a third perspective, which echoed that of Melissa, another coach, Claire, thought that Starshine was a good, reliable school horse that could be depended upon to take care of beginner riders (Claire [coach], personal communication, July 6th, 2013).

4.3.2.3. Theme 7: Adaptive equestrian coaches respond to the horses’ behaviour in addition to that of the student

Theme 7, which has Sub-themes 1 to 3, shows multiple examples of ways in which equestrian coaches adapt their teaching to cater for the horse’s behaviour as distinct from that of the student. Data indicates that these types of occasions were evident throughout all of the lessons observed (Observations 1 to 24) and they were discussed with three coaches (Interviews 1, 2, and 3). However, on many occasions, it was noted that these adaptive actions of the coach were observed because the researcher was an equestrian coach, who was aware of the subtle changes that needed to be made to care for the horse in a lesson. Adaptive teaching encompasses a range of teaching styles that include traditional and contemporary ways of teaching, as they relate to both the coach and the student (ASC, 2015; Mosston & Ashworth, 2008). Results grouped here as Sub-themes 1 to 3, highlight factors that need to be addressed by the equestrian coach as a result of additional interactions between themselves and the horse, or the student and the horse. Analysis of the observational and interview data highlights instances where coaches perceived that they responded, or were observed to be responding, to the behavior of the horse, as well as the student.

Data that were organised under this theme included multiple instances where adaptive coaches perceived, or were observed, to be responding to the needs of both students and horses. Instances of adaptation were categorised according the sub-

themes presented. These include the role of the coach as a translator and interpreter, using language and communication strategies, and operating in a dynamic, interactive, teaching environment.

4.3.2.3.1. *Sub-theme 1: The equestrian coach is an interpreter of the language of the horse and a translator of that language for the student*

Sub-theme 1 was initially generated from observation notes that were detailed earlier in regard to the coach being a decision-maker in Sub-theme 2 of Theme 6 (Observation 2). This led to observing and noting the language used or not used in other lessons observed (Observations 1 to 24). The concept of the equestrian coach being an interpreter of the horses' language, and a translator for the student, was discussed with one coach (Interview 1). The language of the horse is generally visual and kinesthetic, rather than audible (Roberts, 2004). The early data showed how an experienced coach like Tracey-Lee made more key decisions between commands than a novice coach like Claire. To a researcher with equestrian expertise, it appeared that the ability of a coach to make key decisions extended to interpreting and translating the language of the horse. Hence, a new sub-theme emerged in regard to observing the coach as an interpreter and translator of the horse's language. These observational findings were affirmed by comments recorded in Tracey-Lee's interview:

I think that it is more often, particularly if I don't get on and ride the horse ... you know sometimes I will get on and ride the horse [to demonstrate to the student or to train the horse], and then the communication is between me and the horse. But I think what I am doing is that I am almost like a translator who can translate between the horse and the rider and the rider and the horse. So the rider says "This is where I want to go" and I have just got to be able to translate from the horse, and say to the rider "Ok do this, and now the horse is telling you that, now you need to go this way". So it is just me as the coach assisting by interpreting in the communication between the rider and the horse. (Tracey-Lee [coach], Interview 1, 11th July, 2013)

Tracey-Lee's comments illustrate how an adaptive feedback loop between the coach and the student is extended to accommodate the horse in equestrian sports. Vygotsky

(1926) identified language as an important factor of learning in a social context. However, it is not known how such a learning theory could be utilised to better understand the exchanges of language that occur between people and horses. Forms of feedback used in mainstream education between teachers and students need to be extended to accommodate the additional feedback from the horse.

4.3.2.3.2. Sub-theme 2: *The coaches' language is indicative of their ability to effectively translate and interpret the communication between the horse and the student*

Building on Sub-theme 1, Sub-theme 2 represents the observed and reported equestrian activities that relate to the language of the coach, as an indicator of their ability to read the behaviour of the horse and translate that behaviour to the student. Examples are provided from one coach interview (Interview 1) and four observations of lessons (Observations 16, 20, 21, and 23). These data highlight that coaches had enough language skills to create an effective feedback loop of learning to achieve the required outcomes, as in this example:

I think they are learning to listen to the horse, they are learning to feel what is happening. Like I will say "Did you feel that? The horse just relaxed through his back and blinked his eye and chewed the bit" or something like that. And the fact that I have just given them that knowledge of just what happened, it allows them to feel what just happened. So it is increasing their awareness and communication with the horse. It's giving them the signals so that they are more aware of the signal that the horse is giving them. So that the student knows that the horse says they are ready to go on to do more work, or the horse is saying "Hold on a second, I am not ready to go on to the next step". (Tracey-Lee [coach], Interview 1, 11th July, 2013)

At another equestrian centre, Grand Stables, similar evidence of a coach's effective language was observed in the following notes taken of Kerry, the coach, speaking with students. She said: "It's easy to make them [the horse] go fast, it's not so easy to make them go slower. Let your body relax so that she can relax. You are balancing well, stay balanced, relax, and she [the horse] can relax too" (Researcher notes, Observation 16, 4th September, 2015).

Observation notes also recorded Kerry as saying: “How relaxed can you make your horse? If her ears are below your hands, then your horse is relaxed. I can tell your horse is relaxed because his head is lower than your hands and his neck is stretched down” (Researcher notes, Observation 16, 4th September, 2015). As a result of this communication, it was noted by the researcher that horses did relax, and it was apparent that horses responded, as expected, to the aids, or signals, given by the student. Again, this demonstrates that there is a unique communication strategy active in coaching equestrian sports.

On a different occasion, another coach similarly provided the type of extra information to help students learn how to improve their riding ability, and their horse’s capability to jump over the showjumping fences, by staying connected with the horse. In preparing to jump over a fence, the coach Lucy encouraged student Jim to keep that connection with his horse, by saying,

Keep your leg [pressure] on. That will keep him going forward. I can tell. Keep him straight now. Can you feel it, that he is straighter than before? Give him some encouragement. Keep the leg there. Look up, stay straight. Fantastic. Give him a pat. Stop, and give him a pat.
(Researcher notes, Observation 20, 5th September, 2015)

Similarly, data showed that with another rider, Lucy, the coach, was careful to keep developing a connection between the student and their horse. Lucy explained in a quieter manner than with the other student:

She just needs a little bit more leg to help her go forward. Look where you are going. She is depending on you to know what you are doing. You have got to give her the confidence – to say that all is okay. We have to help her work at what we want. Keep her straight and keep her forward – that is your job. And then she can jump the fence. (Researcher notes, Observation 20, 5th September, 2015)

Lucy, the coach, was able to customise her language to suit the situation. Some of her commands were standardised for teaching jumping, for example, “Sit tall, stay straight, and look up” (Researcher notes, Observation 20, 5th September, 2015). At other times, Lucy’s feedback was different with one student than with another. For example, for one rider Lucy said: “Steady, steady, not so fast” and for another rider,

she said: “Go more forward next time”, which appeared to be dependent on both the students’ behaviours and the horses’ behaviours (Researcher notes, Observations 20 and 21, 5th September, 2015).

On occasion, it appeared that the coach did not always use the language required to complete the feedback loop. For example, when observing Robert, the coach, the researcher had little doubt that he was a competent equestrian, as he was seen riding his horse prior to the lesson. However, his language in the lesson did not appear to fully reflect his equestrian expertise, which was perhaps due to his lack of teaching knowledge. In the lesson in the rodeo yards, where the students were learning how to work with cattle, Robert explained:

Yes, come on in. You are going to lead your horse around with the cows and let them look. Walk around, walk around.
Yes, get in there. Some horses don’t mind cows, and some do.
Yes, you can trot the horse around too. (Researcher notes, Observation 23, 6th September, 2015)

It was clear that the students and their horses were safe, and that Robert anticipated the correct response of the horse to the cattle. However, his actions were interpreted as reflective of his implicit knowledge and understanding of the situation, rather than his ability to effectively express his knowledge to others. At a later time in the lesson, he did extend his language to more effectively help the student to “see what the horse sees” when moving a beast around the yard.

4.3.2.3.3. *Sub-theme 3: Educating coaches to be adaptive teachers*

Data from previous sub-themes have established that in equestrian coaching, the horse and rider communication is important, and the three-way communication of the coach, student, and horse partnership is essential for effective learning. Data from interviews with three coaches extended the notion of establishing the need for adaptive coaching to educating coaches to be receptive and responsive to both the student and the horse (Interviews 1, 2, and 3). All three members of the equestrian triad of coach, student, and horse deal with each situation in the lesson accordingly, rather than pre-determining specific decisions for specific situations. As Tracey-Lee said of her own coaching:

My teaching style tends to be a little bit more authoritarian, a bit more of “This is the way it is, this is competent, or this is not yet competent”. Although, I am not always authoritarian, because then I deal with someone who is a bit nervous, you know, someone who is not very confident to go out there, so an authoritarian style is not going to suit that particular person at all. A little bit more of a “nice guy” approach might suit them better, just to get them going, and to build their confidence a little bit more and usually those type of people, if I have got to change my approach, and adapt my style, that person is probably not quite ready, and might take a little bit longer to be confident enough to go out and be competent. So they are going to take a little bit longer to train. So those who are ready, and at that, are saying, you know, “Am I ready? Am I not ready?” That’s more of an assessment from me, but it changes a bit still within the personality of a person, whatever they are ready for. (Tracey-Lee [coach], Interview 1, 11th July, 2013)

These data clearly shows the coach’s perceptions of implementing adaptive coaching by providing an example of their teaching experiences. The terminology of Authoritarian and Nice guy are teaching styles referenced in *Beginning Coaching* (ASC, 2006), which is the general sports manual used in equestrian coach education. Observational data also indicates that Tracey-Lee was able to adapt to training a horse in a similar, responsive way (Researcher notes, Observation 5, 6th July, 2013). When she was working with Charmer, the horse, she moved, for example, from a teaching approach of authoritatively demanding the horse to “Take the track onto the circle now” with assertive body language, to taking a Nice guy approach in allowing Charmer the time to decide how to step over a rail on the ground This evidence demonstrates that effective equestrian coaches, such as Tracey-Lee, adapt their teaching to cater for students and for horses, and that this ties in with previous suggestions in Theme 6 that equestrian interactions are dynamic and need to be managed as such.

As Tracey-Lee said of the student coaches who were learning and practising how to teach:

I would hope that the biggest thing that they have learnt is to teach the situation. Teach the horse more so than the lesson itself. Go out with a plan, and be ready, and have your plan

written up, have a good think about the plan, but be ready to adapt it if the plan is wrong, incomplete, or just not working. If the plan does not suit the horse, and does not suit the rider, then don't think that the lesson plan is set in stone. Have enough knowledge to be able to adapt that lesson plan; whether you achieve the desired result today, or you are working towards it, so you will get it sometime in the future. Be prepared to adapt and teach each individual horse and each individual rider. (Tracey-Lee [coach], Interview 11th July, 2013)

These data of Tracey-Lee's comment supports the perspective that an adaptive type of teaching and management behaviour is expected in equestrian coaching. Part of that coaching competence is the ability of the coach to be reflexive, in that they are able to respond to each new and changing situation. Furthermore, every horse is different in how they respond to what the coach and student are doing in the lesson within the coaching environment. An effective coach is able to "read" the horse to know if they are calm and confident and listening, or upset and excited and not listening, and adjust the activities accordingly. The other coaches were not always able to articulate their good intent, although they could express how they were responsible for, and reacted to both the student and the horse when they were teaching (Observations 1 to 24 and Interviews 1 to 8).

This interview data revealed that these coaches realised their role as being responsible for both students and horses. Coach Rachel saw her role in the lesson as "keeping them all safe, but also to teach the students how to be effective and how not to be a burden to the horse" (Rachel [coach], Interview 2, 29th July, 2013). Similarly, Claire (coach) saw her responsibility to students and horses, as follows:

Their [people and horses] welfare during the lesson, teaching them and also looking after them as well, just in case something does happen because not all horses are bombproof. There is no such thing as a bombproof horse. And yes, just letting them [people and horses] be themselves as well. (Claire [coach], Interview 3, 16th July, 2013)

Similar to the data on adaptive coaching from Tracey-Lee, the coach, working with Charmer, the horse, which opened Theme 7, Claire's comments could be interpreted as speaking about either people or horses, as the welfare of both was important.

Claire also said that it was important for students to “just really listen and be like a sponge, and take in all the information about the horse, and apply it to what they have done, apply it in their life” (Claire [coach], Interview 3, 16th July, 2013).

The evidence presented in Sub-themes 1 to 3 in Theme 7 indicates that learning how to teach equestrian sports involves learning how to adapt one’s teaching to the horses’ behaviour as well as to that of the student. Adapting to the horse requires an equestrian coach to be able to interpret the language of the horse, Equus, and to be able to translate that language to the student. The evidence also suggests that teaching in equestrian sports demands the specialist expertise of knowing how to read equine behaviour.

4.3.3. Summary of results: Observations and interviews

The integrated results of Observations B and Participant interviews have been presented as Categories 1 to 3 that incorporate Themes 1 to 7, each with its own set of sub-themes. These results address RQ 3: “How do horses contribute to ways in which equestrian coaches teach in equestrian sports?” The findings show that the horse plays a significant role in teaching equestrian sports, and that an equestrian coach considers both the student and the horse when they are teaching. Learning in equestrian sports has been perceived in terms of cultural, social, and emotional learning contexts. Most sub-themes were initially generated from Observations 1 to 24, and then corroborated with further evidence from Interviews 1 to 8. Details of Theme 1, as Category 1, were not presented, as its sub-themes represented the same types of topics relating to the coach and student interactions that have been discussed in the literature on general sports pedagogy.

Various perceptions of teaching and learning in equestrian sports have been highlighted in Themes 2 to 7 in Categories 2 and 3, which demonstrated when and how horses contributed to the pedagogical interactions that can occur in equestrian sports. These can be summarised as Results 1 to 4, where Results 1 is representative of Category 2 (Similar), and Results 2 to 4 are representative of Themes 5 to 7 in Category 3 (Different). This categorisation means that the latter three results are the most important of the results in addressing RQ 3, which will be discussed further in Chapter 5 (Discussion). The four summarised results from the integrated dataset of Observations B and Participant interviews are as follows:

1. Cultural, social, and emotional interactions are a feature of Equestrian Sports Pedagogy (ESP), as they are in other sports.
2. Equine and equestrian safety is unique to ESP.
3. Horses may influence decision-making in ESP.
4. Adaptive coaches in equestrian sports respond to the horse's behaviour as well as the student's behaviour.

The findings presented according to these themes and categories have highlighted aspects of ESP that are unique, and different from those found in other sports.

4.4. Summary of Results

Results from the Survey questionnaire, Observations A, and Observations B, and Participant interviews have been presented in the chapter to fully address RQs 1 to 3. Together, these results provide important insights into the beliefs, behaviours and approaches of equestrian coaches, including a focus on the contribution of the horse. Two major findings have also been presented.

The first major finding was that there was a clear discrepancy between the way in which equestrian coaches perceived they taught, and how they were observed to be teaching. Those results have addressed RQs 1 and 2. This finding came from comparing data from the Survey questionnaire and Observations A. The coaches predominantly nominated three Spectrum teaching styles as the ones they used the most: Styles A, B, and F. However, only two teaching styles were observed in the teaching activities: Styles A and B. This is the same or similar discrepancy of Spectrum teaching styles perceived and observed in tennis coaching by Hewitt (2015). Therefore, there are similarities between how equestrian coaches teach and how tennis coaches teach. However, the horse has no apparent influence on the selection of Spectrum teaching styles used in sports coaching.

The second major finding was that the horse does appear to contribute to ways in which equestrian coaches teach. From analysing the integrated dataset of Observations B and Participant Interviews, the results demonstrated that the horse does have a significant role in ESP. These themes have addressed RQ 3 by showing that the coach and/or student dynamically interact with the horse, and must do so in a

safe manner. At times, not only was the student learning, the horse was learning too, so the coach needed to teach accordingly.

Overall, the results relating to the teaching beliefs and actions do highlight similarities between teaching in equestrian and other sports. However, the additional observations and interviews reveal that many factors are attributable to showing how equestrian coaches teach and that the horse plays a significant role in equestrian coaching. How the research problem, namely that little was known of how equestrian coaches teach, may be resolved with these two major findings is discussed in the next chapter, Chapter 5 (Discussion).

Chapter 5 Discussion

The previous chapter, Chapter 4, detailed the results from the Survey questionnaire, Observations A, and the integrated dataset from Observations B and the Participant interviews. These combined results have provided important insights into the teaching approaches of equestrian coaches, by establishing their teaching beliefs and lesson practices, and have explored ways in which the horse contributes to pedagogy in equestrian sports. Overall, the results have identified two major findings, six key findings within these major findings, and nine minor findings throughout. Each of the two major findings is comprised of three key findings, and some of the key findings are comprised of minor findings (Table 5.1). The reported levels of findings and their relationships are complex. Thus, the applied labels of major, key, and minor were found to be the best way of presenting and explaining the results from the research.

Table 5.1. Two major findings comprised of six key findings and nine minor findings.

Findings			Description
Major	Key	Minor	
1			<p><i>Perceptions of teaching and observed teaching practices are similar for both equestrian and tennis coaches.</i></p> <p>There was a clear discrepancy between the way in which equestrian coaches perceived the way they teach, and how they were observed to actually teach. This is the same or a similar discrepancy between Spectrum teaching styles perceived and observed in tennis coaching by Hewitt (2015). When using the Spectrum lens, there were similarities of teaching perceptions and observed actions between equestrian and tennis coaches.</p>
	1		Perceived teaching styles of equestrian coaches were similar to those of tennis coaches (Styles A, B, and F).
		1	Equestrian coaches believed they used a range of five Spectrum teaching styles (Styles A, B, D, F, and H).
		2	Tennis coaches similarly believe they use a range of four Spectrum teaching styles (Styles A, B, F, and H). Three of the five teaching styles were predominant (Styles A, B, and F) in both equestrian coaching and tennis.
		3	Equestrian and tennis coaches' believe they teach from both the reproduction of known knowledge (Styles A and B) and the production of new knowledge (Style F) clusters of the Spectrum.
	2		Observed teaching practices of equestrian coaches indicated they used only two Spectrum teaching styles (Styles A and B). These were the same two teaching styles that tennis coaches have been observed to use (Hewitt, 2015).
		3	There was a divergence between equestrian coaches' perceptions of how they teach and the researcher's perceptions of how they teach.
		1	There was a divergence between how equestrian coaches perceived they teach and how they were observed to be teaching.
		2	The divergence in equestrian sports is similar to that found in tennis (Hewitt, 2015).
		3	The divergence can be interpreted as equestrian and tennis coaches believing that they are using forms of guided discovery teaching, whereas these were not observed.
		4	Similar conversations about divergence between teaching beliefs and actions are found in mainstream education.
		5	The Spectrum instrument and its decision-making structure may need to be re-examined.
2			<p><i>The equestrian coach considers the student and the horse when teaching.</i></p> <p>The horse did appear to contribute to ways in which equestrian coaches teach. Not only did equestrian coaches interact with their students, as coaches do in other sports, but in equestrian sports, both the coach and student also communicated with the horse. This is a similar finding to that of Cumyn (2000) who identified verbal, visual, and kinesthetic forms of communication amongst the coach, the student, and the horse in Dressage. Learning how to communicate with the horse is part of the students' and coaches' education in equestrian sports and shows that the coaching process in equestrian sports involves a unique interaction between the coach, student, and horse.</p>
		1	Teaching for equine and equestrian safety is essential in equestrian sports.
		2	The horse impacts on the decision-making in equestrian sports.
		3	Adaptive coaches respond to the horses' behaviour in addition to that of the student.
		1	The teaching language of the equestrian coach is as an interpreter and translator of the equine language.

In this chapter, Chapter 5 (Discussion), there are three main sections. First discussed is Finding 1, which is derived from the results of the Survey questionnaire and

Observations A. This finding addresses the first two questions, RQs 1 and 2, about teaching beliefs and practices, respectively. The results were based on an analysis using the 11 teaching styles of the Spectrum (Mosston & Ashworth, 2008). Finding 1 confirms that the teaching beliefs and observed practices of equestrian coaches were similar to those of tennis coaches, in that they did not use the number and range of teaching styles in their lessons that they believed they used. Due to the perceived limitations of the Spectrum decision-making structure, it was sometimes difficult to discern in Observations A who was making which key decisions, and therefore, which teaching style was being used. Additionally, the use of the Spectrum did not provide any major insight into the role of the horse. It may be that teaching in equestrian sports is more complex than the Spectrum-based instruments of data collection can capture. The instruments were used with a focus on decisions in teaching episodes that involved the teacher and students. In the second section, the integrated results associated with Finding 2 are discussed, as well as the extent to which they addressed the third research question, RQ 3, in regard to identifying the role of the horse in teaching equestrian sports. These are not Spectrum-derived results. The finding identifies that there were occasions when horses did impact upon how equestrian coaches taught. Third, bringing together its main conclusions into a summary, the discussion offers an overall finding that some aspects of Equestrian Sports Pedagogy (ESP) were different from those in general sports pedagogy. The chapter concludes with the suggestion that ESP is both unique and in need of specialist knowledge when considered in relation to general sports pedagogy.

5.1. Finding 1: Perceptions of teaching and observed teaching practices are similar for both equestrian and tennis coaches

Finding 1 addresses the first two research questions, RQs 1 and 2, with three key findings that are discussed in the next three sections. First, to address RQ 1, the finding shows that equestrian coaches perceived they frequently used five Spectrum styles. These are Style A (Command), Style B (Practice), Style D (Self-check), Style F (Guided Discovery), and Style (Divergent Discovery) with Styles A, B, and F most predominant. This is quite similar to the teaching perceptions of tennis coaches, who predominantly nominated the same three teaching styles (Styles A, B, and F)

(Hewitt, 2015). Second, to address RQ 2, the finding shows that only two teaching styles (Styles A and B) were observed in teaching practice. These were the same two styles observed in tennis coaching (Hewitt, 2015). Third, the finding shows that there was a clear discrepancy between the way equestrian coaches perceive the way they taught, and how they were observed to be teaching. This discrepancy of Spectrum teaching styles was similar to that perceived and observed by Hewitt (2015). Overall, this finding shows that there were similarities between how equestrian and tennis coaches taught through the lens of the Spectrum where the role of the horse was not a consideration. Following these three sections, a summary is presented of the main points from Finding 1, in regard to teaching behaviours of equestrian coaches. Conclusions of teaching similarities are drawn that may benefit both the equestrian community and scholars of sports pedagogy in the future.

5.1.1. Perceived teaching styles of equestrian coaches

This section, where the first key finding in Finding 1 is discussed regarding the teaching beliefs or perceptions of equestrian coaches, is divided into three smaller sections of minor findings. First discussed are the five landmark Spectrum styles that equestrian coaches believed they frequently used (Styles A, B, D, F, and H) and how these styles may have been interpreted by the coaches. In the second section, there is a two-way comparison of these High Use teaching styles with those used by tennis coaches (Styles A, B, D, and F), as reported by Hewitt (2015). The third section offers a three-way comparison of teaching beliefs by including those of equestrian coaches based on Struby's (1987) study, which made no reference to the Spectrum. The discussion of this first key finding supports the conclusion that, as with tennis coaches, equestrian coaches believe they use a wide range of Spectrum teaching styles.

5.1.1.1. Equestrian coaches' believe they use a range of five Spectrum teaching styles

In this section of the first minor finding of the first key finding in Finding 1, there are six smaller sections. The first five sections deal with each of the Spectrum teaching styles that equestrian coaches believed they used in their teaching, in response to each teaching scenario presented. The teaching scenarios were based on Ashworth's (2004) teaching descriptors of the ICTLS instrument, which were presented in the

Survey questionnaire. The sixth section is an exploration of the possible misrepresentation of Spectrum teaching styles by coaches: an issue that was raised by Hewitt (2015) in his study.

These results show that identifying equestrian coaches' perceived teaching styles based on the Spectrum does help to extend our understanding of teaching in equestrian sports, and thus ESP. However, the results also suggest that the teaching styles may not have been well interpreted by the coaches, perhaps due to their lack of knowledge and understanding of the Spectrum, or of teaching styles in general.

Equestrian coaches indicated that they used all of the 11 landmark teaching styles when they teach ($N=92$). However, the main finding from the Survey questionnaire is that the five most commonly reported teaching styles were Styles A, B, D, F, and H, which were categorised as the High use group. These were the teaching styles that equestrian coaches strongly believed that they used in their teaching. Style A (Command), Style B (Practice), and Style D (Self-check) are teaching styles from the Spectrum's reproduction of known knowledge cluster of Styles A to E. Style F (Guided Discovery) and Style H (Divergent Discovery) are from the production cluster of Spectrum teaching styles, Styles F to K, where new knowledge is discovered by students. These five teaching styles are discussed in order of Styles A, B, F, D, and H, as this was the order of teaching styles presented in Chapter 4 (Results). The first three styles (Styles A, B, and F) are the teaching styles that were predominantly identified by the equestrian coaches as those that were used most frequently. Possible explanations for many of the coaches' responses are given. However, some responses were not easily explained, and therefore could be explored further in future research.

5.1.1.1.1. Teaching Scenario – Style A

The coach selects the exercises or activities. The students perform all together, in a precise performance that follows the pace and rhythm set by the coach.

A high percentage (65.2%) ($n=60$) of the survey responses placed Style A (Command) in the High use response group, which means that many equestrian coaches believed they used this style in their teaching either Sometimes, Often, or Always. This style, where commands are followed without question (Mosston &

Ashworth, 2008), is similarly evident in Australian sports as Direct instruction (Pyke, 2001) and Authoritarian (ASC, 2006). This type of teaching scenario is likely to be familiar to equestrian coaches who have used the ASC training manuals in their coach education.

Despite the desire of many sports coaches to shift towards discovery teaching (Light, 2014a), in practice, the traditional ways of teaching for developing skills in sports have remained dominant (Kirk, 2010). Any type of direct instruction is particularly well-suited to the equestrian environment, because when dealing with the horse, the safety of the student is paramount, and thus it is primarily the coach's responsibility to care for the wellbeing of both students and horses (EA, 2015; OHC, 2015).

Over one third (34.8%) ($n=38$) of the survey responses for Style A were positioned in the Low use response group of teaching style usage, which means that equestrian coaches believed they used these styles either Rarely or Never. It is not clear how these coaches interpreted the presented teaching style, and what may have influenced their choice of response category. It would be expected that equestrian coaches would frequently use forms of direct instruction in their teaching (Pyke, 2001; ASC, 2006), particularly due to the safety requirements of teaching equestrian sports. This response may reflect an earlier proposition that some coaches may have interpreted the teaching scenarios in a less nuanced way, whereas other coaches may have focused too much on the specific detail of each scenario as presented. For example, a coach may have surmised that teaching a group of students on horses is never going to be thought of as consistently synchronised, like a marching band, because horses have differing paces meaning that the riders are rarely in unison. This type of difference in interpreting reading matter has already been examined in mainstream education by Marton and Saljö (2005), so it is not an issue that is exclusive to pedagogical conceptions and beliefs associated with either equestrian or general sport.

5.1.1.1.2. Teaching Scenario – Style B

The coach selects the exercises or activities, the number and the time limits so that the students can practice individually and privately. The coach circulates amongst all the students and offers private feedback. The students learn to set a pace to practice within an allocated time frame.

Style B (Practice) was categorised in the High use response group of teaching styles that equestrian coaches believed they used when they teach (69.2%) ($n=63$). For students to practice what is taught is a common instructional style (Metzler, 2011), and considered an appropriate style for teaching physical skills (Mosston & Ashworth, 2008). So, generally speaking, Style B, in conjunction with Style A, was considered a teaching style that was Sometimes, Often or Always used by equestrian coaches, and was similar to the occurrences noted in tennis coaching (Hewitt, 2015) and physical education (Cothran et al., 2005; Jaakkola & Watt, 2011).

As with Style A, almost one third (30.8%) ($n=28$) of the responses to this teaching scenario were in the Low use response group. Again, as with Style A, a more literal interpretation of the scenario definitions may have led coaches to believe they did not use this style frequently. For example, if looking into the detail of the teaching scenario, equestrian coaches teaching in a group lesson would rarely give private feedback. It may be physically difficult for the coach to do so in a large arena, or it would not be considered safe for the coach to take their attention fully away from the remaining students and horses. More common in the group lesson would be individual feedback, broadcast to one student and heard by others within earshot. This is the typical case in a group dressage lesson where coaches position themselves to see all students, and personally instruct each rider as they approach and go past that spot. By then, the next student is approaching. The instruction is directed at one student and relevant to their individual riding competence.

Although what is said may be heard by, and helpful to, other students in the lesson, it is not considered private feedback. An alternative scenario where private feedback could be given would be in an individual dressage lesson, where only one student and their horse are with the coach. Both of these teaching scenarios are typical of those found in many equestrian sports. As with Style A, the question of this high percentage of the Low use response for Style B could be explored in future research.

5.1.1.1.3. *Teaching Scenario – Style F*

The coach asks one student a series of specific questions; each question has only one correct answer. The questions are sequenced in a logical pattern so that each answer leads the student step by step to discover the anticipated concept, principle, relationship or solution.

The equestrian coaches' perceived use of Style F (Guided Discovery) varied. More than sixty percent (62.3%) ($n=57$) of equestrian coaches believed they used guided discovery teaching as they nominated Style F (Guided Discovery), which placed this result in the High use response group. Style F is the first Spectrum teaching style across the discovery threshold, thus transitioning the teaching from the reproduction of known knowledge cluster of teaching styles, Style A to Style E, to the production of new knowledge cluster of teaching styles, Style F to Style K (Mosston & Ashworth, 2008). Style F (Guided Discovery) is characterised by “the logical and sequential design of questions that lead a person to a predetermined response” (Mosston & Ashworth, 2008, p. 212). More than one third (37.7%) of the survey responses for Style F (Guided Discovery) fell into the Low use response group. It was not clear why some equestrian coaches believed they did not use Style F, whilst other coaches did.

Many equestrian coaches may have believed they used Guided Discovery because this teaching scenario describes how questions are used and they use questions in their teaching. Teaching Game Sense is based upon asking questions as a form of guiding students to discovery (den Duyn, 1997). Both forms of teaching for discovery, Style F (Guided Discovery) and guided discovery, aim to create new knowledge. However, Mosston and Ashworth (2008) claim this is rarely effective with more than one student. The first student discovers, while the remainder of the students learn from the discoveries of the first student. This is in contrast to examples given where constructively aligned teaching practices in large classrooms were implemented using activities such as peer discussion, role playing, and developing concept maps (Biggs & Tang, 2007). Additionally, Style F (Guided Discovery) has a specific, quite rigid, questioning format, which needs to be implemented before claiming that this teaching style has been actioned (Mosston & Ashworth, 2008). These authors would argue that equestrian coaches did not teach using Style F

(Guided Discovery). The equestrian coaches who believed they used guided discovery forms of teaching may not have realised that Mosston and Ashworth's (2008) interpretation of guided discovery enlists so many specific additional characteristics.

In many sports, questioning and facilitative coaching for discovery learning is encouraged (ASC, 2015), and in particular, those sports that use a Game Sense approach for performance, participation, or enjoyment (Light, 2013). Questions are a fundamental part of facilitative teaching, such as in Game Sense, and are often asked in an attempt to enhance students' learning and develop their thinking skills (den Duyn, 1997). This is a similar approach of teaching with questions for discovery learning that is promoted in EFL (Hallberg, 2008). Whether the respondents' interpretations of the teaching scenario aligned with the specific detail surrounding Style F (Guided Discovery) may have depended upon their understanding and perceptions of teaching and learning for discovery learning and the discovery threshold. It was probable that few of these coaches would have the detailed knowledge of the Spectrum that was required to determine whether their teaching was Style F (Guided Discovery) or the more general term of guided discovery. Guided discovery is a constructivist or inductive approach to learning, derived from Bruner's (1966) model of discovery learning, where the learner independently discovers the information for themselves. Their learning is contextualised in their own experience. Questions are part of discovery learning, however, there is no one common specific structure of the questions, or how they are implemented. It is an inductive and reflexive process of inquiry. Constructivist forms of learning are held in high regard by teachers because, as each new learning is integrated with what is already known, a new and deeper understanding is realised (Archer et al., 1998; Biggs, 2003; Biggs & Tang, 2007).

It is possible that some coaches perceived that because they used questions in their teaching, they had crossed the discovery threshold from reproduction of known knowledge, which is memory, to production of new knowledge, which is discovery, and used Style F (Guided Discovery). However, Mosston and Ashworth (2008) claim that more often than not, this teaching achieves guided memory, which is Style B (Practice), rather than Style F (Guided Discovery). According to the Spectrum authors, Style F (Guided Discovery) is often misinterpreted and misrepresented, and,

thus, misunderstood (Kenneth Edwards, personal communication, May 2015), indicating that there is a range of conflicting scholarly positions in the literature regarding the terms of Guided Discovery and guided discovery. For example, in Chapter 2, in the literature reviewed, multiple authors were cited who had presented modifications of the Spectrum (Kirk et al., 1996, 2006; Siedentop & Tannehill, 2000; Metzler, 2000, 2013; Mallett, 2005; Calcott, Miller, & Wilson-Gahan, 2012; Coleman, 2012; Jones et al., 2012; Morgan & Sproule, 2013). Therefore, these results reinforce that Guided Discovery and guided discovery conversations need to continue in sports pedagogy to determine the fundamental differences and similarities in these interpretations of teaching. Better identification of the comparative characteristics and implementation of the various forms of guided discovery is needed as a research priority in advancing the literature of sports pedagogy.

5.1.1.1.4. Teaching Scenario – Style D

The coach selects the exercises or activities. Students individually practice and check their own performance against the coach-prepared criteria (checklist). The coach privately communicates with students to listen to their self-assessment and either reinforces the student's use of criteria or redirects the student's focus to specific details of the criteria.

Style D, the Self-check style of the Spectrum, was another one of five teaching styles that equestrian coaches strongly believed they used with 56.6% ($n=52$) of the responses for this teaching style in the High use group. In sports, students are encouraged to self-check their performance to improve skills (Mosston & Ashworth, 2008; Cassidy et al., 2009), so if the teaching scenario was read in a general sense, equestrian coaches may have perceived they used teaching styles that encouraged this type of reflective practice. For example, when an equestrian student is working in partnership with the horse, with or without their coach, ideally they are continually in self-check mode, communicating or observing and sensing what both they and the horse are doing (Cumyn, 2000; McGreevy, 2012). However, an equestrian coach might also perceive that the concept of self-check is different to the type of self-check that is characteristic of Style D in the Spectrum. The key to implementing Style D (Self-check) is the requirement of a

written checklist; otherwise the teaching style actioned would probably be classified in the Spectrum as Style B (Practice).

Some equestrian coaches, who are also school teachers, may argue that their equestrian activities were modelled on other interpretations of learning, for example, on the action and reflection phases that characterise experiential learning (Dewey, 1938; Kolb, 1984). Again, how self-checking and reflective practice align is not clear from the Spectrum literature (Mosston & Ashworth, 2008). Nonetheless, if self-checking is perceived by equestrian coaches as the same as, or similar to, reflective practice, it could be interpreted as part of the identified cycle of learning from experience (Kolb & Lewis, 1986). This lack of consistency in terminology means that there are several possible explanations of why equestrian coaches believed they used Style D in their teaching practice even if the specific nature of the Spectrum was not fully considered.

When considering the participant responses to this teaching scenario, it is important to consider the complications created by the specific conditions of equestrian sports. The coach respondents who perceived they used Style D (Self-check) may have overlooked the implicit detail in the teaching scenario, namely that the checklist in written form was a pre-requisite of this teaching style (Mosston & Ashworth, 2008). Unless equestrian coaches knew this Spectrum detail, they may have believed they used this teaching style, regardless of the requirement for the written aspect of the checklist. Anecdotally, equestrian coaches, or students, would rarely work with a written list of criteria during a lesson, as it is not practical to do so for the student with their horse. In an equestrian environment, the hands and eyes would not often be available for holding or reading a written checklist when there is the behaviour of the horse to consider and manage. Although written lesson plans can be used in preparing lessons or programs for teaching equestrian sports, a written checklist is not generally part of conducting the lessons in the arena with students and their horses. Rather than a list of general criteria associated with a school curriculum, the equestrian coach and student usually develop criteria for a personal curriculum for each student and horse partnership (Maw, 2012). Implementing these criteria would need to be reflexive in achieving the learning goals or outcomes required

for the specific student and their horse. In addition, it should be remembered that the horse is not privy to the decisions of the coach or student surrounding the goal-setting. Thus, if the horse makes its own decisions or displays certain behaviours, which may be learned or innate, and which may impact on achieving the goal, the personalised plan may need to be modified to suit the changing situation. Also, as with Style B (Practice), private communication between coach and student in equestrian sports may be ideal in Style D (Self-check), and feasible in a one-on-one situation. However, as explained earlier, speaking privately with an individual student, within a group of students with their horses, in a lesson is difficult for an equestrian coach to achieve in practice.

Indeed, it is possible to argue that some features of the Spectrum teaching styles, such as a written checklist, would be more appropriate for a classroom than for a dynamic, external physical learning environment. There is some acknowledgement of this requirement by the Spectrum authors who, since the publication of *Teaching in Physical Education* (Mosston & Ashworth, 2008), have noted that a short, verbal checklist of a couple of instructional points is acceptable for the teaching applications of the Spectrum related to this teaching style (Kenneth Edwards, personal communication, March 2015). This broader interpretation of a checklist may alleviate some of the problems associated with the original criteria necessary for this teaching style. There may also be scope to modify this teaching scenario by varying the requirement of the written checklist so that the teaching style becomes more appropriate for a wider application, and with more relevance to teaching styles in equestrian sports.

5.1.1.1.5. Teaching Scenario – Style H

The coach designs a single or series of problems, situations or questions that seek multiple answers to the same problem. The exercise or activity is new to the students; therefore, each student is invited to discover new possibilities, as they produce multiple responses to the specific problem. The coach acknowledges the production of multiple ideas, rather than any single idea.

As another of the five teaching styles nominated in the High use group, almost sixty percent (58.7%) of equestrian coaches believed they used Style H (Divergent

Discovery), which is a knowledge production style of teaching (Mosston & Ashworth, 2008). This type of learning is known as problem-solving (Kirk, 2010).

Many equestrian coaches would say that they set problems to solve, particularly when teaching through the use of game-playing activities. As the learning is developed by engaging in these various types of games and activities, the equestrian sport of Equine Facilitated Learning (EFL) appears to be similarly implemented as the games-based Game Sense (den Duyn, 1997), whereby problem-solving is promoted (Light, 2013). As an equestrian example, challenging the student to partner with their horse through an obstacle course in *Giddy Up and Go On* (Hall, 2012), which is an EFL activity, is based on similar pedagogical principles of discovery and problem-solving.

Equestrian coaches may have perceived they crossed the discovery threshold and shifted their teaching from reproduction of knowledge to production of knowledge because they believed their approach was adaptive and student-centred. Such ways of teaching are encouraged by the ASC in their coach education programs (ASC, 2006; Pyke, 2001). However, according to Ashworth (in Hewitt, 2015, p. 87), associating the term student-centredness with only teaching styles of the knowledge production cluster is inaccurate, as all of the Spectrum teaching styles focus centrally on the student. Also, as with Style F (Guided Discovery), it is probable that those who believed they were teaching in Style H (Divergent Discovery) were more often achieving memory-related learning as Style B (Practice) rather than a true form of discovery teaching. This lack of clarity means that the Guided Discovery and guided discovery conversations that were flagged previously as needing to continue could extend to discussing Style H (Divergent Discovery) and the various meanings or interpretations of student-centred learning.

5.1.1.1.6. *Interpreting the Spectrum teaching scenarios*

A source of uncertainty in interpreting these results is that it was not known if the equestrian coaches were able to accurately interpret the teaching scenarios by aligning with the intent of Mosston and Ashworth's (2008) Spectrum. Differing interpretations of the teaching styles by the coaches is one possible explanation for the variable results presented in the last five sections. A similar explanation of how students interpret what they read is expressed in mainstream education (Marton &

Saljö, 2005). The authors suggest that the readers' differing ways of processing information can influence how the text is interpreted. Therefore, for example, each of the 11 teaching scenarios provided as text in the survey questionnaire could have been read as a general overview of a teaching style by some respondents.

Alternatively, other respondents may have read the detail and decided that all of the criteria had to be achieved to be seen as applying to that particular style. Some respondents may have perceived that they used a particular teaching style, whereas other respondents may have perceived that they did not. How specifically, or broadly, each teaching scenario was read and interpreted by equestrian coaches would have impacted on the response category selected by each respondent. Due to this possibility, the results were carefully and cautiously interpreted before any claims were made.

Additionally, any respondent interpretations of the scenarios may not simply have been limited to teaching styles advocated in the Spectrum, as there was no explicit mention of the Spectrum in the Survey questionnaire. Only letter descriptors were used to describe the teaching styles from A to K, without the associated name descriptors. For example, the first teaching scenario was labelled as Style A, not as Style A (Command) (Mosston & Ashworth, 2008). Thus, the scenario for Style A could be construed by the coaches as Direct instruction (Pyke, 2001; Metzler, 2011), or interpreted as an Authoritarian teaching style from *Beginning Coaching* (ASC, 2006), rather than specifically a Spectrum teaching style. How the coach interpreted each teaching scenario may have reflected their knowledge and understanding of teaching styles, and it was the teaching literature from ASC that would probably have been most familiar to them. Although difficult to substantiate, it is highly unlikely that any of the equestrian coaches who responded to the teaching scenarios knew of the Spectrum. Most participants would have been introduced to its 11 teaching styles in the newsletter article that accompanied the invitation, via Online Horse College (OHC), to complete the Survey questionnaire (Appendix E).

Anecdotal evidence reveals that some equestrian coaches were school teachers, but not physical education teachers. Consequently, none were expected to have been previously aware of the Spectrum. Therefore, it is likely that there may be an opportunity to contribute new pedagogical information to the providers of coaching accreditation for equestrian sports. As such, it may help equestrian coaches in the

future in being able to describe their teaching style, or the styles that they use when they teach. Also, it is possible that if the context of teaching scenarios in the Spectrum were to be revised, the information regarding teaching styles may better reflect how equestrian coaches teach in equestrian sports. A revision of the scenarios could even be considered with the specific equestrian coaching environment in mind.

5.1.1.2. Two-way comparison of teaching beliefs

In this second minor finding of the first key finding, the comparative results from the survey data of teaching styles in equestrian sports from the research and those in tennis (Hewitt, 2015) are discussed. Both of these datasets were constructed using similar Spectrum-based instruments, which made the re-analysis of Hewitt's (2015) data straightforward, and better validated the comparison. The comparative result showed that equestrian coaches believed they used five main teaching styles: Styles A, B, D, F, and H, whilst tennis coaches believed that they used four of these styles: Styles A, B, F, and H. The three teaching styles used the most frequently in both sports were Styles A, B, and F. This result can be interpreted as there being little perceived difference between the teaching beliefs of coaches in equestrian sports and those of tennis. Tennis is one of many sports where a horse is not involved. The findings from the research have confirmed, and are consistent with, the findings of existing research that has examined teaching styles of sports coaches based on the Spectrum. Identifying these common teaching beliefs is useful information because the commonality reflects the close relationship between equestrian and general sports pedagogy. This affirms that elements of pedagogy are common across sports: a principle which is reflected in current coach education practice. This finding provides both equestrian and sports researchers with the basis for further research about teacher perceptions, as viewed through the lens of Mosston and Ashworth's (2008) Spectrum of teaching styles.

5.1.1.3. Three-way comparison of teaching beliefs

As the third minor finding of the first key finding, the results from extending the two-way comparison of Spectrum-based research in the previous section to a three-way comparison of teaching beliefs were discussed. The addition of Struby's research (1987, 2013) sought to improve our understanding of the teaching beliefs of equestrian coaches. Although this three-way comparison was a form of data analysis,

it was not regarded as part of Chapter 4 (Results), and, as such, has been discussed in this chapter, Chapter 5 (Discussion). Struby's (2013) work was chosen for comparison because it also showed that equestrian coaches believe they use a variety of teaching styles in their equestrian sports and is comparable to the results found by Hewitt (2015). More comparable results related to teaching beliefs are discussed in physical education (SueSee, 2012), although this dataset is not included. In each case, the respondents believed they used a wide range of teaching styles when they taught.

As explained in Chapter 2 (Literature Review), literature that focuses on the topic of teaching equestrian sports is limited to only a few small studies (Struby, 1987; Cumyn, 2000; Maw, 2013). Of those, only Struby (1987) specifically explored the teaching behaviours of equestrian coaches with a survey questionnaire, not related to the Spectrum, with the results of this earlier study later updated and published in *Teaching Tips for Horseback Riders* (Struby, 2013). In her earlier work, survey findings showed that equestrian coaches believed that they used contemporary, rather than traditional, ways of teaching (Struby, 1987). However, in her later work, Struby (2013) found that equestrian coaches believed they used both traditional and contemporary teaching methods. Struby's (2013) interpretation of her findings led her to conclude that participants were using a range of teaching styles found in adaptive teaching, which, as previously mentioned, is promoted by the ASC. However, it is important to note some differences in the comparative study. Struby (1987, 2013) is not from Australia and did not use the Spectrum (Mosston & Ashworth, 2008) in any of her research.

Although the literature provides many sources of research related to the Spectrum structure (STS, 2015), few studies are directly relevant to teaching equestrian sports. Amongst scholars who have researched teaching styles, Hewitt and Edwards (2011) explored the Spectrum-based teaching styles of tennis coaches, which is part of Hewitt's (2015) doctoral thesis related to sports pedagogy, which in turn, draws on literature from physical education (e.g. Kulinna, Cothran, & Zhu, 2000), Jaakkola & Watt, 2011; SueSee, 2012). Rather than extending this equestrian research any further towards physical education, only teaching styles, or teaching behaviours, of equestrian coaches (Struby, 1987, 2013) and tennis coaches (Hewitt, 2015) were compared with the results from the Survey questionnaire. Comparisons of topic,

literature, structure, and main findings of the three studies is presented in a table format (Table 5.2).

Table 5.2. A comparison of topics, literatures, structure, and a key finding from the Survey results in this research with that of Struby, (1987, 2013) in equestrian sports and Hewitt (2015) in tennis.

A Survey of Teaching Styles used by Equestrian Coaches (Equestrian)		Struby Equestrian	Hewitt Tennis
Topic 1	Teaching styles	Similar	Similar
Topic 2	Equestrian coaches	Similar	Different
Topic 3	Impact of horse not included	Similar	N/A
Literature 1	Physical education	Similar	Similar
Literature 2	Spectrum structure	Different	Similar
Structure	Teaching scenarios	Different	Similar
Main finding	Equestrian coaches believe they mainly use five Spectrum styles from two Spectrum clusters	Similar*	Similar

* Different in 1987 and similar in 2013.

Findings from all three studies are broadly comparable, in that the main finding was that coaches perceived they used the same or similar teaching styles (Table 5.2). In addition, all three studies focused on the topic of teaching styles, and the underpinning literature was sourced from physical education. The Struby (1987) study was similar to this research because the focus was on equestrian coaches, although it should be noted that the influence or impact of the horse on teaching was not included. In contrast to the equestrian focus of Struby (1987), but similar to this research on coaching sports, Hewitt's (2015) study was based on the Spectrum structure. Similar Spectrum-derived teaching scenarios were used. Therefore, the Hewitt (2015) data were better suited than those of Struby (1987) for re-analysing the frequency distribution of its survey responses (Appendix G). The re-analysis of Hewitt's (2015) data has been discussed in Section 5.1.1.2, as part of the two-way comparison of coaches' teaching beliefs in equestrian sports and tennis.

It was important to note that there were differences amongst the three studies, for example in the structure of the survey. As such, the comparison of the findings has been interpreted cautiously. In particular, for Struby (2013), the range of teaching styles nominated by equestrian coaches was interpreted as falling into categories of traditional and contemporary teaching behaviours. As noted earlier, these results were not based upon the teaching styles of the Spectrum (Mosston & Ashworth,

2008), although these categories could be respectively interpreted as similar to the reproduction of known knowledge and the production of new knowledge clusters of teaching styles in the Spectrum. If this interpretation was accepted, a general comparison of results could be made. It could then be concluded that equestrian coaches believed that they used a range of differing forms of teaching styles in their coaching practice, and that the nominated range of teaching styles was similar to the range of styles nominated by tennis coaches.

5.1.2. Observed teaching practices of equestrian coaches

In this second section of Finding 1, the results from Observations A are discussed as the second key finding, which contributes to addressing RQ 2. Based upon the application of the Spectrum teaching styles as an analytical lens, it was found that observed equestrian coaches used only Styles A and B in their teaching practices. These were the same two styles that tennis coaches were observed to have used in their practice (Hewitt, 2015).

The results of Observations A obtained from observing equestrian coaches teaching, and then coding their teaching styles in practice, reveal that a significant amount of their teaching time was spent in both Style B (Practice) (51.2%) and Style A (Command) (48.8%) (Table 4.12). These results echo those from previous studies on Spectrum teaching styles in sports (Hewitt, 2015), where the majority of the teaching time was spent in either Style A or Style B. However, in tennis, the majority of time was spent in Style B (88.8%) over Style A (11.2%), whereas in equestrian sports, it appeared more even. Teaching in Style A for longer periods than teaching with Style B may reflect the safety issues that exist in equestrian sports, where teaching in Style A offers the equestrian coach more control in the lesson. Common teaching practices of coaches that were observed included giving instructions, as Style A, asking questions, as Style B, and providing feedback, as Style B, in both group and one-on-one teaching situations. For some equestrian coaches and some equestrian sports, it appeared that a greater proportion of time was spent in Style B than in Style A. This occurred when the more experienced coach was working with a more experienced or qualified student and horse partnership. However, the use of Styles A and B may have also depended upon the individual coach, and the equestrian sports in action.

For example, one experienced coach, Tracey-Lee, spent the majority of time in Style A for Dressage where a student may need to work closely with the coach for intensive training (Table 4.14). She spent less time in Style A for Jumping, where a rider takes time to practise over the jumps, and the least time in Style A in Horsemanship, where students were not riding, and perhaps safety was less of a concern. These examples are only offered as indicators to outline possibly why equestrian coaches' use of teaching styles may vary over time and in different scenarios. However, these sample variations serve to support that future research in identifying why teaching styles are selected would provide useful information in advancing our understanding of how equestrian coaches teach.

Nonetheless, coaches were not observed to cross the discovery threshold of teaching and to transition into teaching styles of the production of knowledge cluster in Styles F to K. Mosston and Ashworth (2008) do not designate a higher value to one teaching style over another since their focus is on fitness-for-purpose. Nonetheless, the finding does raise the question of how effective coaches may be in their teaching, when they are only using teaching styles that are designed to reproduce known knowledge, rather than encourage students to produce new knowledge. This is in contrast to the evidence provided by Maw (2012), who asserts that equestrian coaches do not limit their coaching to forms of direct instruction only. She found that coaches who used a dialogue of open-ended questions and discussion were assisting students to self-direct and become independent thinkers.

Using a limited range of teaching styles is also inconsistent with the recommendations from the ASC manuals, *Beginning Coaching* (ASC, 2006) and *Better Coaching* (Pyke, 2001). The ASC endorses adaptive coaching, which is interpreted as the appropriate use of a range of teaching styles. The range of teaching styles that is recommended by the ASC includes the traditional, direct forms of authoritative teaching, as well as the styles of teaching that incorporate discovery-type learning styles. Teaching approaches such as Game Sense have been endorsed by the ASC to encourage coaches to diversify their ways of teaching (ASC, 2015). Adding this type of constructivist-based teaching to the traditional forms of direct teaching is perceived as advantageous by the ASC in developing effective coaching strategies. This recommended range of teaching approaches is greater than the two Spectrum styles that were observed to be used by the equestrian coaches. Using

Styles A and B only, which are both forms of direct teaching, limits their teaching to forms of teaching that reproduce known knowledge. This could be interpreted as equestrian coaches not using the full range of teaching approaches that are available, which does not align with the ASC's position on effective coaching. Thus, there is scope in the future to develop training options that include strategies for broadening the range of teaching styles implemented in sports coaching.

5.1.3. Divergence of equestrian teaching beliefs and practices

A divergence of teaching beliefs and teaching practices of equestrian coaches was identified as a third key aspect of Finding 1, drawn from the results on these topics, as reported in Chapter 4. The divergence will be briefly discussed in this section, before it is compared with a similar divergence found in tennis by Hewitt (2015), as another sport. It will then be suggested that these divergences may be associated with the perceived divergence of Style F (Guided Discovery) (Mosston & Ashworth, 2008), and guided discovery types of teaching, such as Game Sense, which were highlighted in Chapter 2 (Literature Review). This suggestion originates from the earlier finding that coaches of both equestrian sports and tennis strongly believed that they used forms of discovery teaching. A fourth section confirms that similar experiences of divergence between belief and observed practice are mirrored in mainstream education. This finding supports that research from mainstream education could be used to inform future research in ESP, which is proposed as variant of sports pedagogy. The fifth section examines the possible impact of the Spectrum-based instrument that was used to collect and analyse data on the results and informed the data analysis for this study, including the divergence of teaching beliefs and observed practices.

5.1.3.1. *Divergence of equestrian coaches' teaching beliefs and practice*

A comparison of respective results from the Survey questionnaire and Observations A reveals that there is a divergence between what the equestrian coaches believed they did and what were observed to be doing when they were teaching. It was apparent that equestrian coaches strongly believed they mainly used five of the 11

teaching styles of the Spectrum: Styles A, B, D, F, and H (Mosston & Ashworth, 2008), whereas coaches were observed using only Styles A and B in practice. The 12 coaches observed did not appear to use any of teaching styles from Style C to Style K in any of the 24 lessons recorded, which is interpreted as teaching only from the reproduction of known knowledge cluster of teaching styles in the Spectrum (Mosston & Ashworth, 2008). These comparative results reflect that, despite their beliefs that they applied a wide range of differing teaching behaviours or styles, the range of teaching styles observed by the researcher was narrower. The difference could be interpreted as reflective of a lack of understanding of the styles they purport to teach.

5.1.3.2. Comparison between divergences of equestrian coaches' and tennis coaches' teaching beliefs and observed practice

Results of the research show the same or a similar divergence, between equestrian coaches' teaching beliefs and their observed actions, and those of tennis coaches (Hewitt, 2015). Both equestrian and tennis coaches perceived they mainly used three Spectrum teaching styles: Styles A, B, and F. However, there were only two styles observed in teaching: Styles A and B. Thus, while both equestrian and tennis coaches believed that they taught using Style F (Guided Discovery) from the production of new knowledge cluster, the observation results did not show any form of teaching with Style F.

This result may be explained by the fact that the structure of the teaching styles within the Spectrum (Mosston & Ashworth, 2008) is designed specifically for the interactions between a teacher and a student only. The Spectrum has relevance to the teaching interaction between the equestrian coach and equestrian student, but the factoring in of any influence of the reactive horse's involvement is not possible. Although the proposition of the horse as a decision-maker was briefly explored, modifying the Spectrum structure or style definitions was not a feasible option for this phase of the research. However, the literature clearly supports the existence of an interactive partnership between people and horses in coaching equestrian sports (Cumyn, 2000). Therefore, ways in which horses influence how equestrian coaches teach were further explored in the latter stages of the research, as Observations B and

Participant interviews, which have been outlined earlier and are discussed later as Finding 2.

5.1.3.3. *Divergence of teaching beliefs and practice reflected in Guided Discovery and guided discovery conversations*

The impact of the Spectrum lens on the way the guided discovery teaching style was interpreted, compared with other author interpretations, emerged as a key focus of discussion. For example, Game Sense (den Duyn, 1997) is perceived as a teaching approach that uses constructivist forms of teaching, such as guided discovery. Additionally, the researcher proposes that Struby's (1987, 2013) contemporary teaching styles are similar in type to guided discovery teaching styles. Indeed, according to Struby (1987), guided discovery styles of teaching have been a feature of teaching equestrian sports for some time. Certainly, coaches in both this research, and Hewitt's (2015), nominated Style F (Guided Discovery) (Mosston & Ashworth, 2008) as a teaching style that they believed they used. As mentioned previously, authors such as Morgan and Sproule (2013) have modified the teaching styles of the Spectrum by assigning learning theories of behaviourism and constructivism to clusters of teaching styles. Behaviourism is associated with the Spectrum teaching styles in the reproduction of known knowledge cluster and constructivism is associated with those in the production of new knowledge cluster. However, the Spectrum authors do not accept this type of association or any interpretation of guided discovery that wavers from the specific characteristics of Style F (Guided Discovery) (Mosston & Ashworth, 2008; Goldberger et al., 2012).

The long association of forms of discovery teaching with equestrian sports, coupled with coaches' beliefs in both studies, strongly indicates that there is scope in future research to investigate the different interpretations of guided discovery. This would include an examination of the difference between Style F (Guided Discovery) from the Spectrum and the more generic terms associated with guided discovery that are widely used in sports pedagogy, such as in Game Sense (den Duyn, 1997; Light, 2013). Examples of well-known forms of constructivist teaching in mainstream education that are relevant to sport include experiential learning (Dewey, 1938), situated learning (Lave & Wenger, 1991), situated cognition (Brown et al., 1989), and communities of practice. Future research about adaptive teaching in sports

coaching could benefit from an exploration of these differences between differing interpretations of constructivist teaching. On this basis, a suggested avenue for further research might expand on the research presented here to examine, in greater depth, equestrian coaches' perceptions and experiences of why, how, or when, they use the discovery, or contemporary, teaching styles.

A key consideration from the standpoint of the Spectrum authors is the idea that new knowledge is rarely produced by more than one student at a time, when working in a group situation (Kenneth Edwards, personal communication, May, 2015). Their argument is that, in general, the one student who is engaged in answering the questions is the one producing, or discovering, new knowledge (Mosston & Ashworth, 2008). Therefore, rather than discovery, the other students learn by reproducing the new knowledge that was produced by the first student, and the overall teaching style is generally Style B (Practice). This type of group learning was observed in the campdrafting lesson, Observation 23, where one student at a time was instructed in, and learned, the art of cutting one cow out of a herd, while the other students watched from outside the yard. However, it is not known how each of those students learnt more about the skills required to campdraft, and how they perceived the lesson in the context of their own experience. Nonetheless, forms of guided discovery in the classroom are used in creating a community learning environment (Brown & Campione, 1990). For example, Brown and Campione (1994) have asserted that the group learning provides an opportunity for sharing and distributing the common expertise of the group. It is assumed that the campdrafting students would have had the opportunity after the lesson to discuss with other students, as a form of peer learning (Boud, Cohen, & Sampson, 2014), in a social learning context (Bandura, 1977). They were members of a Pony Club, which could be thought of as community of practice (Lave & Wenger, 1991). Marzano and Pickering (2010) argue that engaging students is key to realising their learning potential. It is likely that all of these forms of learning are applicable in an equestrian teaching context.

Another consideration for the researcher was the observability of the discovery threshold of knowledge in the Spectrum, particularly where it delineates the reproduction cluster of teaching styles, Style A to Style E, and the production cluster of teaching styles, Style F to Style K. How to know, as an observer of behaviour, that

the discovery threshold in the Spectrum is crossed because new knowledge is produced, rather than reproduced, is not always clear. Chatoupi (2010b) offers a similar critique of the practicality of the Spectrum as an analytical lens to observe teaching in action, although it must be remembered that the original intent of the Spectrum was for teachers to self-reflect on their own practice (Mosston, 1972). Additionally, observation instruments have since been designed and applied in research, as evidenced by, for example, the work of Hewitt (2015).

It is beyond the scope of this research to explore these larger pedagogical issues, such as the differing interpretations and applications that constitute the various meanings and interpretations of discovery learning. However, the research has reinforced the need for an ongoing dialogue about sports pedagogy and teaching styles, and in particular, to work towards resolving these issues. Indeed, there is scope to continue the dialogue, with the focus on discerning the characteristics of the three Spectrum discovery teaching styles, Styles F to H, from the production cluster of styles, which consists of Styles F to K. This is particularly so for Style F (Guided Discovery) comparisons with teaching approaches such as Game Sense, as previously suggested.

The confusion surrounding teaching associations of the term guided discovery has also demonstrated the need for equestrian coaches to be familiar with pedagogical principles that are used in teaching equestrian sports. Armed with this information, it is surmised that each equestrian coach could then formulate and articulate their personal beliefs and actions, in relation to teaching and the use of teaching styles, in a range of teaching situations in equestrian sports. An awareness of the subtle differences between teaching styles could assist coaches in preparing and delivering more efficient lessons to particular students, depending on their individual requirements for them and their horses.

5.1.3.4. Divergence of teaching beliefs and practice reflected in similar conversations in mainstream education

As noted previously, these teaching styles-based results from equestrian sports and tennis are similar to some mainstream education studies, where teachers' beliefs or intentions were not the same as the actions taken in teaching practices (Fang, 1996; Murray & Macdonald, 1997). Within the field of teaching physical education,

SueSee (2012) reported a similar divergence of teachers' beliefs and actions in teaching activities in the classroom. Kane, Sandretto, and Heath (2002) argue that there have been few studies where teachers' beliefs have been quantified by observations of teaching in action, and that teaching beliefs were often interpreted and reported as teaching practice. For example, Struby (1987) made the assumption that her survey results from equestrian coaches constituted their teaching practice, and she considered no potential divergence in her results. Aspects of teaching from mainstream education influence sports pedagogy (Jones, 2006; Cushion et al., 2010; Jones & Kingston, 2013). These studies help to more broadly contextualise the findings of this research, including the way in which the Spectrum teaching styles have been interpreted by equestrian coaches within the literature from mainstream education. The similar results amongst equestrian sports, other sports, and those of mainstream education have led to the conclusion that the gap between beliefs and actions is an issue of teaching and is not confined to equestrian sports. As such, ESP could be investigated through the encompassing lens of mainstream education, as, for example, equestrian pedagogy, involving the horse, student, and coach. In this context, ESP would be defined as teaching and learning with horses, where a sports coaching context is not a pre-requisite. This broader, educative perspective may offer more or better explanations, as to why this divergence between beliefs and practice occurs in equestrian sports, or alternatively, if it occurs at all. Prosser and Trigwell (1999) argue for a positive correlation between teaching intentions and teaching actions. Taking their position into account lends credence to supporting the argument below, that using a specific lens, such as the Spectrum, may be influencing what is perceived and observed.

5.1.3.5. Examining the underlying instrument of data collection

In this section, the decision-making structure of the Spectrum is examined to identify how the perceived structure of a Spectrum-based observation instrument may have influenced how it was implemented and the subsequent results that were produced. The historical relationship between forms of teaching promoted in equestrian sports and physical education has supported the applicability of the Spectrum in the research. The finding that teaching beliefs and observed practices of equestrian coaches diverge, as do those of tennis coaches, is significant. However, questions

must be raised as to why these divergences occurred between the coaches' perceptions and the researchers' perceptions of the coaches teaching. In both cases, the data collection and analysis tools based on teaching styles of the Spectrum were a common factor. There are many reasons for how or why a divergence may have existed, and, where possible, these reasons need to be investigated, as they may strengthen the findings that have emerged from the results. As such, the teaching styles of the Spectrum have been further examined in the following section, to unpack any possible limitations, given the Spectrum's specific nature and the parameters of this study. A thorough investigation related to the observed decision-making has been undertaken (Appendix H). From examining the text of *Teaching Physical Education* (Mosston & Ashworth, 2008), the 54 pre-determined key decisions made by the coach and the student across the landmark teaching styles (Styles A to K) were identified. This is summarised below for the sake of brevity.

5.1.3.5.1. The decision-making structure of the Spectrum

This section examines the perceived limitations of the Spectrum and, specifically, its decision-making structure. Decision-making is the principal means of differentiating between teaching styles in the Spectrum (Mosston & Ashworth, 2008). However, as previously mentioned in Chapter 2 (Literature Review), the concept of decision-making is not clearly defined. Also, how the decision-making shifts to characterise each teaching style is not always clear, particularly for Styles C to K. Additionally, the way the shift in decision-making relates to the teaching descriptors in the ICTLS instrument (Ashworth, 2004), which was used for the teaching scenarios in the Survey questionnaire, is not easily identified. In search of answers to address these issues, the text of *Teaching Physical Education* (Mosston & Ashworth, 2008) was closely examined.

As elaborated from *Teaching Physical Education* (Mosston & Ashworth, 2008), 54 key decisions characterise each of the 11 landmark teaching styles (Appendix H). For example, there are nine decisions made by the teacher that shift to the student when transitioning from Style A to Style B. After Style B, the remaining 45 decisions that change from one teaching style to another were not so well-defined.

To establish a solid understanding of the Spectrum structure, the available, relevant information from *Teaching Physical Education* (Mosston & Ashworth, 2008) is

summarised in Figure 5.1. It displays the number of key decisions for each of the 11 teaching styles from Style A to Style K. The details of how the figure was constructed are reported in Appendix H.

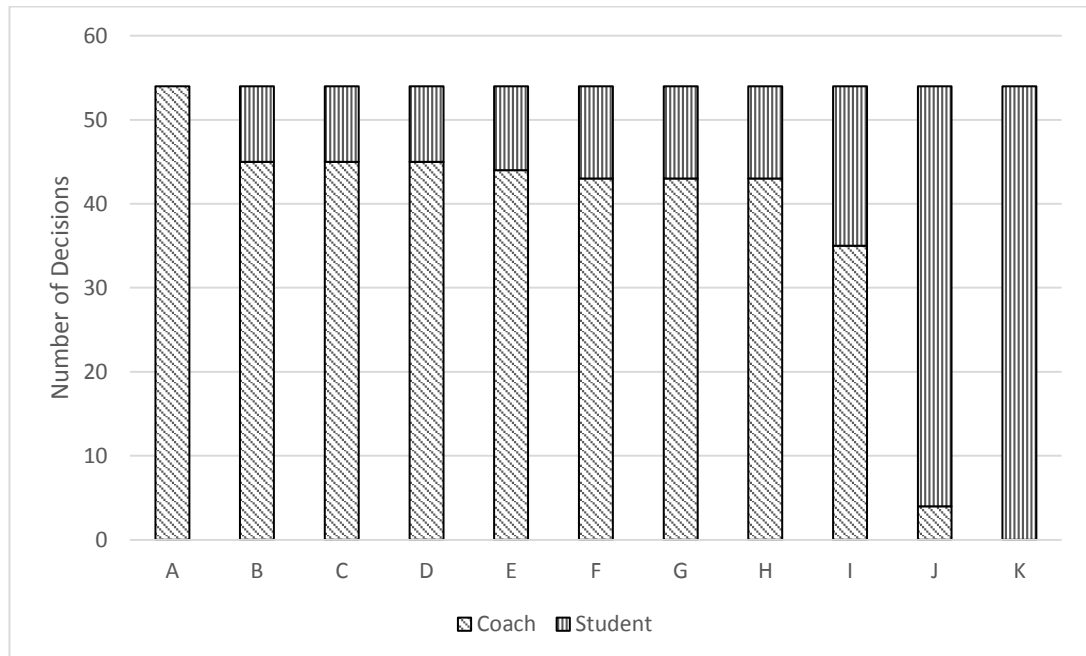


Figure 5.1. A summary of the 54 key decisions made by the teacher and student that shift from one teaching style to another in Mosston and Ashworth’s (2008) Spectrum of teaching styles.

Figure 5.1 shows how many of the 54 key decisions are made by the teacher and how many by the student, in each of the 11 teaching styles of the Spectrum. In Style A (Command), the teacher makes all of the 54 key decisions (100%), and in Style K (Self-teach), the student makes all of the 54 key decisions (100%). Between these two ends of the Spectrum, the number of key decisions made by the teacher or the student varies when transitioning from one teaching style to another. As far as could be ascertained, nine decisions (17%) shift from the teacher to the student, when Style A (Command) becomes Style B (Practice), Style C (Reciprocal), or Style D (Self-check). An additional one decision shifts to become Style E (Inclusion), and then another decision shifts to become Style F (Guided Discovery), Style G (Convergent Discovery), and Style H (Divergent Discovery) across the discovery threshold of the Spectrum. By crossing the discovery threshold, teaching shifts from the reproduction of known knowledge cluster, Style A to Style E, to the production of new knowledge

cluster, which is Style F to Style K. From Style H (Divergent Discovery) to Style I (Learner-designed individual program) involves a shift of eight key decisions (15%), and then a shift of 34 decisions (58%) is needed to shift to Style J (Learner-initiated). There are another four decisions (7%) that shift from Style J (Learner-initiated) to Style K (Self-teaching). In Style K, as mentioned above, the student makes 100 percent of the key decisions, and the teacher makes none of these decisions. The largest shift of decision-making from the teacher to the student, is found when transitioning from Style I (Learner-designed individual program) ($n=35$) to Style J (Learner-initiated) ($n=4$). By contrast, there are no additional shifts in decision-making identified between Style B (Practice), Style C (Reciprocal), and Style D (Self-check), and between Style F (Guided Discovery), Style G (Convergent Discovery), and Style H (Divergent Discovery).

There is scope to clarify aspects of decision-making in the teaching styles of the Spectrum. The terminology used to discuss decision-making could be better defined and associated with existing definitions of decision-making, for example, from Marzano and Pickering (1997), Chatoupis (2007), and Oxford University Press (2015). Although it is purported by Mosston and Ashworth (2008) that the key decisions are pre-determined, what those key decisions are is not clear in the text. Therefore, it may be difficult to identify who is the maker of the decision and who is responsible for implementing the decision. This is the type of detail that needs to be identified or clarified to take the development of the Spectrum structure forward.

From this examination of the key decisions that shift from one teaching style to another, a summary has provided key information that may help to identify the decision-making structure of teaching styles that are actioned. However, the summary also highlights the need for Spectrum authors to clarify many of its elements as part of future Spectrum development, so that researchers in the future can readily discern the shifts of decision-making that occurs between the teaching styles. More work is needed to clarify the implicit and explicit decisions that are made by equestrian coaches, and to fully understand how and why people make decisions. Taking this direction could lead to finding out more about how equestrian coaches make instructional decisions and actions, and how that is linked to their perceptions of teaching. This approach may contribute to providing a more complete picture of how the proposed concept of ESP will emerge and develop over time.

5.1.4. Summary of Finding 1

Finding 1 has been presented through three key findings that have addressed the first two research questions, RQs 1 and 2, to find that the teaching style perceptions of teaching and observed teaching practice were similar for both equestrian and tennis coaches. First, it was found that the equestrian coaches perceived they frequently used five Spectrum styles: Styles A, B, D, F, and H. This set of five teaching styles was similar to the four Spectrum teaching styles that tennis coaches perceived they used (Hewitt, 2015). The predominant three teaching styles nominated by both types of coaches were Styles A, B, and F. Second, the equestrian coaches were observed to be using only Styles A and B, which were the same two Spectrum teaching styles that were observed in tennis (Hewitt, 2015). Third, there was a discrepancy between the observed teaching styles and those that the equestrian coaches perceived as teaching styles they used in their teaching practices. This discrepancy is similar to that identified in tennis coaching by Hewitt (2015). Additionally, a summary of the key decisions that shift from one teaching style to another has been presented, as the perceived limitations of the Spectrum decision-making structure made it difficult for the researcher to discern who was making particular decisions. Therefore, identifying the teaching style actioned by equestrian coaches was not always easy to do. It was also found that the structure of the Spectrum teaching styles is not designed to factor in the influence of the horse, so none was perceived or observed. However, the position drawn from the reviewed literature in Chapter 2 was that there is a connection between people and horses, and the work of Cumyn (2000) has highlighted the interconnections between the coach, the student, and the horse. From this literature, it was hypothesised that this interconnectedness of people and horses would be evident in determining how equestrian coaches teach. Listening to these different voices may offer multiple perspectives and perceptions of ESP. There is further scope to identify the role and interactive nature of the horse in ESP, and this is targeted in the next section, Finding 2.

5.2. Finding 2: The Equestrian Coach Considers the Student and the Horse when Teaching

In addressing the third research question, RQ 3: “How do horses contribute to ways in which equestrian coaches teach in equestrian sports?”, the second major finding from the research, Finding 2, was that the equestrian coach considered both the student and the horse when they were teaching. This second major finding builds on Cumyn’s (2000) research in this area, which confirms the existence of various communication strategies that occur between the coach, the student, and the horse in equestrian sports. Similarly, Maw (2012) asserts that three minds come together in teaching equestrian sports, so the horse’s contribution must be considered.

Accordingly, she provides the argument that lessons can be identified as either student-focused, or horse-focused, depending on the language used by the coach. As such, the occasions where the research highlighted instances where the horse was contributing to pedagogy in equestrian sports are discussed in this section of the chapter. The results discussed will leave no doubt that the horse does contribute to ESP. The equestrian coach must take into consideration the behaviour of the horse in addition to that of the student, and be aware of what is happening within the student and horse partnership.

Three key findings emerged as elements of Finding 2 from Chapter 4 (Results), and are discussed in the next sections. These key findings are:

- Teaching for equestrian and equine safety is essential in equestrian sports
- The horse impacts on, or influences, decision-making in equestrian sports
- Adaptive coaches respond to the horse’s behaviour in addition to that of the student.

Following these sections, the concept of ESP (Figure 2.5), as first proposed in Chapter 2 (Literature Review), is revisited in light of the key findings in Finding 2. Evidence that supports this proposition is discussed. The following section discusses the future direction for EFL in equestrian sports, which was the initial motivation for conducting the research. A summary of conclusions from Finding 2 is provided to conclude that the horse does contribute to the way equestrian coaches teach in equestrian sports. Not only is the horse considered by coaches in how they teach, the

horse may have a great impact and influence on the ways pedagogy is implemented in equestrian sports. As a consequence, it is argued that ESP should be considered as a unique and specialist form of sports pedagogy. Also argued is that these differences to sports pedagogy need to be considered by equestrian coaches, and explored more fully in coach education coursework.

The three key findings that inform Finding 2 were drawn from Category 3 (Different), and have been presented earlier in Chapter 4 (Results). These include Theme 6 Teaching for equestrian and equine safety is essential, Theme 7 The horse impacts or influences the decision-making, and Theme 8 Adaptive coaches respond to the horses' behaviour in addition to that of the student. This category of three themes, Themes 5 to 7, and their associated sub-themes, represent some of the observed and reported equestrian activities related to various aspects of teaching equestrian sports that were generated from the integrated dataset of Observations B and the Participant interviews (Table 4.15). These themes include instances where aspects of ESP are perceived to be different to the more general forms of sports pedagogy, and it was apparent in these themes that the horse directly impacted on how equestrian coaches taught.

5.2.1. Teaching safety with horses is essential in equestrian sports

From Theme 5 in Category 3 (Different), the conclusion was that equestrian and equine safety is essential for teaching and learning in equestrian sports. Overall, the results indicated that all of the equestrian centres where lessons were observed displayed a high regard for ensuring the safety of the students and the horses. In particular, the data from the observations showed that safety considerations were in play before, during, and after, the times when the equestrian coach was actively teaching. The horse's role in these interactions was not fully explored though it was clear how coaches took the responsibility of ensuring that the horse was suitable for the level of the rider, and for the coach's intent of the lesson. It was apparent that part of the coach's job was to be an equestrian expert who could assess the reliability of the horse, and predict and, thus prevent, any safety issues occurring. These are moral considerations, such as personal safety for all, which the equestrian coach has to entertain in regard to how they teach safely in equestrian sports. Considering safety

when coaching is relevant at all times as the student's interactions with horses continue outside the perimeter of the lesson in the arena.

In Australia, educating coaches on their responsibility towards retaining a level of safety in all sports is not new (ASC, 2006, Pyke, 2001). However safety in equestrian sports extends beyond the normal safety considerations of people, as equestrians, to that of the horse, as an equine. These additional considerations suggest that safety in equestrian sports is different from that of other sports, due to how the live, thinking horse interacts with the coach, the student, and the surrounding environment. It was evident that coaches knew that having safety processes in place was important. This involved recognised, culturally acceptable procedures that were taught and implemented correctly at all times. Therefore, the finding confirms that equestrian coaches were mindful of their teaching responsibilities, in regard to implementing safety requirements. Maw (2012) similarly recognised that safety is a fundamental part of being in an equestrian environment. Nonetheless, she reported some occasions where a safe environment was not fully evidenced and that the levels of safety required in equestrian sports have increased over the last few decades. She agreed that equestrian coaches need to be particularly mindful of equine and equestrian safety. This is particularly evident in relation to students who are learning and when teaching in group situations, where it is most likely that the unexpected will occur.

It was also evident from the results that the student learned with the horse away from the coach, and what the student learned was more than riding skills. It is feasible to suggest, based on observed interactions and interview data, that many personal skills were being learnt. The results highlighted a number of occasions where students were learning how to be safe around horses, largely from observing how other students managed their horses. Cushion and colleagues (2010) recognise the value of learning that occurs in the informal learning environment. However, it was also apparent that not all equestrian coaches were aware of the type, and the extent, of the informal learning that occurred for the student and the horse. It was doubtful that all coaches, at each of the centres, realised the extent that other equestrians modelled their behaviour. Therefore, this finding implies that, for safety reasons, it is important that coaches set good examples of behaviour for others to follow. Such a conclusion supports the proposition that coaches need to be educated and experienced enough to

lead by example, and to ensure that all students follow the safety procedures that are in place in each equestrian establishment.

5.2.2. The horse impacts decision-making in equestrian sports

From Theme 6 in Category 3 (Different), it was concluded that the horse does impact on how decision-making is perceived or implemented in teaching equestrian sports. However, this conclusion must be interpreted with caution, as the definition of decision-making has not been fully determined in relation to the terminology used in the Spectrum (Mosston & Ashworth, 2008). As mentioned again in Finding 1, literature on decision-making is broad and can be interpreted in many ways. The key decisions made in the Spectrum are pre-determined, which is taken as similar to “the act or process of making important decisions” (Oxford University Press, 2015), rather than taking actions to make a choice from available options, or to find an appropriate solution to solve a problem (Chatoupi, 2007; Marzano & Pickering, 1997). The general consensus taken from these sources is that rational decision-making is a multiple-step process of problem-solving, which answers the question: “What is the best way to ...?” Once the issue is identified, and the options are clarified, a decision is made to choose the best alternative in achieving the desired goal, or outcome. If the choice is evaluated, another cycle of decision-making may be initiated, as an ongoing process.

The results in Theme 6 reinforce that, based on several examples, the horse is perceived to be an interactive contributor to pedagogy in equestrian sports, and it is possible that the horse could be considered a decision-maker in some contexts or circumstances. As one example, pace and rhythm is a key decision listed in the Spectrum for the coach in Style A and for the student in Style B. From the Observations B data presented in Sub-theme 1, it was noted that it could be argued that the horse, and not only the coach or the student, was a contributing decision-maker of pace and rhythm in determining how much ground was covered, and how smoothly that was performed. The decision-making of the horse, for example, in regard to pace and rhythm, was also evident in the dynamic interactions of students and horses, as reported in Sub-theme 3. Evidence was presented to show that a student may have little influence on one horse’s decision to travel at a set rhythm in

the trot, whereas, the same student on another horse may influence that horse's decision to travel at a certain speed. This result means that the input to pace and rhythm from the coach, the student, and the horse, varies according to the behaviours of all three contributors.

In Observations B, it was apparent that key decisions made by the coach were influenced by the behaviour of the horse. To argue that the horse was a contributor or a decision-maker in Observations B is in contrast to those results from Observations A. Those observations were based on teaching styles from the Spectrum (Mosston & Ashworth, 2008) where the horse, by definition, was not considered at all. As mentioned in Finding 1 and above, what constitutes decision-making is not fully defined in the Spectrum. As such, how the horse specifically contributes, in aspects other than in teaching styles of the Spectrum, was not easily identified. However, it was evident that there is scope to further explore the decision-making attributes of the horse, in conjunction with those of the coach and the student, as people. Then it may be clearer how the horse may be perceived in making decisions, or in influencing the overarching decision-making process, of the coach and student interactions during these lessons.

This key finding highlights the possibility that every horse will have its own response to the student's commands, depending on how effectively they communicate, when following requests, or instructions, from the coach. The horse is thinking, learning, and changing its behaviours and reactions in response to the student's commands, and possibly its environment, as the teaching progresses through the dynamic and evolving nature that happens in these interactions over time. Horses often act instinctively and in a manner that is different for each individual. The differing characteristics of the horse are recognised as important in equestrian coach education (EA, 2015a; OHC, 2015). For example, the coach may find that within a group lesson, the students may be at similar competency levels to each other. However, horses may be trained to differing levels, and may respond differently to that of another horse, with any of the students' commands. It was evident from the results that the same horse would respond in different ways to two riders of varying competence. Considering the response, or reaction, of the horse is a major difference between coaching in equestrian and coaching in other sports, where the individual

reaction of the bats, clubs, racquets, and balls is not a major consideration for teaching.

5.2.3. Adaptive coaches respond to student and horse behaviour

The third key finding, from Theme 7 in Category 3 (Different), was that equestrian coaches adapted their teaching, in response to the horse's behaviour, in addition to that of the student. Compared with the skills developed with an inanimate object, such as a bat and/or ball, which produces reliable, consistent results in other sports, partnering with a horse is different. Each time a coach or student interacts with a horse, it produces a potentially different response to that of previous occasions. The horse is also learning, or reacting, with the student in these experiences.

As previously discussed, adaptive teaching in sports coaching, is traditionally associated with using a range of teaching styles, as appropriate, to achieve effective student learning (ASC, 2006). These teaching expectations are outlined in the Australian Sports Commission (ASC) coaching manuals, *Beginning Coaching* (ASC, 2006) and *Better Coaching* (Pyke, 2001). In Finding 1, as discussed in an earlier section, the results from the Survey questionnaire and the Participant interviews demonstrated that coaches' beliefs, in regard to their ability to adaptively teach, were aligned with these teaching expectations.

The results gathered from observing coaches teaching and talking with participants indicated that coaches' equestrian expertise allowed them to adapt their teaching to match the horse's behaviour. This mirrors their ability to know when to adapt their teaching to suit the students' stages of learning. Therefore, it is possible to argue that in equestrian sport adaptive teaching needs to be interpreted differently than in general sports pedagogy, because it extends to the horse. Nonetheless, it was difficult to identify how much any partner was influencing another. A more detailed examination of teaching equestrian sports under normal circumstances would be required to determine, for example, the percentage of time that the horse is influencing the coach, or the coach is influencing the horse, and what effect that influence creates. Cumyn (2000) has examined these relationships, to also conclude that these types of interactions are complex and dynamic. Thus, recognising and

interpreting this pedagogy is critical in progressing the knowledge and understanding of the coaching process in equestrian sport.

Aspects of ESP are uniquely dynamic and different to those found in general sports pedagogy, as discussed earlier in the second key finding of Finding 2. An example of this uniqueness in action was observed in the long-reining activity, first reported in Sub-theme 1 of Theme 7. Coaches in many sports often demonstrate techniques required to play sports. However, when an equestrian coach gives a demonstration to a student by actually riding or managing the student's horse, they are often also training the horse to give a better response to the students' aids. Aids are the communication signals or cues that a rider offers the horse to enact a desired action or behaviour (FEI, 2015). This ability to demonstrate and train was witnessed in Observation 5, where notes revealed that the coach, Tracey-Lee, was handling the horse, Charmer, on the ground and asking for the horse to give a similar performance to that which would be expected of the horse when it was ridden. As was the case for Jamieson with the long-reining activity reported in Interview 5, students often find that the horse is more responsive and easier to manage and ride after the coach has worked with the horse. This scenario from teaching equestrian sports cannot be easily transferred to teaching in other sports.

Equestrian coaches can have a dominant role as decision-makers in teaching, as evidenced in Finding 1. However, their way of teaching should be one that finds a balance of control and freedom to best encourage and develop the talents of both the student and their horse, as indicated in Finding 2. At times, this may require direct interventions with the horse. Overall, these findings do not fully reflect the extent of the coaching finesse that is anecdotally evident in coaching effective equestrian partnerships. Nonetheless, there is enough evidence to indicate the possible directions of adaptive coaching in equestrian sports that could be explored in future research. One of these directions is to further explore the teaching language of the equestrian coach, which is briefly discussed next.

5.2.3.1. *The teaching language of the equestrian coach*

Of most interest is the discovery of the role of the equestrian coach as an interpreter and translator of the equine language, which is necessary for the student and the horse to communicate. Maw (2012) similarly positions the horse as central to the

feedback that occurs between student and coach. Developing a sense of feel with the horse is considered highly important in riding, and, as such, guided the predominance of questions asked with this theme. A focus on the particularities of adaptive coaching in equestrian sports highlights the coach's teaching language as a useful indicator of the coach's competence in this context. The dialogue of the coach is indicative of the extent of the triadic communication amongst the coach, the student, and the horse. An important component of this finding was the coach's knowledge of the horse's language, and their ability to interpret this language for the student so that the student was then able to communicate with the horse effectively. For example, from Sub-theme 1, in Interview 1, Tracey-Lee confirmed that she believed it was essential, in her role as an equestrian coach, to be able to interpret the horse's behaviour, and translate that information, so that the student's actions would result in an effective outcome. The results from the research echo the work of Cumyn (2000), in demonstrating that a three-way communication process is present amongst the coach, the student, and the horse, in teaching equestrian sports. Additionally, the results in this key finding corroborate the idea that communication with the horse occurs in more than one form, as, according to Cumyn (2000), information is communicated to, and from, the horse audibly, visually, and kinaesthetically. From her observations of teaching, Maw (2012) asserts that she can differentiate between the language of a coach teaching a horse-orientated lesson and a lesson that is focused on what the rider needs to do. For example, the coach saying to ride more forward is horse-orientated and the coach saying to use more of their lower leg is student-orientated. Her work similarly details that the language of coaches is an indicator of their teaching ability in considering both the horse and the student in equestrian sports.

Language is known to be important in coaching other sports. For example, Millar and colleagues (2011) reported that rowing coaches' self-awareness of the language they used with students was limited. These authors reported that there was scope to develop coaches' awareness of their language. The finding presented here, as part of the third key finding in Finding 2, further supports the idea that the coaches' language is an important identifier in observing the factors that influence how coaches teach, or communicate, with their students. This is even more important in equestrian sports because the horse is part of a communication triad. It was apparent

that the equestrian coaches' teaching language was an explicit indicator of their expertise for interpreting the language of the horse, and communicating effectively with the student. However, it was not clear from the evidence that all equestrian coaches were aware of their own communication with the students, or of the impact of what they were saying, or not saying, on what the student was learning.

As the researcher has equestrian expertise, it was possible to observe the subtle student learning that occurred with the horse to produce an effective learning outcome. Equestrian students learn to develop the kinaesthetic or physical requirements of equestrian competence. Developing physical skills in riding requires the student to develop a sense of movement from both themselves and the horse (GNEF, 1997). Kinaesthetic learning is one of three learning types in the VAK model: visual, audible, and kinaesthetic, which is one of many models of learning identified (Coffield, Moseley, Hall, & Ecclestone, 2004) Fleming (1995) added reading or writing to create the VARK model, which is now widely used. Thus, the use of the language in the observed lessons was contextual, and that having a researcher with equestrian expertise may have made a difference to how the coaches' language was interpreted. By knowing the coaches' language, it was possible for the researcher to identify differences in the coaches' communication strategies for the same command. For example, in results from Observations A, a command given by the coach, such as: "Follow the circle at E, the arena marker halfway along the side of the arena" was categorised as the Spectrum teaching style of Style A (Command) (Mosston & Ashworth, 2008). However, the definition of Style A cannot account for a context where the command given was automatic, one-way and as part of a planned activity, or when the command was a response to the student's feedback, as two-way communication. A response command would be, for example, where the coach could see that a change of direction would benefit the student in helping to regain better control of the horse. Identifying this lack of differentiation between automatic and response commands in Style A would be the same in all sports. This level of coaching expertise could not be determined or reflected by the Spectrum classifications given in each observation.

Differentiating these automatic and response commands is not possible in the Spectrum (Mosston & Ashworth, 2008), as there is no such differentiation within each teaching style. However, Maw (2012), as another knowledgeable equestrian,

refers to the automatic command, Instructing, as a one-way dialogue and the response command, Teaching, as a two-way dialogue. Similarly, Auty (2008) describes the Automatic command in the equestrian context as Teaching by using a direct approach and would define fine-tuning as Coaching. There is scope to further differentiate Maw's Coaching, to determine where experienced students take responsibility for their own learning, although this was rarely observed in the research. Nonetheless, in the researcher's own experience of higher level coaching, experienced students make their own judgements in various activities. For example, when a coach is working with an advanced showjumping rider who is training his/her own horse through a series of jumps in the arena, the coach may say, "This time come through the training grid, track left and make sure that your horse lands on the ground in left canter". On the way to the grid, the rider may feel that the horse has quickened his pace. In response, and without a command from the coach, the student will ride a circle at the arena marker at A to regain the required level of control before approaching the jump. Again, it is noted that a researcher of ESP may need to have a high level of equestrian expertise to register these types of differences in command-giving when observing coaches teaching.

The impact of the horse, on when or how these response commands were given, was evident from the notes taken in Observations B, where different coaches gave similar teaching commands for different purposes, or with different intent. The results show that the observed response command could be differentiated into a response to the student behaviour as a two-way command, and a response to the horse behaviour as a three-way command. For example, rather than giving that previously mentioned command of "Follow the circle at E" to benefit the student, the same command could be given to benefit the horse. If the horse had come through the corner and naturally quickened its rhythm, the coach would have used the circle for the rider to steady the horse's rhythm again. Thus, it was apparent that capturing ways in which the horse influenced how the coach taught in these situations was not able to be adequately reflected by categorising teaching styles within the guidelines of the Spectrum structure.

As the researcher is also a coach, it was possible to determine the reason for the command to be given. Having personal equestrian expertise enabled the researcher to read the body language of horses' behaviour, and be able to determine the nature and

extent of the horses' influence on the observed scenarios. To students who were learning, the reasoning behind the command became clearer for them when the coach clarified their intent with more information. To follow the command with a comment: "Going on the circle will help you to get your horse steady again" was helpful to the student to know the reasons for each command. It was also helpful for an observer to better identify the communication that was evident. This type of additional information also helped this observing researcher to clarify the coach's intent in each lesson.

Establishing a feedback loop is essential in effective teaching (Pollock, 2012). For the equestrian coach to verbalise: "Did you notice that you looked where you were going when you came onto the circle?" indicates a response to the previous behaviour of the student. By contrast, for a coach to verbalise: "The horse became steadier on the circle. Did you feel that?" indicates a response to the horse's behaviour. On this occasion, the coach recognised that the horse needed to go onto the circle to be steadier. The coach then communicated that message to the student to see if the student is communicating with the horse.

It is clear that the coach's response to the horse's behaviour can extend the two-way communication of the coach and the student dyad, which is commonly found in all sports, to a three-way form of communication, as Cumyn (2000) identified. In the example given above, the communication was represented by a flow from the horse, to the coach, to the student, to the horse, to the student. The extent of the ongoing feedback loop implies the strength of the connections amongst the coach, the student, and the horse, and may reflect the coach's expertise in their ability to interpret and translate the language of the horse, and the student. The effectiveness of this communication can also be observed in the quality of the riding and performance that is produced.

This longer flow of communication was observed more often with the more experienced coaches. As the coach Tracey-Lee, said in the interview data, she could interpret and translate the language of the horse effectively, as she was a highly accredited and experienced coach (Interview 1). It was evident that some coaches, but not all, had learned and retained this communicative ability to know and interpret the horse's behaviour and how to incorporate that into the student's learning

development. This was noted in the observation data where, for example, coach Lucy, spent a large percentage of time in three-way communication (Observation 20), whereas another coach, Robert, did not follow-up on many of his commands with more dialogue (Observation 23). Coaches who responded to the horse's behaviour implicitly, and did not offer the follow-up communications when required, may have been able to help students more if the benefits of feedback were realised, and could learn to vocalise their interpretations of the horse's behaviour to the students.

It is worth reiterating that the findings, in regard to ways of communication in the equestrian triad, concur with those of Cumyn (2000). This concurrence highlights that there is little spatial or temporal difference in Cumyn's research from Canada in 2000 to that from Australia in 2015. As Cumyn's (2000) was the only text found in the literature that embarked on exploring the contribution of the horse in the equestrian triad, this research is therefore a significant contribution, in that it has doubled the amount of available literature that relates to the equestrian triad in ESP.

Therefore, the concept of adaptive teaching in equestrian sports is unique, due to the ways that the horse contributes to the training, language and dialogue in the pedagogy. The teaching language of the equestrian coach was identified as a strong indicator of the extent to which each coach was able to explicitly vocalise their knowledge of the interactions that were occurring within the equestrian coaching triad. Important variations to the commands given by coaches, in relation to coaches responding to the impact of the horse on their teaching styles, were captured. This information has given an important insight into the use of teaching styles in equestrian coaching, and has reiterated the contribution of the horse in teaching equestrian sports. At times, a coach is communicating directly with the student/rider. The rider also communicates with the horse, and the horse responds. The coach interprets and translates the messages from the horse, and verbalises the next required action to the rider. This ability of an equestrian coach to interpret and translate the language of the horse is an important contribution to establishing ways in which the horse interacts in teaching equestrian sports. It gives rise to the notion that ESP requires the specialist skills of equestrian expertise that comes from experience in the equestrian arena.

This finding also supports the proposition that it is not enough to be an expert coach, as equestrian expertise is needed, and it is not enough for equestrian coaches to have equestrian expertise, as they also need to have teaching expertise. Equestrian coaches know how to read and manage the behaviour of horses in a safe manner. The fact that effective equestrian coaches call on specialist knowledge and skills to interpret and translate the language of the horse provides enough evidence to argue that there needs to be a unique, specialist positioning of ESP in relation to the more general form of sports pedagogy. The special elements and context ensure that ESP is not always fully contained within general sports pedagogy. Justifying the additional information, which is unique to equestrian sports, goes hand-in-hand with arguing for the specialist competence that is required in teaching equestrian sports. There is an important role for equestrian coach education to use this information, and explicitly explore these unique pedagogical principles. This approach will fill the gap between having equestrian expertise that benefits a person and their horse, and gaining equestrian coaching expertise which encompasses the coach, the student, and the horse.

5.2.4. Equestrian Sports Pedagogy

A combination of the key findings, particularly from aspects of Finding 2, provides further evidence to support the concept of a distinct ESP. The conceptual lens of ESP was proposed in an earlier chapter as three overlapping circles representing the interactive C, coach, S, student, and H, horse (Figure 2.5). Initially, proposing the model was a result of synthesising literature from equestrian sports and sports pedagogy to formulate the concept called ESP. Its purpose was to use it as a lens for conducting the research, and also as a proposition, which allowed for specific consideration of the horse and the unique aspects that are associated with coach, student, and horse interactions. Literature from equestrian sports provided the evidence for connecting people and horses, and literature from sports pedagogy connected the coach and the student. Only one source of research (Cumyn, 2000) fully connected the coach, the student, and the horse, while Maw (2012) also acknowledged the horse as a partner in teaching equestrian sports. Based on Cumyn's work, it was proposed that the overlapping spaces that include the horse, as the coach and horse (C-H), the student and horse (S-H), and the coach, student, and horse (C-S-H), are unique to equestrian sports, and create a unique learning

environment because the horse is present. Only the coach and student interactions are traditionally recognised in sports coaching. These equestrian interactions, which are represented in various findings presented in this chapter, highlight the teaching and learning that can occur with the presence of the horse, which the equestrian coach needs to be aware of and effectively manage.

As discussed in Chapter 2 (Literature Review), the interactions between coach, student and horse that form the basis for presenting a concept of ESP are comparable with Cumyn's (2000) model of communication in dressage (Figure 2.1). Both models acknowledge that the horse is an integral part of the pedagogy in equestrian sports, and both are of value in conceptualising the role of the horse in equestrian sports. However, the ESP variation is slightly different in construction to that of Cumyn (2000) because, visually, it brings a focus to the interactive, overlapping spaces, and extends the focus from Cumyn's (2000) communication to the broader aspects of pedagogy that exist in equestrian sports. This interactive space between the three players of the coach, student, and horse, is useful for interpreting the different types of interactions that have been presented in the findings. For example, from the results discussed in Finding 1, teaching styles of equestrian coaches can be positioned as occurring in the C-S interactive space only, because the horse is not part of the consideration within the Spectrum structure (Mosston & Ashworth, 2008). By contrast, all observed C-S-H interactions were recognised in Finding 2.

Some results were so complex that focusing on interactions between the coach, the student and the horse, as in the ESP, did not provide enough clarity. For example, a key finding that contributed to Finding 2 noted that equestrian coaches may focus on teaching personal skills in addition to riding skills. To understand these various types of interactions, the ESP lens can be visualised as various types of interactions in multiple layers. Within each interactive space, a three dimensional version can be used to represent the differing target competencies of psychomotor for riding skills, and cognitive and affective for personal skills. As such, the ESP lens was valuable for discussing these findings, although it became apparent that for future research, a more robust conception of ESP may be useful in better understanding how equestrian coaches teach. Although not deeply explored on this occasion, it is apparent that aspects of teaching equestrian sports could be more extensively examined in the context of learning theories prevalent in sports pedagogy and mainstream education.

Part of the rationale for creating the ESP conceptual model was that equestrian sports pedagogists, coaches, coach educators, or coach education providers may find it useful to have a visual reference to better manage, understand, or unravel the complexity of coaching equestrian sports. It may be helpful for considering the creation of a theoretical framework in the future. Creating frameworks or models *per se* to better understand the complexity of coaching is not a new approach in research (Cushion, 2007). Visual representations, or schematics, of the coaching process are valued by coaches, as a valid mechanism for developing educative protocols (Abraham, Collins, & Martindale, 2006). It is important that coaches base their practice on known concepts and theories (Lyle, 2002; Mosston & Ashworth, 2008; Metzler, 2011).

As these findings were a preliminary investigation in the newly proposed and defined area of ESP, a variety of theoretical positions was used to interpret the multiple scenarios that were presented and discussed in these themes. The ESP conceptual model was initially formulated as a lens for the research, whereas developing an ESP theoretical model may be more useful to follow on with, in regards to creating better theoretical links to sports pedagogy and mainstream education. For example, it is feasible that these findings could extend the work of Morgan and Sproule (2013), by adding the student and horse interactions to their model of coach and student interactions. As explained in Chapter 2 (Literature Review), these authors have assigned learning theories of behaviourism and constructivism to a stylised range of teaching styles from authoritative to self-teaching, which are not unlike the Spectrum teaching styles (Mosston & Ashworth, 2008). To build upon such pedagogical frameworks would require an additional layer to represent the changing roles of the student and the horse in different scenarios of teaching (Figure 5.2). Required information could initially be adapted from McGreevy and McLean (2004) on behavioural training of horses and from Hallberg (2008) on teaching for constructivist learning in EFL.

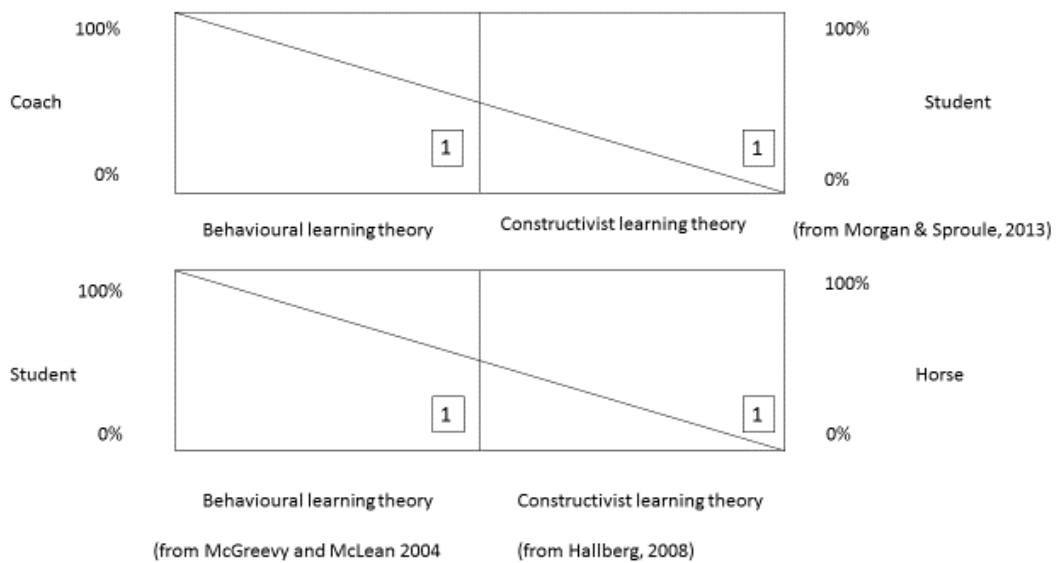


Figure 5.2. Proposed theoretical conceptualisation of Equestrian Sports Pedagogy.

A theoretical concept of ESP to use as a guide to better understand teaching and learning in equestrian sports is only an idea at this point in time, and must be subject to further research. However, the idea is proposed because of the amount of findings that emerged from the research that indicate how developing such a concept could be viable. Such a large conceptual picture may assist to increase our knowledge and understanding of ESP in the future. As this concept is developed further, the underpinning theories will evolve over time to consider emerging interpretations of how equestrian coaches teach. This ongoing evolution means that the concept will be reframed and refined in response to these new ideas, as a better understanding of ESP is enunciated. Due to the perceived value of developing a theoretical concept of ESP, it forms Recommendation 2 for future research in the next chapter, Chapter 6 (Conclusion). Understanding how equestrian coaches teach from a theoretical standpoint may also be of benefit to understanding teaching within the specifics of EFL. These practitioners pride themselves on being teachers of constructivist thinking and student-centred learning, even though the results presented here infer otherwise. Perhaps there is an opportunity to explore a concept of horse-centredness, which is perceived by the researcher as an extension of student-centredness where the horses' actions and behaviours could be seen to be as important as the students' actions and behaviours in learning activities.

5.2.5. Future of Equine Facilitated Learning in equestrian sports

As introduced in Chapter 1, the prospect of extending our knowledge in the field about how equestrian coaches could teach the relatively new concept of Equine Facilitated Learning (EFL) was the initial motivation for conducting the research. However, it was evident from Chapter 2 (Literature Review) that there was very little published on this topic that was directly related to disciplines within mainstream education. It was also evident that, not only in regard to teaching EFL activities, but beyond that, there was little known about how equestrian coaches teach in any of the equestrian sports. For this reason, the research conducted has resolved the greater problem of identifying styles of teaching across a range of equestrian sports, rather than only those styles used in teaching EFL activities.

There was an expectation that some of the results in the research may have indicated that a different way of teaching was employed in teaching EFL activities, when compared with teaching other equestrian sports. One possibility was that coaches of EFL would spend more time using various forms of discovery learning. This expectation arose because EFL was associated with the principles of experiential learning (Kolb, 1984) for self-discovery with horses (Hallberg, 2008), which is based upon the similar core teaching philosophy of constructivism to that of Game Sense (Light, 2013). However, there were too few EFL coaches located to form a definitive assessment of their teaching, and the limited results of two EFL lesson observations did not reflect the expected findings. It was apparent that their teaching was similar to that observed or perceived by other equestrian coaches. Thus, on this occasion, the scope of the research into teaching EFL activities was limited, meaning that future research should more fully investigate this topic.

From the results of the Survey questionnaire presented earlier, there was a low percentage of equestrian coaches in Australia who stated that they coached EFL activities as their Most frequently coached equestrian sport (1.1%). This indicates that very few coaches were experienced enough to have incorporated EFL activities firmly into their coaching practice. Furthermore, these results did not provide enough evidence to show that teaching EFL was different to other methods of teaching in equestrian sports.

Similarly, the results from Observations A gave little indication of teaching differences in teaching EFL activities from those in any other equestrian sport. The two coaches of EFL activities (Observations 25 and 26), who probably did not complete the Survey questionnaire, used the same two teaching styles of the Spectrum (Mosston & Ashworth, 2008) as all the other coaches observed from Observations 1 to 24: Style A and Style B. As these two lesson observations of EFL were included for comparative purposes only, none of the data collected was used in Observations B, and no interviews were conducted with these two coaches in the Participant interviews.

Overall, the results from the Survey questionnaire and Observations B established a baseline of information on how equestrian coaches believed they taught and were observed to teach. This may have indicated that teaching EFL activities were not different from teaching other sports. This indication of similarity to what equestrian coaches already know could mean that equestrian coaches may encounter few issues in transitioning their teaching from one equestrian sport to another. However, many unanswered questions remain in regard to how equestrian coaches might facilitate EFL activities in comparison with how they currently teach. Therefore, more information on implementing EFL is needed, and how or why it may be different to how equestrian coaches already teach. Additional data that was collected, but not used, in Observations B revealed that there were comparative differences even within the way the two coaches were teaching EFL activities, despite this difference not being evidenced earlier. Therefore, it is suggested that further research on teaching EFL activities will need to be conducted, which would take this new information into account, and that alternative theories and methodologies may need to be chosen.

One possible research direction for engaging in future research of EFL may be to consider literature related to den Duyn's (1997) Game Sense. Facilitating EFL activities can be broadly perceived as philosophically similar in nature and intent to Game Sense. Both approaches to teaching are characterised by developing decision-making and problem-solving skills in a games-based environment, and are underpinned by a constructivist philosophy (Hallberg, 2008; Light, 2013). Rather than one particular teaching style being preferred over another in Game Sense, the emphasis is on providing a games-centred and discovery environment, where sports coaches can utilise a variety of instructional strategies (Pill, 2011). Therefore, future

research of EFL in equestrian sports could mirror how Game Sense is positioned in relation to more traditional forms of teaching in sport. Game Sense activities could be observed using Spectrum-based instruments of observation to provide some information about desired and actual practice. This type of research may determine if there are additional requirements of the equestrian coach in transitioning from their existing teaching to include EFL activities in their coaching practice. As found in the research, it would be expected that equestrian expertise will be needed to implement forms of pedagogy from other sports into equestrian sports, because of the ways in which both coaches and students interact with horses.

Game Sense is endorsed by the Australian Sports Commission (ASC, 2015), and coach education in equestrian sports is guided by the ASC. Therefore, a connection between Game Sense and equestrian sports already exists, and ongoing literature, in regard to Game Sense and the Spectrum, is of interest to research in ESP. Similar to the objectives of Game Sense (den Duyn, 1997), learning how to facilitate EFL activities could be a way of encouraging equestrian coaches to properly explore, amongst other things, teaching concepts relevant to experiential learning and discovery teaching. However, how Game Sense can inform ESP and how EFL may equate to being an equestrian version of Game Sense needs to be further explored. Links from the Spectrum to Game Sense may also inform EFL.

There may be a role for teaching EFL activities in equestrian sports, similar to teaching with Game Sense in other sports, to encourage adaptive teaching, as endorsed by the ASC. Equestrian coaches may benefit from introducing EFL activities as an equestrian version of Game Sense, as a way forward in knowing more about teaching in equestrian sports. Introducing concepts of teaching EFL may encourage coaches to think about and reflect upon how they can be more effective by including a broader range of teaching strategies.

To some extent, these are speculative proposals for conducting future research, as findings from the research so far only offer limited evidence to support such proposals. Hence, this section was included here in Chapter 5 (Discussion), instead of being positioned under the heading of Future research in Chapter 6 (Conclusion). However, it could be postulated that there were enough indications from the

literature and the data that were not fully presented in this thesis to argue that these proposals are worth considering in future research.

5.2.6. Summary of Finding 2

In addressing the third research question, RQ 3, it was established in the three key findings of Finding 2 that equestrian coach considered both the student and the horse when they were teaching. The horse did, at times, influence how equestrian coaches taught. Finding 2 supports the argument that some aspects of pedagogy in equestrian sports are unique, and calls for recognition of the specialist expertise of the equestrian coach. In particular, the three key findings highlight these points of uniqueness and specialisation in safety requirements, identification of decision-makers, and how adaptive teaching is defined.

Finding 2 may serve to further knowledge that underpins current and future coach education in equestrian sports. Equestrian coaches may benefit from the explicit treatment of the aspects that impact on their behaviours, and the behaviours of the student and the horse. As Finding 2 presents ways in which pedagogy in equestrian sports is perceived to be different to the more general concept of sports pedagogy, the evidence suggests that, comparatively, ESP is uniquely positioned, and requires specialist equestrian knowledge. The importance of having a coach who knows horses well cannot be under-realised, in protecting both people and horses from the potential dangers that exist when working with horses. The identified uniqueness of equestrian sports is primarily due to the teaching and learning aspects that relate to how the coach or the student might interact with the horse.

Overall, the research affirms the idea that the horse is a contributor to the teaching and learning processes that occur in equestrian sports. However, several questions remain unanswered in this attempt to establish a complete picture of the complexity that was apparent in ESP. Taken together, the two major findings, Finding 1 and Finding 2, show that there is sufficient evidence from the research to position ESP in relation to the more general form of sports pedagogy. The principal theoretical implication from that relational positioning is that all future research into ESP, including that of equestrian pedagogy and EFL, may need to be designed to accommodate the horse. This idea of a theoretical model of ESP is perceived as a positive direction for future research for better understanding its complexity.

5.2.1. Limitations of research

Three limitations were identified. First, when synthesising the reviewed literature there were few disciplinary connections between sports pedagogy and equestrian sports. Thus, the research was primarily positioned within the disciplinary field of sports pedagogy. Second, applying the Spectrum-based observation instrument as an analytical lens to observe equestrian coaches' teaching styles led to the discovery of some theoretical limitations. For example, in *Teaching Physical Education* (Mosston & Ashworth, 2008), there is a lack of clarity regarding how the key decisions that occur in every episode of teaching inform each of the landmark teaching styles (Appendix H). Additionally, none of the key decisions can be assigned to the horse as the Spectrum is limited to the coach and student interaction (Kenneth Edwards, personal communication, May 2012). Identifying these limitations triggered early modifications and additions to the research design where, essentially, the third research question was strategically redesigned to focus on the contributing role of the horse in equestrian sports pedagogy. Third, the research was limited by logistical issues associated with data collection, including institutional blocks and delays in ethical clearance. A lack of institutional research resources resulted in several technical constraints in the researcher's capacity to collect additional data within the required timeframe.

Nonetheless, the research provides new knowledge about pedagogy in equestrian sports, and extends some of the previous research regarding teaching styles. Furthermore, the research has led to the proposition that ESP be considered as a unique, specialist variation of sports pedagogy. Another outcome of exploring teaching styles of equestrian coaches in the broader context of sports pedagogy is the provision of a potential platform for the further development of coach education packages in equestrian sports and for future research in sports pedagogy.

5.3. Summary of Discussion

Finding 1 and Finding 2, as the two major findings drawn from the research, were discussed in this chapter. Finding 1, with its three key findings, addressed the first two research questions, RQs 1 and 2, of teaching beliefs and observed practices. The third research question, RQ 3, was addressed by Finding 2, which comprises three

key findings in regard to the role of the horse in teaching equestrian sports. Both major findings were important in providing new insights into ways that equestrian coaches teach, with implications that were identified as strongly relevant to coach education.

Finding 1 highlighted similarities in the perceived use of teaching styles by equestrian coaches and tennis coaches. This major finding addressed the first two research questions. The first, RQ 1, is “What teaching styles do equestrian coaches believe they use in their coaching practice?” and the second, RQ 2, is “What observable teaching styles do equestrian coaches use in their coaching practice?” Three key findings indicated that equestrian coaches have similar teaching beliefs and practices to those of tennis coaches, as presented by Hewitt (2015). As tennis is thought of as similar to many bat and ball sports, which are all different to equestrian sports, it was surmised that these three key findings suggested that pedagogy in equestrian sports was similar to most sports in Australia.

The first key finding, that equestrian coaches believed they used a range of five teaching styles, supports the more widespread expectation of coaches in Australia. The expectation is that adaptive coaches use a range of teaching styles, as promoted in *Beginning Coaching* (ASC, 2006). However, the second key finding, where equestrian coaches teach by using a lesser range of two styles, led to the third key finding, in that equestrian coaches do not appear to teach in the same manner as they believe they do. A situation where beliefs and actions do not match was similarly found in tennis (Hewitt, 2015), and was also prevalent throughout mainstream education (Fang, 1996; Murray & Macdonald, 1997). Therefore, it is possible that future research on the topic of ESP, in the context of the more general issues of pedagogy can draw on resources from the wider literature on education. Investigating teaching and learning with horses in this way could be perceived as a form of equestrian pedagogy.

Finding 2 has addressed the third research question: RQ 3 “How do horses contribute to ways in which equestrian coaches teach in equestrian sports?” The three key findings form the basis of the argument that the impact or influence of an interactive horse cannot be discounted in examining teaching behaviours of equestrian coaches. The first key finding shows that teaching for equestrian and equine safety is

important for all participants. The second key finding indicates how it may be possible to perceive the horse as a decision-maker in the equestrian coaching triad. The third key finding shows that the equestrian coach takes into consideration both the behaviour of the student and that of the horse. To do so, the equestrian coach needs to have the ability to translate and communicate the language of the horse, which strengthens the interactions of the student and the horse. Together, these three key findings support the proposed concept of ESP where the horse is acknowledged as an important part of the equestrian coaching triad. However, some aspects of these key findings may initially appear to be somewhat limited, and, therefore, must be interpreted as exploratory research. Nonetheless, these findings do further support the idea that pedagogy in equestrian sports contains some important aspects that are different to general sports pedagogy. Hence, it could be conceivably suggested that the available coach education resources, which are general in nature, need to be supplemented with additional, specialised information for equestrian coaches. There is scope to extend the formal pedagogical considerations already in place in sports to equestrian sports.

In confirming the concept of ESP, which was proposed after reviewing relevant literature, and used as a research lens, the research has identified both the teaching beliefs and teaching practices of equestrian coach participants. Ways in which horses contribute to interactions that are found in ESP were also identified. The need for these skills support the proposition that ESP is not always fully contained within general sports pedagogy. Therefore, ESP is relationally positioned as a unique and specialist variant of sports pedagogy.

The three-way interaction of the equestrian coach, the student, and the horse, as applied in the research, was consistent with pathways of communication in dressage that were identified by Cumyn (2000) from a Canadian perspective. When acknowledging contributions of the horse, there is a need to consider the individual coach, student, horse, and context of the lesson. However, confirming these equestrian interactions exist in Australia, as another demographic, leads to the probability that ways in which equestrian coaches teach is common worldwide.

Overall, the research supports the relational positioning of ESP as different in some aspects to that of general sports pedagogy. The horse is a legitimate part of the

pedagogical partnership in equestrian sports. Along with the student, the horse is learning and developing skills during this interactive time. Arguably, in no other type of sport does an animal offer such a large contribution to pedagogy as the horse does in equestrian sports. As such, literature from sports pedagogy must be supplemented with equestrian knowledge where necessary. Bierman (2003) has argued that equestrian knowledge is legitimate knowledge, needed to fully appreciate the complex pedagogical interactions found in equestrian sports. To fully appreciate pedagogy that is encountered in equestrian sports, literature from equestrian sports must be recognised.

Another point to note was that, in the survey, coaches who gave additional, written feedback indicated that they had a real interest in teaching styles. They were eager for more information about coaching, and open to learning opportunities of reflecting on their teaching. Therefore, this information has implications for implementing the two major findings of the research, in regard to coach education. As ESP is proposed as being positioned as a unique and specialist form of sports pedagogy, these differences to sports pedagogy need to be considered by equestrian coaches, and explored more fully in coach education coursework.

The Australian Sports Commission (ASC) argues that, with various teaching options available, effective sports coaches need to be adaptable and reflexive in their actions with students, to best suit the diverse situations in play (Pyke, 2001; ASC, 2006). In addition to teaching students, effective equestrian coaches need to consider the horses' actions, and the interplay between student and horse, as well as themselves. Cumyn's (2000) study was the only one that fully acknowledged the equestrian coach, the student, and the horse as three interactive contributors in the sporting triad. As such, Cumyn's (2000) work was considered to be a most influential study in this research.

Recognising the horse in ESP is important because the majority of research into Spectrum teaching styles in sports pedagogy has been adapted from the work of physical education scholars (Cothran et al., 2005; Cothran & Kulinna, 2008; SueSee & Edwards, 2011; SueSee, 2012). Although this previous Spectrum-based research has provided guiding principles for the research, only one relevant study of Spectrum teaching styles in sports was found (Hewitt, 2015), and that research was in tennis.

The only relevant study of teaching styles in equestrian sports was from Struby (1987), and was not based upon the Spectrum structure. Therefore, it could be concluded that no previous research was found, including that of Hewitt (2015) and Struby (1987), that specifically investigated Spectrum teaching styles in equestrian sports.

Consequently, in addition to Cumyn (2000) and Maw (2012), these two studies (Struby, 1987; Hewitt, 2015), and their associated publications, were important, key contributors to the discussion of findings from this research. This outcome means that the research problem, which was identified as being positioned within ESP, was addressed by taking a combined research approach of utilising literature from sports pedagogy and equestrian sports.

More general forms of coach education and training might consider that the impact of the horse has not previously been documented. Although the benefits of coach education in sports are widely accepted (Cushion et al., 2010), there has been little research into teaching equestrian sports in terms of how it is the same, similar, or different to other sports. There appears to be unlimited scope for pursuing this avenue of research if it is deemed to be of benefit to coach education, and particularly as it relates to equestrian sports. Online Horse College (OHC), as a registered training organisation that specialises in coach education for equestrian sports, is one of many organisations that can deliver this training for equestrian coaches. The main research conclusions that were drawn, and their subsequent implications, with an emphasis on coach education, are presented in the next chapter, Chapter 6 (Conclusion).

Chapter 6 Conclusion

In the previous chapter, Chapter 5, results of the research were discussed, and the two major findings were examined. These findings show that the perceptions of teaching and observed practices are similar for both equestrian and tennis coaches, and that the horse plays a role in Equestrian Sports Pedagogy (ESP). The discrepancy between teaching perceptions and observed practices, in regard to Style F (Guided Discovery) was noted and discussed, as the comparison of results means that coaches' perceptions of teaching for discovery learning were not limited to equestrian sports. Aspects of teaching equestrian sports where the horse makes a difference to the teaching were also discussed. It was made clear in the discussion that the identified role of the horse in teaching equestrian sports was key in concluding that ESP could be regarded as distinctly different in some aspects of teaching sports, and that the equestrian coach thus requires specialised equestrian knowledge. Both of the major findings discussed were recognised as important in providing new insights into ways in which equestrian coaches teach. The findings were identified as strongly relevant to coach education, in particular for equestrian sports.

The conclusion of the thesis is presented here in the final chapter, Chapter 6. A summary of the research is presented by revisiting the research problem, the reviewed literature, research questions, results, and discussion of the findings, as reported in the previous five chapters. It is argued that more is now known about how equestrian coaches teach and the role of the horse in teaching equestrian sports than was known previously. The implications of the research will then be outlined in terms of the unique contribution of the horse and its potential impact on coach education programs and resources in equestrian sports. Next, the significant contribution from the research to advancing our knowledge and progressing our understanding of ESP will be proposed. Three research outcomes are provided. Next, two recommendations for future research in this area are offered. The chapter ends with a summary of the thesis' conclusions to confirm that the thesis has fully addressed the three research questions. These were proposed to resolve the research problem that little was known about how equestrian coaches teach.

6.1. Summary of Research

The research presented in the previous five chapters is summarised in the next five sections. By referring to the appropriate chapter, the sections cover the identification of the research problem, the scope of the literature reviewed, the resultant three research questions, and how the research methodology was designed for the research to be conducted. Also reported in the next sections are summaries of the research results and discussions of the research findings.

6.1.1. Research problem

In Chapter 1, the research problem was identified, in that there was little known about how equestrian coaches teach. The genesis of the research for the thesis consisted of conversations between the researcher and equestrian coaches in 2010 at Equitana, Australia's largest ongoing equestrian sports fair (Equitana, 2015). These coaches were seeking advice about teaching, or facilitating activities associated with the relatively new, student-centred concept of Equine Facilitated Learning (EFL). The coaches' queries suggested a potential gap in equestrian training, experience, and accreditation courses, which highlighted a possible issue with the current equestrian coach education system. With the aim of enhancing equestrian coach education, the thesis developed a focus on knowing more about how equestrian coaches teach.

6.1.2. Reviewed literature

Literature relevant to the topic of teaching equestrian sports was reviewed and then presented in Chapter 2. An initial review of the pedagogical literature showed little previous research had been conducted to inform and underpin concepts of teaching equestrian sports. Three main equestrian studies (Struby, 1987; Cumyn, 2000, Maw, 2012) were influential in building the thesis. However, using the literature from both the disciplines of equestrian sports and wider sports pedagogy, including teaching styles, contributed to how the research was conducted.

Taking a multi-disciplinary approach to the research was supported by Wolframm (2014), who has noted a lack of specifically relevant literature about coaching equestrian sports. She affirmed that using the literature from general sports pedagogy

was a sound platform for exploring aspects of teaching in equestrian sports. She also acknowledged that the horse is pivotal in the coach and student interactions, and urged researchers to better explore this emerging field of research. Her argument is partly founded on Cumyn's (2000) work, who positioned the horse with the coach and student in determining types of interactive communication that were present in teaching the equestrian sport of Dressage. Cumyn's work supports the premise of the thesis that the horse does, at times, influence or has an impact on how equestrian coaches teach. She similarly examined how students respond in equestrian sports when compared with teaching other sports generally, without specifically explore how or when the horse influences the ways that equestrian coaches teach. Also, Cumyn's (2000) research was conducted in Canada rather than Australia. However, little international difference is expected because both countries are guided by international regulations (FEI, 2015).

Two additional studies referred to teaching equestrian sports (Struby, 1987; Maw, 2012). Struby (1987) examined the teaching styles of equestrian coaches, almost 30 years ago, but not in Australia. However, she followed-up on her earlier work with a later publication in 2013. Maw (2012) explored what it means to teach equestrian sports, in both Australia and the UK. She categorised forms of teaching as instructing, teaching, and coaching. However, she did not identify the ways in which equestrian coaches teach by using the Spectrum (Mosston & Ashworth, 2008), a known theoretical model of teaching. Maw (2012) has also acknowledged, similar to Wolfram (2014), that learning theories underpinning teaching of equestrian sports were contextualised in general sports coaching concepts. However, her research did not specifically focus on identifying aspects of teaching that are the same, similar, or different in teaching equestrian sports to those found in teaching other sports.

Additionally, the reviewed literature from sports pedagogy on teaching styles indicated that the Mosston and Ashworth's (2008) Spectrum has a long history of identifying how teachers and coaches teach. Hewitt (2015) identified teaching perceptions and observed teaching behaviours of tennis coaches using data collection instruments based on the teaching styles of the Spectrum. However, the Spectrum had not previously been applied in equestrian sports. Therefore, it was feasible to draw on two disciplines: equestrian sports and sports pedagogy, to address the research problem. The rationale for presenting ESP as an analytical lens in the thesis

to guide the research (Figure 2.5), whereby the horse is always considered to be part of the equestrian coaching partnership, was supported by the relevant literature reviewed.

6.1.3. Research questions

The research questions that emerged from the literature review were presented in Chapter 3. In the thesis, three research questions were used to resolve the research problem that little was known about how equestrian coaches teach. Sections in the chapter have explained how the research aim was achieved by exploring teaching beliefs, or perceptions, and observed behaviours of equestrian coaches, building on the work of Hewitt (2015) in tennis coaching. Additionally, one of the targets of the research was identifying the role of the horse in the coaches' teaching of equestrian sports, and this builds on the work of Cumyn (2000) and Maw (2012). The three research questions were:

- RQ 1. What teaching styles do equestrian coaches believe they use in their coaching practice?
- RQ 2. What observable teaching styles do equestrian coaches use in their coaching practice?
- RQ 3. How do horses contribute to ways in which equestrian coaches teach in equestrian sports?

6.1.4. Research methodology

The research methodology that guided the conduct of the research was also presented in Chapter 3. Taking a pragmatic research position was briefly discussed. In order to address the three research questions, a three-stage, mixed methods research design was developed to conduct the research, as guided by the work of Creswell and Plano Clark (2011). Details were provided of both the quantitative and qualitative methods of research that were used to collect and analyse the data from equestrian coaches and students across the three research stages. The quantitative sources of data were based on the 11 teaching styles of the Spectrum (Mosston & Ashworth, 2008). Due to the long-term evolution of the Spectrum, and its recent track record in identifying the teaching styles of tennis coaches (Hewitt, 2015) and physical education teachers (SueSee, 2012), it was expected that the teaching beliefs and observed behaviours of

equestrian coaches could be identified. However, Mosston and Ashworth's (2008) Spectrum teaching styles were not used as the basis of research in the wider observations of equestrian coaches teaching.

In the section on research design, the details of the three research stages were presented. First presented was Stage 1, a web-based online survey ($N=92$), which was based on the teaching styles of the Spectrum (Mosston & Ashworth, 2008). From the survey results, the range of teaching styles that equestrian coaches believed and reported they used in their lessons was identified. Next, Stage 2 was presented, with two components: Observations A and B. The researcher was the observer, interpreter and classifier of all teaching styles within all lessons, with guidance on the Spectrum teaching styles given by members of the Spectrum community (Sara Ashworth, Kenneth Edwards, Mitchell Hewitt, and Brendan SueSee, personal communication, May, 2012 to May, 2015). In Observations A, another Spectrum-based data collection instrument was used to record and quantify each observed teaching style used by equestrian coaches ($N=12$) during practical student lessons ($N=24$). In Stage 2 (Observations B), a qualitative, descriptive, data set was generated from observing these same coaches ($N=12$) and lessons ($N=24$). The details of the lesson observations were followed by Stage 3 (Participant interviews) ($N=8$), where additional qualitative data were collected. The section explains how these data were integrated with the qualitative data from Observations A and thematically analysed with the guidance of Braun and Clarke's (2013) 12 steps for conducting qualitative research. The conclusions drawn in Chapter 4 highlight the success of the approach in using varying methods and multiple stages to gather data from a range of sources. Results were provided in multiple sets of information and in various formats.

6.1.5. Research results and discussion

The results of all three research stages: Survey questionnaire, Observations A and B, and Participant interviews were presented in Chapter 4. Two major findings were identified in Chapter 4 and discussed in Chapter 5. Finding 1 was that the perceptions of teaching, and observed teaching, were similar for both equestrian and tennis coaches. Finding 2 was that the equestrian coach considered both the student and the horse when they were teaching.

An issue for the thesis is that the results from the Survey questionnaire and Observations A have suggested a discrepancy between the teaching perceptions and observed teaching practices of equestrian coaches. Although coaches believed they taught from both the reproduction of known knowledge and production of new knowledge clusters (Mosston & Ashworth, 2008), lesson observations did not support such teaching perceptions. Only teaching from the reproduction of known knowledge was observed. It was reported in Chapter 4 that the discrepancy between teaching beliefs and actions was not limited to teaching in equestrian sports. Discovering the similarity to Hewitt's (2015) work led to the first finding, Finding 1, which outlined that teaching in equestrian sports may share some common aspects of teaching with those found in more general sports, such as tennis. This is particularly so in regard to the teaching perceptions and interactions in the coach and the student dyad. Reasons for the similar findings with regards to teaching were discussed in Chapter 5. The discussion included the important possibility that the methods of data collection used may not have fully captured the influence of the horse on how the equestrian coaches were teaching. This led to the possibility that the horse does play a significant role in ESP, which was explored in the latter stages of the research, Observations B and Participant interviews.

The results of the integrating findings from Observations B and Participant interviews were presented in Chapter 4, as seven themes in three categories (Table 4.15). It was explained that the categories delineate how the themes, in regard to aspects of ESP, were perceived as the same, similar, or different from those of the coach and student dyad in more general forms of sports pedagogy. The themes of sameness in Category 1 and those of similarity in Category 2 were aligned with Finding 1, which identified some of the ways in which equestrian coaches teach in a similar manner to tennis coaches. However, for identifying the role of the horse, the themes, and their sub-themes, in Category 3, the category of difference was most relevant in the thesis, and, therefore, most important.

Chapters 4 and 5 detail the progress of the research conducted, from the analysed results of the integrated dataset obtained from Observations B and Participant interviews, to presenting the second major research finding. Finding 2 is that equestrian coaches considered both the student and the horse while teaching. The finding was aligned with the premise of the thesis in suggesting that the horse can

impact on, or influence the ways in which equestrian coaches teach in equestrian sports. The conclusion from Chapter 5 was that the pedagogy in equestrian sports is at times different to that found in other sports. Hence, the two major findings that were presented and discussed in the chapters may have implications for future developments in progressing aspects of sports pedagogy, and particularly those that are relevant to equestrian sports.

6.2. Implications of Results

The implications from the results are discussed in five parts within this section. They cover the unique contribution of the horse, its impact on coach education, and the need for coaching resources. Also covered are the need for recognising specialist equestrian knowledge, the role for vocational education, and future directions of ESP research. All of these implications are relevant to progressing and rationalising the concept of ESP and continuing with its ongoing contribution in academic and educative domains.

6.2.1. Unique horse contribution

The research results presented and discussed in the previous chapters suggest that the horse does influence some aspects of teaching equestrian sports. For this thesis, this is an important point of difference from teaching general sports pedagogy, and it contributes to the argument that ESP is uniquely different because of the horse. Not only does the equestrian coach need to manage their interactions with students, as do other sports coaches, but they must also manage their interactions with horses. Teaching equestrian sports is also unique in that occasions arise where the coach has to ride the horse to assist in its training, which is in addition to occasions of demonstrating to the student particular aspects of riding the horse. Additionally, the equestrian coach needs to know when and how the student and the horse are communicating and be able to read the responses to their interactions. For these reasons, positioning ESP in relation to general sports pedagogy has implications for developing coach education programs specifically for equestrian coaches.

6.2.2. Coach education

It is important that coach education providers acknowledge this important point of difference in teaching equestrian sports, and provide suitable coach education programs that include the specialist information required by equestrian coaches. Transitioning from theorising a sports dyad of the coach and student, or the student and horse, to an equestrian sports triad of the coach, student, and horse, which creates additional interactions, implies that there is a corresponding higher level of complexity that needs to be unravelled. Therefore, recognising the potential pedagogical influence and impact of the horse on the traditional coach and student relationship is crucial for progressing equestrian sports in relation to sports pedagogy. Sourcing the appropriate literature from multiple disciplines may create an opportunity to fully appreciate the influence or impact of the horse on the way that the equestrian coach may teach in their interactions with both the student and the horse. A sound theoretical basis of teaching and learning would assist in achieving this goal.

6.2.3. Coaching resources

The research presented in the thesis has implications that show the need to develop specialist coaching resources for equestrian sports. As there are similarities between equestrian and general sports pedagogy, this common ground may mean that existing coaching resources can be suitably used. Any future developments in sports pedagogy may have an equal relevance to equestrian coaching. Many aspects of sports pedagogy are already relevant in equestrian sports, such as those identified in the research. These include: differing definitions of teaching styles, matching teaching to students' needs, and the value of both direct and discovery teaching styles for effective student learning. As such, these aspects also need to be considered when theorising ESP. For example, the general information available from the two training manuals developed by the ASC, *Beginning Coaching* (ASC, 2006), and *Better Coaching* (Pyke, 2001), will probably fulfil many of these theory-building requirements when discussing the interaction between the coach and student. Additionally, when particular aspects of ESP are identified as similar to those found in sports pedagogy, for example, when the horse only contextualises the pedagogy, it may again be possible to develop equestrian knowledge from general

sports pedagogy. This research has highlighted aspects of teaching equestrian sports that focus on cultural, social, and emotional contexts of learning, which can be considered in advancing an understanding of teaching equestrian sports. The research findings suggest, in particular, that teaching for social and emotional development, which develops as a result of spending time with horses, is under-researched. This conclusion has particular implications for assisting equestrian coaches who aspire to teach EFL activities as part of their coaching practice. The research presented in the previous chapters has provided little specific information that could benefit these coaches. However, there is additional scope to develop specific coach education packages for teaching EFL activities that are based on the expanded information on teaching equestrian sports that has been provided in this thesis. Developing this new knowledge in the future may be enabled by constructing flexible, theoretical frameworks for use in sports pedagogy that can be modified to incorporate existing learning theories while accommodating the horse as a third contributor.

When a pedagogical aspect is identified as uniquely different in equestrian sports to that in other sports, it may be necessary to draw upon literature from other disciplines associated with equestrian sports. These occasions of difference occur chiefly when the behaviour of the horse has influenced or impacted upon the actions of the coach, either directly or indirectly through the actions of the student. Equestrian associations or federations from some countries have useful training manuals for equestrian sports that can be accessed by Australian coaches, although the focus of many of these manuals is on training the horse rather than on coaching the student. Resources from countries such as the United Kingdom (BHS, 2015; Horse Sport Ireland, 2015), Germany (Deutsche Reiterliche Vereinigung, 2015), United States (US) (United States Equestrian Team Foundation, 2014), and Canada (Equine Canada, 2014) could be evaluated by Australian coaches for their practices. These resources from the discipline of equestrian sports could provide valuable input into facilitating a better theoretical understanding of ESP in the future.

Exploring the implications of the research identifies a niche opportunity for coach education providers for equestrian sports to develop an examinable training program for accreditation. This would specifically focus on the occasions in coaching when and how pedagogical aspects of equestrian sports are different from those found in other sports. Acknowledging this difference of pedagogy in equestrian sports is

important in the context of realising that formal training guidelines for teaching sports in a generic sense will not always be adequate for equestrian coaches, not least for reasons of establishing and retaining equestrian and equine safety.

6.2.4. Specialist equestrian knowledge

Equestrian Sports Pedagogy (ESP) requires specialist coaching knowledge to implement the teaching and learning required for developing the competencies of the student and horse partnership. This research has contributed to the formulation of the proposition that there is an opportunity to further develop coach education packages exclusively for equestrian coaches in a way that complements the more general forms of information available about sports pedagogy. For coach education providers to deliver effective coursework, the findings from the research may help in understanding how equestrian coaches action their teaching beliefs, and when or how they adapt their teaching methods to accommodate the nature and behaviour of the horse. Specialist equestrian knowledge is required to “read the situation” and “speak the language” when coaching, to adapt the teaching style as appropriate and hence to produce the desired outcomes for the student.

A need to establish stronger links between research and practice in all sports is widely recognised (Cushion et al., 2010; Lyle & Cushion, 2010; Jones et al., 2012), and progressive endeavours to establish such connections in many sports have continued (Light, 2014a). Aspects of equestrian coaching are rarely reported in the literature, and little is known about the amount of in-house coach education happens in individual equestrian education establishments in Australia. However, based on the conversations with equestrian coaches at Equitana in 2010, it could be surmised that there is scope to increase the educative links between research and practice in equestrian sports. Coaches who were consulted at Equitana, in regard to Equine Facilitated Learning (EFL), displayed a lack of knowledge and confidence in their ability to adapt their teaching skills to capably teach the activities associated with this relatively new, student-centred concept that has become part of teaching in equestrian sports. Their hesitation may be partly due to the lack of clarity in identifying how EFL was different to how they teach already. This may be because the presenters at Equitana were psychotherapists not education specialists or

equestrian coaches as EFL has emerged and been developed in psychotherapy rather than education.

6.2.5. Vocational education

It appeared to be plausible from the research that developing new equestrian packages in an education domain that have a stronger focus on pedagogy would be welcomed by current and prospective students. Sports coach education is a relative newcomer to vocational education (DET, 2016). Vocational education is the domain where the Online Horse College (OHC) has developed sports coach packages that are specifically designed for equestrian coaches. However, the content of this coursework contains only a limited amount of information on sports pedagogy, as equestrian coaches traditionally develop this skill through their the practical experience gained in their teaching qualifications, and it is further developed in their coaching practice (EA, 2015). This form of new specialist information on teaching in equestrian sports in relation to what is known in other sports could directly benefit equestrian coaches and their coach educators, which ideally, would flow on to improved levels of competencies for both the students and horses.

6.2.6. Future directions

To continue the research in the future will require more detailed knowledge of the behaviour of all three participants, the equestrian coach, the student, and the horse, combined with a better understanding and awareness of the multiple interactions that occur. The type and limited amount of information that is specific to coaching equestrian sports was not widely realised prior to the research being conducted, which thus supports the notion that the research can be considered as a preliminary phase of exploring the complex interactions found in ESP. There is scope to continue ESP research in the future.

6.3. Significant Contribution to Knowledge

To the researcher's knowledge, this is the first research enquiry conducted that has specifically targeted ways of extending our knowledge by exploring the teaching beliefs and the observed teaching styles of equestrian coaches using the 11 landmark teaching styles from Mosston and Ashworth's (2008) Spectrum. To know more

about how coaches teach, and why coaches select a particular mode of teaching to reach learning goals or objectives is recognised as an important way forward in continuing to develop coach education in sports (Cushion et al., 2010). Accordingly, the first major finding, Finding 1, represents an original contribution to knowledge. The finding supports the proposition that perceptions of teaching and observed teaching practices are similar for both equestrian and tennis coaches. It also highlights that the discrepancy is notable and in need of further investigation. This major finding has contributed to the ongoing Spectrum research into teaching styles in sports pedagogy.

Additionally, the research enquiry has identified instances where aspects of ESP were categorised as the same, similar, or different to aspects of pedagogy in other sports. This differentiation was a second major finding, Finding 2. Instances of teaching in equestrian sports that are different hint at the complexity that exists in the three-way interactions between the coach, student, and horse. This part of the research enquiry specifically extends the work of Cumyn (2000) and Maw (2012) in confirming differing interactions of coach, student, and horse when teaching equestrian sports. As such, it is concluded that Finding 2, which outlines that equestrian coaches should consider the student and the horse when teaching, is also an original contribution to knowledge. All of the new equestrian knowledge presented in the thesis has the potential to contribute to ongoing conversations in disciplines associated with equestrian sports, and also to general conversations about sports pedagogy. The research conducted in ESP has generated three research outcomes that provide support to the significance of the research in its contribution to new knowledge.

6.3.1. Three research outcomes

Three important outcomes with potential value have been generated from the research, which has led to the two recommendations for future research that are presented in the next section. Outcome 1 relates to the value in having a visual concept of ESP; Outcome 2 relates to the teaching styles of equestrian coaches and how they can be utilised to benefit learning; and Outcome 3 relates to the value of conducting the research in partnership with established independent training organisations, such as the Online Horse College (OHC).

6.3.2. Outcome 1

A concept of ESP that includes the contribution of the horse in representing various aspects of teaching and learning in equestrian sports has been portrayed in visual form (Figure 2.5). Delineating some possible features and inter-relationships for ESP in this way may provide a useful concept for researchers or coaches to consider in the future when examining components of the complex interactions that can be found in ESP. Presenting theoretical concepts of teaching in a visual form may assist learning coaches to grasp a better understanding of how they teach. Purposefully factoring in interactions between the coach, the student, *and the horse*, as part of curriculum design and lesson planning has the potential to enhance learning outcomes for the student. This strategy is important because knowing when and how to adapt the teaching to suit the horse and the student is a core responsibility of an effective equestrian coach.

6.3.3. Outcome 2

A baseline of teaching styles, beliefs and actions for equestrian coaches, developed using Mosston and Ashworth's (2008) Spectrum, has been presented. This information was previously missing from the research environment, so the new information provides a platform for conducting detailed studies of teaching in equestrian sports in the future. It may help to provide a better understanding of how teaching styles are defined, characterised, and implemented. Coaches may gain a higher level of self-awareness in regard to their teaching, and how they apply particular styles appropriately in their teaching. They may be more highly regarded as professionals because their coaching is underpinned by their theoretical knowledge, which is evidenced by successful student outcomes.

6.3.4. Outcome 3

A working relationship between the research community and the equestrian sports coaching industry in vocational education has been established by collaboratively working with the Online Horse College (OHC). The feedback from coaches, in regard to the three articles and the Survey questionnaire on teaching in equestrian sports that were presented through the OHC, suggested that the new information on

teaching styles was well-received. These articles have a permanent page on the OHC website, which is publicly accessible.

Establishing such a professional partnership between research and industry is a model that can possibly be used in the future. It provides the potential opportunity for continuing with this avenue of research associated with ESP. As a result of conducting the research, there is also an opportunity to collaboratively develop internationally recognised training programs of sports pedagogy. These would be based upon the research and specifically tailored to suit equestrian coaches. For example, in response to the lack of information in the new field of Equine Facilitated Learning (EFL) for accredited equestrian coaches, the researcher in partnership with the OHC, has developed a six module training unit mapped to SIS00DR405A (DET, 2016). This training unit is designed to be a Certificate IV course elective or a Statement of Attainment. Further research done by the researcher will aim to retain these collaborative connections of equestrian coach education with the OHC and other similar organisations.

6.4. Recommendations for Future Research

The recommendations for future research have the potential to benefit coaches, coach educators, coach education providers, and researchers in all forms of sports pedagogy. It is hoped that the outcomes of their implementation will contribute towards increasing our knowledge and understanding of how coaches teach in many sports. There are two recommendations proposed for future research:

Recommendation 1 and Recommendation 2. These proposals mean that our knowledge and understanding of ESP can potentially progress by building upon the research presented in this thesis. It is possible to develop various aspects of ESP within the general frameworks of sports pedagogy. There is also scope to further explore and identify the special characteristics that define this unique form of sports pedagogy where the horse can be considered as an integral contributor.

6.4.1. Recommendation 1

Recommendation 1 is to extend the various aspects of adaptive teaching from sports pedagogy that have already been found to be relevant to ESP from the research, such as teaching styles. Adaptive teaching in sport is the preferred position of teaching

recommended by the Australian Sports Commission (ASC), which guides coach education in many sports, including equestrian sports. The authors of the Spectrum (Mosston & Ashworth, 2008) also acknowledge that an effective teacher, or coach, must be able to use the appropriate teaching style for each teaching scenario. The authors posit that knowing that a range of teaching styles exists and can be readily actioned will help to promote the implementation of adaptive teaching.

There are three suggestions within Recommendation 1. All three relate to aspects of sports pedagogy that are relevant to concepts of adaptive teaching. Suggestions 1 and 2 evolved because of the issues that arose as a result of determining teaching beliefs and teaching styles used in equestrian sports in the research. For example, the results demonstrated that in both equestrian sports and tennis, coaches strongly believe that they use guided discovery approaches in their teaching. There is scope to further develop this topic in several ways. For example, by working as a researcher in a collaborative partnership with coaches and students, there is room for the voices of researchers, coaches and students to be heard in determining how teaching styles are perceived, adapted, and implemented in sports coaching. The research approach may help to better identify definitions and decision-making in the Spectrum teaching styles when assessing teaching in any sports. These issues have been discussed in detail in the previous chapter, Chapter 5 (Discussion). Perhaps better clarifying and collectively communicating researchers' and coaches' understanding of some of the terminology used in discussing teaching styles, within further debates on the topic, may contribute to better determining the elements that constitute adaptive teaching in sports coaching.

Suggestion 3 is offered due to the finding that a discrepancy between teaching beliefs and actions was evident in more than equestrian sports, and, therefore, may be a widely held position across coaching in many sports. Exposure to research in the broader discipline of mainstream education may prove to be beneficial to advancing teaching in many sports, including equestrian sports.

The three suggestions are:

1. Further examine and explore ways that the teaching styles of Mosston and Ashworth's (2008) Spectrum structure are currently implemented in teaching

sports and identify how they could be expanded or modified to better benefit coach education in the future.

2. Continue the critical examination and improved implementation of the characteristics of Style F (Guided Discovery) in the Spectrum and their relationship to the more generic term of guided discovery or similar terminology that is used in teaching games-based sports such as den Duyn's (1997) Game Sense.
3. Contextualise the apparent misalignment of teaching beliefs and approaches that has been identified in sports within the mainstream field of education, as the discrepancy is not limited to one sport.

6.4.2. Recommendation 2

Recommendation 2 is that future research in ESP be designed to specifically acknowledge and incorporate equine interactions with the pedagogy already established in the general sports dyad of the coach and student. The presented findings strongly indicate that there are ways in which ESP can be considered a distinct field of knowledge associated with the integrated disciplines of equestrian sports and the discipline of sports pedagogy. Therefore, ESP is open to further research in the future, either within the specific disciplines or by taking a multi-disciplinary approach. For example, the theoretical underpinnings of ESP were not explored in the thesis. However, some of the findings discussed in Chapter 5, provided a rationale for such a theoretical model of ESP and its usefulness in developing more effective resources of coach education for equestrian sports. Hence, Recommendation 2 is also to develop a theoretical model, or framework, for ESP, which would better reflect the practices of teaching and learning that operate in equestrian sports. The literature from equestrian sports indicated that multiple theories of teaching and learning have been identified without sufficiently researched evidence to clarify how these learning theories can be better applied in equestrian sports coaching. It is possible there are other learning theories that have not been considered, which may also be relevant to ESP. This research has not fully reflected on how these various learning theories might be better applied in teaching equestrian sports, so it would be a valuable topic for future research to advance equestrian coaching capabilities.

During the conduct of the research, the process of rationalising the concept of ESP has already begun by raising the awareness of what the horse is potentially contributing to the pedagogy that exists in equestrian sports. The advent of introducing concepts of student-centred learning and constructivist teaching, as EFL, into equestrian sports was the trigger for this inquiry. However, an examination of learning theories relevant to ESP was not fully realised in the research. The horse was identified as an active pedagogical partner in equestrian sports although current models in sports pedagogy are based only on coach and student interactions. There is no accommodation of any additional contribution from a third party, such as the horse. For example, in the current Spectrum teaching styles structure it is not feasible to acknowledge any contribution from the horse (Kenneth Edwards, personal communication, February, 2016). This information reinforces that there is an opportunity to develop or modify teaching style scenarios or decision-maker models to better suit the coach, student and horse triad, for ESP. Alternatively, a suggested starting point for a new model has already been proposed as Figure 5.2 in Chapter 5 (Discussion). To build such a model will require a synthesis of learning theories commonly identified in the teaching partnership of coach and student with those from equestrian sports, which would identify the interactions of the coach/student and their horse. An ESP model could connect constructivist ideas of teaching people with behaviourist concepts of training horses. Utilising information from these differing disciplines may also require a form of collaborative research that calls on expertise from both sports pedagogy and equestrian sports. Not only would researchers be required to explore the usual behaviour of the coach and student relationship in sports, but some knowledge of animal behaviour and the subtleness of the non-verbal communication body language between people and horses would also be necessary. Working collaboratively with equestrian coaches to build such a model would then have the additional contribution of their practical expertise and specialist knowledge of coaching equestrian sports. Horse body language, known as Equus (Roberts, 2000), is the primary form of communication between people, including coaches and students, and the horse. Therefore, a researcher of ESP would need to have the expertise associated with understanding this language of the horse, and the knowledge and ability to interpret that language for other people.

6.5. Summary of Conclusion

In this final chapter, a summary of the research has provided an overview of the research problem, reviewed literature, research questions, methodology, results, discussion, and outcomes that were presented in the previous five chapters. In Chapter 1, the thesis topic of teaching equestrian sports was introduced. This was followed by the presentation of the reviewed literature in Chapter 2. The review clarified the research problem, namely that there was little known about how equestrian coaches teach in any equestrian sports. The purpose and rationale of the research, to advance equestrian sports coach education, was presented. In Chapter 3, the mixed methods research design that was selected for the research was detailed. Three research questions were presented that were used to guide the exploration of equestrian coaches' perceptions of teaching and the teaching styles that they were observed to be using in their coaching practices. Additionally, the role of the horse in teaching equestrian sports was explored. Results were presented in Chapter 4 from the Survey questionnaire, Observations A, and both Observations B and Participant interviews. Two major findings emerged from the results, which were discussed in Chapter 5. Finding 1 was that perceptions of teaching and observed teaching practices of equestrian coaches were similar to those of tennis coaches (Hewitt, 2015). This highlighted that a divergence of teaching beliefs and observed practice is not only found in teaching equestrian sports. Finding 2 was that the equestrian coach considers the student and the horse when teaching. The implications of the results and subsequent findings, significant contribution to knowledge, and recommendations for future research have also been presented in this final chapter.

Overall, the research demonstrates that various aspects of ESP can be considered both the same/similar and different to the pedagogy found in other sports. The key to teaching equestrian sports is knowing when these aspects are different. It is these differences that position the concept of ESP as a unique variation of sports pedagogy that requires the specialist knowledge and expertise of the equestrian coach to identify when those differences occur. Knowing that aspects of ESP call on knowledge from both sports pedagogy and equestrian sports promote the suggestion, as the researcher, that skills of coaching in other sports are not easily transferred to equestrian sports without additional equestrian expertise. The overall finding of both

similarity and difference means that when teaching equestrian sports is perceived as similar to pedagogy in other sports, results from addressing such topics as teaching beliefs and observed actions in general sports pedagogy will be of value to coach development in equestrian sports. Using literature from sports pedagogy may be favourably applicable to further exploring pedagogy in equestrian sports. However, it would help if the theoretical constructs from sports pedagogy could be sufficiently modified so that the interactions of the horse can be recognised. When teaching equestrian sports is perceived as different from pedagogy in other sports generally, literature from equestrian sports or associated disciplines may need to be incorporated to fully appreciate the interaction of the horse, and its impact on the teaching pedagogy. Additionally, this association may mean that any future research in topics associated with teaching equestrian sports may be of value in general sports pedagogy.

The research has also provided new information for equestrian coaches, and has confirmed that both sports pedagogy and equestrian sports can usefully inform ESP. Teaching in sports can be complex, and potentially more so in equestrian sports due to the interactions of both the coach and student with the horse. This thesis has built upon complexities of teaching sports already established in literature (Cassidy et al., 2009), and has challenged sports pedagogues to acknowledge the potential impact of the horse within the pedagogy of equestrian sports. The research presented here has shown that generalised coach education may not always be adequate for the educative requirements of equestrian coaches. There is a need to progress pedagogical theory that is specifically tailored to suit equestrian sports. This could be undertaken along with, or parallel to, that of general sports. External connections to other disciplines or fields of study associated with equestrian sports, such as equine behaviour, training horses, or EFL, may be necessary in pursuing future research. It is expected that developing a better theoretical understanding of teaching and learning with horses will benefit equestrian coaches in the future, and that benefit can feasibly be achieved through improved coach education. Developing a specific theoretical model of ESP will potentially find its place in relation to learning theories and models that are present beyond equestrian sports and into general sports pedagogy, and possibly mainstream education. Positioning future research of ESP relationally to that of other sports has the potential to significantly contribute to a

body of new knowledge that will be of interest to several research and practice domains. This will include researchers and practitioners of sports pedagogy, in addition to equestrian coaches and their students and horses, and to coach educators and education providers in many sports.

In concluding the thesis, it is expected that the research findings and subsequent conclusions will benefit equestrian coaches and coach educators as practitioners, and also be of interest to pedagogues in the broader academic communities of sports and mainstream education. Not only could the research support advancements in sports pedagogy, but future research in various aspects of ESP could be embraced in an interdisciplinary manner to considerably improve our understanding of the role of the horse when teaching in equestrian sports. Future research by the researcher will focus on implementing the recommendations of the thesis by exploring both teaching styles used in equestrian sports and various aspects of ESP, specifically those outside the field of general sports pedagogy. New research will be collaborative and involve equestrian coaches as part of the coach education processes, in particular by continuing to develop practical courses to target those equestrian coaches who would like to include concepts of EFL in activities as part of their equestrian practices.

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Appendices

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Appendix A: Equine Facilitated Learning in equestrian sports.

An overview of Equine Facilitated Learning (EFL) is given in this section to briefly explain the concept of teaching and learning with horses. Then the ways in which the associated EFL activities are facilitated can be related back to the existing ways that equestrian sports are already coached. The information will help to explain why researching the topic of EFL in the context of equestrian sports and sports pedagogy is important, and why researching the broader pedagogical concepts of equestrian sports in the research will contribute to EFL research in the future. For the thesis, EFL, in the context of teaching in equestrian sports, is defined as *an educative, interactive learning experience where the coach and the horse, or horses, contribute to what the student, or students learn.*

Equine Facilitated Learning (EFL) is a relatively new equestrian concept, which was introduced to equestrian coaches at Equitana by practitioners of psychotherapy (Equitana, 2015). Various forms and wide applications of EFL exist internationally (EAGALA, 2015; Path Intl., 2015, RDAA, 2015). This is largely because the concept has moved from being exclusively practised in psychology to areas of other applications. For example, the European Association for Horse Assisted Education (EAHAE, 2015) uses EFL activities for educative purposes, *Eponaquest Worldwide* (2015) promotes EFL for business applications, and *Adventures in Awareness* (2015) implements EFL activities in its programs for personal and professional development.

Due to its relatively recent, rapid expansion, it was apparent from the many ways that EFL can be defined, interpreted (Hall, 2013), and implemented that there were no “hard and fast” rules for facilitating the associated activities (Hallberg, 2008).

Although the lack of consensus in the elements that constitute EFL could be somewhat confusing for equestrian coaches, teaching EFL activities does appear to provide a business opportunity to expand their coaching practices. However, due to the nature of facilitating these activities rather than teaching or instructing, it could be expected that there may be new ways of teaching for the equestrian coach to learn. Therefore, it was important in taking EFL forward to know more about how any form of teaching is implemented in any of the equestrian sports.

As the major applications of EFL have evolved from psychotherapy, the interested equestrian coaches at Equitana wanted to know more about it from an equestrian coaches' perspective. They were also interested in how they could facilitate the activities within their business practice. The skills of teaching that the equestrian coaches had already acquired were centred on training and riding horses, and this type of traditional equestrian activity is primarily driven by the need to develop the riding, or psychomotor, skills of the student. Contrastingly, for equestrian coaches to facilitate activities for student-centred educative purposes in EFL activities, the emphasis shifts from developing the students' riding or psychomotor skills to those of the more personal, cognitive and affective skills. The challenge of implementing EFL activities for equestrian coaches may relate to its disciplinary origins. Equestrian coaches must be able to differentiate between the targeted developmental skills of learning, and not venture into psychotherapy, as the activities themselves can appear to be quite similar to each other.

A reasonable point of difference between experiencing EFL activities and other equestrian sports is that in the latter students learn more about their own personal selves and how they manage the world around them (Rector, 2005; Strozzi, 2004). This can be contrasted with the usual process of learning physical skills of how to ride or train a horse. For example, the 4-H movement in the US found that spending time with horses helped young people to develop life skills (Anderson & Karr-Lilienthal, 2011). One well-used activity that can be constructed in many forms is an obstacle course. Here, the student or students are required to partner with a horse to navigate over, through or around a series of obstacles. Four examples of different types of obstacle courses encountered in EFL activities are shown in this snapshot of images, downloaded from an internet search on the full term of Equine Facilitated Learning (Image A.1).



Image A.1. Four examples of typical EFL activities where students encounter an obstacle course while partnered with a horse.

Source: Google images (www.google.com).

The key to the activity is to engage the “thinking self” to develop a sense of awareness and management, of the self and others, in reflecting on the activity itself, to build new learnings from the experience. The first image (a) shows a child walking through a set of tyres while leading a pony. The pony appears to not be concerned over the activity. However, a higher level challenge for this child may be to see if the pony could be guided through the course, or at least, step into one of the tyres. The next two images (b) and (c), show two groups of people working together as a team to achieve the success of guiding the horse through the obstacle course. It is probable that if these people are not equestrians, none of them would manage the horse on their own. The fourth image (d) could be an exercise where the student is looking at the world from a different perspective, and being aware of the subsequent impact that they may have on the horse.

Often in an EFL activity such as an obstacle course, the student is encouraged to reflect on how effective their partnering with the horse is, in overcoming the obstacles, rather than dwelling on the competitive nature of completing the course in the fastest time, or faster than previous attempts. By adhering to the guidelines of Kolb’s (1986) experiential learning cycle, the student is then encouraged to relate what they have learned from their experience with the horse to broader implications,

generalisations, or conclusions. By building on their prior knowledge with their new learning, it is possible that these students can become more personally competent than they were previously, and able to create new perceptions of their world around them, in ways that are meaningful to each individual.

The ability to develop students' personal skills in addition to their riding skills potentially offers equestrian coaches an additional, complementary format for teaching a range of equestrian sports. In equestrian sports, EFL activities are generally facilitated in the riding school environment with quiet and reliable school horses that are also used in riding lessons. These school horse characteristics are favoured because of the horse's previous training and experience with learner students. Most EFL activities are conducted in a non-riding situation, described as "on the ground", where the focus of learning is on developing the student's personal competence, rather than the psychomotor skills required for riding or training the horse. The introduction of the EFL concept shows that people do not need to ride a horse to benefit from the activities designed specifically for learning with horses. Thus, the activities can be thought of as interactive fun for both the non-riding and riding types of students. For the equestrian students who do ride, EFL activities may also be suitable in complementing, or perhaps enhancing, the riding competence that is already required by the student. For these reasons, adding or incorporating EFL activities to the business practice of the equestrian coach is perceived as appealing to a larger student population, and has the potential to increase the clientele numbers of the equestrian business.

Having a better understanding of the pedagogical aspects of equestrian sports is seen as important to equestrian coaches and coach educators because partnering with the horse is akin to being an equestrian. As with coaching in other sports, the teaching ability of the equestrian coach is perceived to be an essential contributor to effective student learning. In equestrian sports, the horse is also perceived to be essential to the learning that happens in the student and horse partnership. Therefore, any new knowledge that emerges from the research that is relevant to coaching equestrian sports would likely ultimately benefit equestrian coaches. This would be particularly if the information could be incorporated into formal coach education as coursework specifically designed for teaching EFL. As a coach educator at Equitana in 2010, the mechanics of facilitating EFL activities could be well-explained by the researcher.

The equestrian coaches were somewhat satisfied with the content of the dialogue. Nonetheless, it appeared from these conversations that there was a lack of information on EFL that was designed specifically for equestrian coaches. The researcher has partnered with OHC with the aim of developing a six module training unit, which can be mapped to SIS00DR405A (DET, 2016). The training unit is designed to be a Certificate IV course elective or a Statement of Attainment, so that equestrian coaches have the educational opportunity to teach the benefits of EFL in the future.

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Appendix B: Researcher observations of coaches teaching.

Observation 2: Dressage.

Student coach Claire was teaching students Melissa and Bridget how to ride a three loop serpentine, which is a more advanced track of the arena to ride than 20 metre circles. Claire was being supervised by coach educator Tracey-Lee in a Train to Teach lesson, and Melissa and Bridget were being “guinea pig” students so that Claire could develop and practice her teaching skills. A Train to Teach lesson is where the so-called guinea pig students practice their equestrian skills with a student coach who is learning under the supervision of a coach educator (EA, 2015a).

A three loop serpentine builds upon previous lessons on riding the 20 metre circle and changing the rein while riding across the diagonal. Riding a three loop serpentine incorporates three half-20 metre circles and a change of rein at a more advanced level, because the change of rein is on the circle rather than along a straight line. When the three-loop serpentine is executed in canter, the change of rein options are a simple change, a flying change, or no change where the “leading leg” remain the same leg when travelling on the two different reins.

Observation 3: Horsemanship.

Coach Andrea was teaching student Jamieson how to tie up a horse in a safe manner, which is an assessable competency (DET, 2016). A quick-release knot is used to tie up a horse with a halter and lead rope. Tying up a horse keeps it safe and secure. Andrea was being supervised by coach educator Tracey-Lee, and the horse’s name was Charmer. Initially, Andrea was tying up the horse by placing the end of the rope through the loop of bailing twine that was attached to the pole, as she had been taught at the Technical and Further Education (TAFE) College, and was familiar to her from her experience at Pony Club. By contrast, at this EA equestrian centre, the prescribed method for tying up a horse is as follows: a loop in the lead rope is guided through the loop of the bailing twine. Another loop in the lead rope is made in itself, and there is a length of lead rope left over.

Observation 4: Dressage.

Coach Andrea was teaching student Eloise how to ride the tracks of the arena. Her focus was on making sure Eloise stayed on the correct tracks and could, for example, transition from the outside track to a circle at the correct marker. Andrea was also instructing Eloise on the correct riding position. For example, Eloise needed to look where she is going, have a straight line from head to shoulder to hip to heel, and a straight line from the elbow to the bit on the horse's bridle.

Observation 5: Horsemanship.

Coach Tracey- Lee was teaching student Jamieson how to long-rein the horse known as Charmer. To long-rein, the coach had two long lead ropes attached to Charmer's bridle so that she could walk approximately nine or ten metres behind the horse. At this early stage of the training, the student observed from the side of the arena. Long-reining is often used in the early stages of a horses' education where the horse is taught the commands of riding before the student rides to ensure that the horse is safe for the student to ride (Stanier, 1998). The level of training required of the horse is dependent upon the competence of the student and thus, the long-reining allows a student to achieve a higher level of training than if the student was riding.

Observation 6: Jumping.

Coach Tracey-Lee was teaching students Jake and Simon how to ride a showjumping course with heights up to 60cm. She progressively built a series of showjumping rails and jumps in a grid. The students could approach in trot on either rein and come through the grid one at a time. When the coach was satisfied with their progress, she incorporated a series of individual fences to jump after the grid. Then the students completed a small showjumping course individually.

Observation 7: Dressage.

Coach Tracey-Lee was teaching student Andrea how to ride the tracks of the arena in walk, trot, and canter. As a student progresses in their riding competence, the coach teaches for improved pace and rhythm, accuracy, timing, and other aspects that denote more advanced riding. For example, instead of riding 20 metre circles in trot and canter, the coach was instructing the student on riding 15 metre circles in trot and canter, which is a more difficult movement to ride well.

Observation 8: RDAA.

Coach Janet and a group of volunteers were leading a group of Riding for the Disabled Association of Australia (RDAA) riders around learning how to ride the tracks of the field/paddock. Instead of riding the tracks of the arena like student Melissa did in Observation 1, these riders go up and down hills, around trees, and over logs using a series of natural markers instead of the arena markers. For example, the big gum tree on the top of the hill is used as a place to change direction, instead of using the letter A in an arena to guide their way. Although these activities were not specifically facilitated as EFL, how they were implemented could be broadly interpreted as a type of EFL activity.

Observation 9: RDAA.

As with Observation 8, the coach and a group of volunteers were leading a group of RDAA riders around learning how to ride the tracks of the field/paddock. Only the core group of volunteers remain with each different group. The extra volunteers may be different for each lesson, and each lesson is experienced by a different group of students.

Observation 10: Dressage.

Coach Rachel is teaching student Jacqueline how to ride the tracks of the arena in walk and trot. As with Observation 4, the coach was helping the student to negotiate the corners and straight lines of the different tracks in the arena. The coach was teaching her the basics of changing the rein while riding across the diagonal of the arena and maintaining a correct riding position.

Observation 11: Dressage.

Coach Rachel is teaching student Diana how to ride the tracks of the arena in walk, trot, and canter. Diana is a more advanced student than Jacqueline. Rachel is teaching her to become more accurate in her transitions from walk to trot, and back to the walk again by using a series of preparation steps so that the horse knows what to expect next and can respond accordingly.

Observation 12: Jumping.

Coach Marcel is teaching and assessing the preparedness of student Sandra and her horse for an upcoming showjumping competition. The coach assesses the partnership of student and horse in walk, trot, and canter, and on both reins. As they are deemed competent, the coach instructs them through a few exercises of transitions, lengthening and shortening the stride before jumping a series of fences up to 60cm in height. For this combination, it was important to keep the bend of the horse's body on the line of the track to prevent the shoulder "falling in".

Observation 13: Jumping.

Observation 13 is similar to Observation 12, in that the coach Marcel is teaching a student, this time Scott, to ride a showjumping course. For this combination, the emphasis on the flat is for the rider to keep the leg pressure on the horse to keep the horse going forward at a uniform pace. By contrast with Sandra's horse who is more naturally forward thinking, Scott's horse needs to be encouraged to go forward and maintain pace. This is a typical situation where the coach needs to "read" the capabilities of the both the student and the horse combination. Generally, this student needs to be accurate in his approaches to the fence he is jumping so that the horse will go over the fence cleanly and not hit the rails or suddenly stop in front of the fence.

Observation 14: Jumping

Paul, the coach, is teaching a student, John, how to ride a showjumping course. The use of a series of poles to trot over before a larger jumping obstacle ensured that the horse and rider's approach to the jump was steadier than previous attempts to canter towards the fence. Towards the end of the lesson, Paul jumped his horse over the fence in canter with a much steadier approach than in the first attempts.

Observation 15: Horsemanship.

Coach Kerry, with help from student coach Emily, is teaching a group of three students how to catch and tie up the horse safely, and saddle up for riding. The students use a quick-release knot to tie up the horses inside the stables, which is a different form of the quick-release knot that was observed in lessons at other riding establishments.

Observation 16: Dressage.

Coach Kerry was teaching a group of three students how to balance themselves correctly on the horse at the halt, and in walk and trot on the circle.

Observation 17: Dressage.

Coach Kerry was teaching a group of four students how to balance themselves on the horse at the halt, and in walk and trot on the circle. These students were learning more advanced skills in their riding than those in the previous lesson. One student, Emma, rode in both lessons on two different horses: Misty and Red.

Observation 18: Endurance.

Coach Kerry was teaching a group of three students how to manage the endurance horses out in the field and how to monitor their speed and their fitness as part of a larger training regime for endurance competition.

Observation 19: Dressage.

Student coach Emily teaches student Cassandra how to ride the tracks of the arena at walk and trot, supervised by the coach Kerry at a distance. Emily's focus is on staying on the desired track and has set up a series of marker cones to mark the track where the student guides her horse. Cassandra rides the track through the cones at walk and trot, and on both reins. She also practices the halt using the cones to guide her in knowing how long it takes for her horse to respond to the aids she gives him to halt.

Observation 20: Jumping.

Coach Lucy is teaching a group of students how to ride a showjumping course. After warming up the students and horses in walk, trot and canter as a group, the students worked one at a time. The coach started with using one jump, then two jumps, then a small course with heights up to 60cm which could be adjusted to suit the requirements of the students and/or their horses.

Observation 21: Jumping.

Coach Lucy is teaching a more advanced group of students how to ride a showjumping course, using a similar process to that in Observation 20. Again, after warming up as a group, she starts with using one jump, then two jumps, then a small

course for each student. With this more advanced group, she continues on instructing the students on how to ride a treble fence and includes the treble in the showjumping course for them to practice over.

Observation 22: Pony Club.

Coach Robert, with help from another coach, Melinda, takes a group of nine riders through how to ride in troop drill. This is an activity where the riders stay together, or attempt to stay together in pairs or fours at one horse's length distance between the groups.

Observation 23: Pony Club.

Coach Robert has a group of riders with him in the campdrafting arena to introduce the students to the art of riding in campdrafting and to introduce the students' horses to the cattle used for campdrafting. This was followed by instructions to the riders singly when working with the cattle to select one steer in the drafting yard. The remainder of the group watched, listened and learnt from the outside of the yard while each student had a turn in the drafting yard receiving one-on-one instructions.

Observation 24: Pony Club.

Coach Melinda teaches the students how to ride a flagging race and how to ride a bending race. After one student demonstrates, the students are instructed by the coach through the flagging course one at a time, and then in pairs. Next another student demonstrates the bending race, and then the students are again instructed by the coach one at a time, and in pairs.

Observation 25: EFL activity: manage the horse.

Coach Frank is teaching student Andrew how to be aware of and manage the horse, whose name is Vu. The EFL activity is similar to lunging, where the horse moves in a circle around the student, which is an activity of good horsemanship. By explicitly teaching students the required horsemanship skills in a supportive environment, the coach is also mindful of implicitly developing each student's confidence, as the horse delivers the required responses, so that the students can become more socially and emotionally competent.

Observation 26: EFL activity: team-building.

Coach Jennifer is facilitating a business-orientated team-building activity with a group of participants/students and Rex the horse. It appears unlikely that participants are familiar with horses. The participants' horsemanship skills are not being targeted in this lesson. The aim is to engage participants with a horse and then think about that experience with the horse, and how learning from the experience relates to managing bigger pictures in life and work situations.

Appendix C: Participant Consent Form



University of Southern Queensland

The University of Southern Queensland

Participant Information Sheet

HREC Approval Number: H12REA214

Full Title of Research Study: Equestrian sports coaching: exploring sports coaching from an equestrian perspective

Principal Researcher: Cristine Hall

Dear Coach,

I would like to invite you to take part in this research study. The research is about you and your coaching: how you go about teaching your students in a lesson in the context of the broader aspects of equestrian sport and general sports coaching. There is not a lot known about coaching equestrian sport and the study aims to change that. By participating in this study, you will contribute to research about equestrian coaching, and the ways that equestrian coaches manage the various aspects of their coaching practice.

1. Procedures

Participation in this study

While you are coaching lessons in your usual environment, I will be looking at how you coach. I will be observing only, not assessing your lesson. In some instances, your lessons will be video-recorded. A copy of the video would be available on request. It may take about 10-15 minutes of your time before/after the lessons to check that all is ok and then to briefly discuss that all went as planned.

At a suitable time, I will talk with you for longer about your lesson, especially if there is a video-recording to view. Our interview should take about an hour (60 minutes) although the time can be split into 2 sessions if more suitable. I will audio-record the interview and the transcription would be available on request. The interview will be either by telephone or in person.

2. Voluntary Participation

Your participation is entirely *voluntary*. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. At your request, any information already obtained from you will be destroyed.

Your decision whether to take part or not to take part, or to take part and then withdraw, will not affect your relationship with the University of Southern Queensland or Carrington Equestrian Centre.

Please notify me **Cristine Hall** (details below) if you decide to withdraw from this research study. If you prefer, please contact the University direct (details below).

Should you have any queries regarding the progress or conduct of this research, you can contact the *principal researcher*:

Cristine Hall, Faculty of Education, USQ Toowoomba Ph. +61 7 4631 1405 (BH) or + 61 7 4696 2345 (AH) Email: Cristine.Hall@usq.edu.au

If you have any ethical concerns with how the research is being conducted or any queries about your rights as a participant please feel free to contact the *University of Southern Queensland Ethics Officer* on the following details.

Ethics and Research Integrity Officer, Office of Research and Higher Degrees, University of Southern Queensland, Toowoomba 4350 Ph.+ 61 7 4631 2690 (BH) Email: ethics@usq.edu.au



HREC Approval Number: H12REA214

Full Title of the Study: Equestrian Sports Coaching: exploring sports coaching from an equestrian perspective

Principal Researcher: Cristine Hall

TO: Cristine Hall

FROM: _____ (Participant's name)

- I have read the Participant Information Sheet and the nature and purpose of the research study has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I confirm that I am over 18 years of age.
- I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
- I understand that the lessons will be observed and video-recorded. I have informed my students (and their parents if under 18) so they know that the lesson will be observed and video-recorded and that they are to talk to me their coach if there are any issues.
- I understand that the interview in the study will be audio-recorded.
- I understand that the video and audio-recordings will be securely stored on a password protected computer and/or in a filing cabinet of a locked office. The researcher will have access to the data. A copy of the video and/or audio-recording is available on request.

Name of participant.....

Signed.....Date.....

Should you have any queries regarding the progress or conduct of this research, you can contact the *principal researcher*:

Cristine Hall, Faculty of Education, USQ Toowoomba Ph. +61 7 4631 1405 (BH) or + 61 7 4696 2345 (AH) Email: Cristine.Hall@usq.edu.au

If you have any ethical concerns with how the research is being conducted or any queries about your rights as a participant please feel free to contact the *University of Southern Queensland Ethics Officer* on the following details.

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Ethics and Research Integrity Officer, Office of Research and Higher Degrees, University of Southern Queensland, Toowoomba 4350 Ph.+ 61 7 4631 2690 (BH) Email: ethics@usq.edu.au

Appendix D: Survey Questionnaire

A Survey of Teaching Styles used by Equestrian Coaches

Part A (Demographics)

Name _____
Email _____
Country _____
Telephone _____

Which Equestrian Sports do you coach?
(Tick one or more boxes)

Dressage
Endurance
Equine-facilitated learning (EFL) activities
Eventing
Horse Agility
Jumping
Para-equestrian
Pony Club
Ready Steady Trot
Reining
Show Horse
Vaulting
Other

Which Equestrian Sport do you coach the most?
(Dropdown box)

Dressage
Endurance
Equine-facilitated learning (EFL) activities
Eventing
Horse Agility
Jumping
Para-equestrian
Pony Club
Ready Steady Trot
Reining
Show Horse
Vaulting
Other

Which Equestrian Coaching Qualification do you have?
(Dropdown box)

Certificate III in Sport Coaching (Equestrian);
Certificate IV in Sport Coaching (Equestrian);
Diploma of Sport Coaching (Equestrian);
EA Introductory Equestrian Coach;
EA/International Level 1;
EA/International Level 2;
EA/International Level 3;
Pony Club (Australia/International);
Currently coaching and not qualified;
Other

Instructions

Please read through each scenario description of the teaching styles **carefully** and then select your answer to the question from the dropdown list.

Please give your answer all questions as what you know from your own coaching experience. Is this a style of teaching that you ever use when coaching?

If you are not sure about your answer then reflect on how you have coached students in your lessons over the last twelve months. Even if you are still not sure just choose the answer that suits best. There are no right or wrong answers here. All of the descriptions are valid and are of equal value. This survey seeks your beliefs and opinions on which teaching styles you use when you are coaching.

Part B (Teaching Styles)

Definition: A Teaching Style is a *plan of action that defines the specific decision interaction of the teacher [or coach] and the learner [or student] for the purpose of leading to the development of specific objectives in subject matter and behaviour.*

<p>Q1. <i>Do you ever use this style when you coach?</i></p>	<p>Teaching Style A</p> <p>The coach selects the exercises or activities. The students perform all together, in a precise performance that follows the pace and rhythm set by the coach.</p> <p>(Dropdown box)</p> <p>Never Rarely Sometimes Often Always</p>
--	--

<p>Q2. <i>Do you ever use this style when you coach?</i></p>	<p>Teaching Style B</p> <p>The coach selects the exercises or activities, the number and the time limits so that the students can practice individually and privately. The coach circulates amongst all the students and offers private feedback. The students learn to set a pace to practice within an allocated time frame.</p> <p>Never Rarely Sometimes Often Always</p>
--	--

<p>Q3. <i>Do you ever use this style when you coach?</i></p>	<p>Teaching Style C</p> <p>The coach selects the exercises or activities and expects the students to work with a partner. One student (the doer) practices the exercise or activity, while the other student (the observer) uses the coach-prepared criteria (checklist) to offer immediate feedback to the doer. Then the partners switch roles. The coach interacts with the observer to affirm the use of criteria and the accuracy of feedback comments and/or redirects the observers' focus to specific details of the criteria.</p>
--	---

<p>Q4. <i>Do you ever use this style when you coach?</i></p>	<p>Teaching Style D</p> <p>The coach selects the exercises or activities. Students individually practice and check their own performance against the coach-prepared criteria (checklist). The coach privately communicates with students to listen to their self-assessment and either reinforces the student's use</p>
--	--

of criteria or redirects the student's focus to specific details of the criteria.

Teaching Style E

Q5. Do you ever use this style when you coach?

The coach selects the exercises or activities and designs multiple levels of difficulty. Students self-select their own level of difficulty. If inappropriate level decisions are made, the student may change the level. Students check their own performance against the coach-prepared criteria (checklist). The coach circulates to acknowledge the selections that students have made, to ask questions for clarification and affirm the accuracy of the students' self-assessment and/or redirect the students' focus to specific details of the criteria.

Teaching Style F

Q6. Do you ever use this style when you coach?

The coach asks one student a series of specific questions; each question has only one correct answer. The questions are sequenced in a logical pattern so that each answer leads the student step by step to discover the anticipated concept, principle, relationship or solution.

Teaching Style G

Q7. Do you ever use this style when you coach?

The coach designs a situation or one question that has only one specific correct response – the situation or question is new and the response is not previously known to the students. The students are given individual and private time to use their thinking and questioning skills to sequentially and logically discover the anticipated answer.

Teaching Style H

Q8. Do you ever use this style when you coach?

The coach designs a single or series of problems, situations or questions that seek multiple answers to the same problem. The exercise or activity is new to the students; therefore, each student is invited to discover new possibilities, as they produce multiple responses to the specific problem. The coach acknowledges the production of multiple ideas, rather than any single idea.

Teaching Style I

Q9. Do you ever use this style when you coach?

The coach selects a general exercise or activity. Within that, each student is responsible for producing an individual learning program that includes setting goals and the process to achieve those goals. The students design, implement, refine and self-assess their individual learning programs. The coach acknowledges the production of ideas and asks questions for information or clarification about the learning program.

Q10. Do you ever use this style when you coach?

Teaching Style J

The student initiates a request to the coach to plan his/her own learning experience. In this experience, the student makes all the decisions: selects the exercises or activities; designs, identifies and executes the criteria for assessment of the learning experience. The coach acknowledges the student's successful implementation of the plans and initiates questions where discrepancies emerge between the student's intent and actions. It is not the coach's role to evaluate, rather to act as a reference source between the intent and action when asked by the student.

Teaching Style K

Q11. *Do you ever use this style when you coach?*

The student takes the role of both student and coach in setting all learning objectives. The student makes decisions about the exercises or activities, and designs, executes and self-assesses the learning experience. This style is independent of a coach and not initiated by the coach. Feedback from the coach and others occurs only if the student seeks it.

Part C (Additional information)

We welcome your comments or questions

On reflection... *Did you find this survey useful in considering **how** you coach?*
(Dropdown box)
Yes
No
Maybe

Report *Would you be interested in receiving a report on "Teaching Styles in Equestrian Sports Coaching" and/or contributing to future research on this topic?*
(Dropdown box)
Yes
No
Maybe

If you missed the leading article on teaching styles for equestrian coaching from Online Horse College, go to www.onlinehorsecollege.com.
The survey is part of a larger study exploring teaching styles in equestrian sports coaching. For more information on the study contact: Cristine Hall, University of Southern Queensland, Australia Telephone: +61 7 4631 1405 or email: Cristine.hall@usq.edu.au.
The questions in the survey (on the 11 landmark teaching styles A-K) and the description of a teaching style are based on the Mosston and Ashworth's (2008) Spectrum of Teaching Styles. For more information go to www.spectrumofteachingstyles.org.
For any issues with the conduct of the study contact: Ethics Co-ordinator, University of Southern Queensland, Australia Telephone: +61 7 4631 2690 or email: ethics@usq.edu.au. The USQ Ethics Clearance Document code is H12REA214.

Submit

Note: When the survey questionnaire is completed and submitted, an automatic thank you webpage is displayed. Also, an email is generated that contains a link to the free downloadable eBook. The eBook is an incentive for coaches to complete and submit the survey.

Appendix E: Teaching Styles for Equestrian Coaches

Equestrian Coaches Only!

Teaching Styles for Equestrian Coaches

Think about this for a moment! You may know *what* you coach and *why* you coach but have you considered *how* you coach?

As a coach you can use a variety of teaching styles in your lessons with students. You could be more familiar with the words ‘coaching’ or ‘instructional’ styles or even ‘facilitative’ methods or approaches depending on your discipline and training. Many equestrian coaches use a more *direct* style of teaching in their lessons where the coach gives commands or demonstrates and the students follow their cues. Think of one of your lessons where you say “Whole ride, trot” and the whole ride trots on or “Everyone, come in here” and everyone comes in together to the designated place. These are typical examples where you as the coach are making all or almost all of the decisions and taking responsibility for the students’ learning in the lesson. Another similar style of teaching allows the students to take a little more responsibility in making decisions by practising for a set time on their own or working with a partner. Does this type of teaching style sound familiar? By taking more responsibility and making more of the decisions, students can also assess their own performance against set criteria or choose the level of difficulty to participate.

If you use words such as Command, Practice, Reciprocal, Self-check or Inclusion when you talk about your teaching style/s in coaching, you are most likely using teaching styles that encourage students to **reproduce existing knowledge, replicate models, recall information and practice skills**. If, for example, you are teaching your students how to brush their horse correctly, pick out their feet safely, or ride through a jumping grid several times, you are most likely using these teaching styles.

Other teaching styles that you may use in your lessons will seek to shift that decision-making responsibility even further from the coach to the student. These styles are Guided Discovery, Convergent Discovery, Divergent Discovery, Learner-Designed, Learner-Initiated or Self-Teaching where the student is more likely to **discover new knowledge for themselves**. If, for example, your students are exploring new ways to communicate with their horse then it is more likely that you are using these teaching styles. In these teaching styles, the student makes more decisions to be responsible for their own learning in the lessons. Be careful though when thinking about the teaching style/s that you are using – sometimes names are used in a general sense that do not always accurately describe what happens. For example, coaches sometimes say they use Guided Discovery with a group of students. It is more likely that Guided Discovery is used as a teaching style with one student rather than a group. Generally speaking, Guided Discovery calls for the coach to ask a series of questions so that the student can discover the answer. It is difficult for all students to achieve individual learning at the same rate as others when in a group. Depending on how they are learning, some students will want to ask different questions to other students when discovering the answer.

The 11 teaching styles of Command, Practice, Reciprocal, Self-check, Inclusion, Guided Discovery, Convergent Discovery, Divergent Discovery, Learner-Designed, Learner-Initiated and Self-Teaching are found along a continuum known as the Spectrum of Teaching Styles. Because there could be an infinite number of teaching styles, these eleven are known as **landmark teaching styles**.

The Spectrum of Teaching Styles, developed by Muska Mosston, and over time refined during collaboration with Sara Ashworth (2008), is a unified theory about teaching and learning behaviour that is a comprehensive framework for understanding the teaching/learning process. The Spectrum is built on the idea that teaching behaviour is a chain of decision-making and that every deliberate act of teaching is a result of a previous decision.

Professor Sara Ashworth describes a **teaching style** as *a plan of action that defines the specific decision interaction of the teacher [or coach] and the learner [or student] for the purpose of leading to the development of specific objectives in subject matter and behaviour*.

Most equestrian coaches know *why* they coach. And as you become more experienced as a coach, you know more about the content of your lessons. When you feel confident about *what* you are teaching when you are coaching, you also can think about *how* you are actually delivering that content for your students in the lessons.

As an equestrian coach, think of how you are coaching at the moment and the variety of teaching styles that you use. Consider how well that is working for you. Knowing that there are different teaching styles that a coach can use is useful information. Using a variety of those teaching styles may help a coach achieve different learning objectives that are set in each lesson. Take a moment to reflect on the teaching styles that have been discussed here. Which do you use in your lessons? See if you can decide which of the different teaching styles from the Spectrum mentioned above you use.

Remember that all teaching styles are relevant and often you would use a variety of teaching styles within each lesson. No particular style or cluster of styles is more important than another – it depends on what you are trying to achieve. Learning more about the Spectrum and become familiar with the differences amongst the teaching styles will help you to discover more for yourself as a coach.

Discovering what coaches think about the teaching styles that they use in their lessons is important for future coach education. The Spectrum provides a comprehensive, logical and unique system for studying teaching and learning that can benefit equestrian coaches. Cristine Hall, from the University of Southern Queensland, Toowoomba has designed a short set of questions in a survey on teaching styles to help you consider the teaching styles that you use right now. Your feedback about what you believe you do is important. The survey, apart from requesting some background information, has only eleven questions. The questions ask how often (if at all) you use each of the eleven teaching styles from the Spectrum in your coaching. That's only a one click response per question. You can have it done in ten minutes!

Think about the teaching styles that you use in your lessons and please complete the survey now – [click here \(link to survey\)](#). **Your assistance would be appreciated.**

Remember to grab your free eBook 'On Horsemanship' written by Xenophon, the great Riding Master – [click here \(link to survey\)](#). Stay tuned for a report on the results coming soon!

[Click here \(link to survey\)](#)

Reference

Mosston, M., & Ashworth, S. (2008). *Teaching Physical Education* (1st ed.). Online: Spectrum Institute for Teaching and Learning.

The survey is part of a larger study exploring teaching styles in equestrian sports coaching. For more information on the study contact: Cristine Hall, University of Southern Queensland, Australia Telephone: +61 7 4631 1405 Email: Cristine.hall@usq.edu.au

The information about the eleven landmark teaching styles is based on the Spectrum of Teaching Styles. For more information go to www.spectrumofteachingstyles.org

For any issues with the conduct of the study contact: Ethics Co-ordinator, University of Southern Queensland, Australia Telephone: +61 7 4631 2690 Email: <mailto:ethicsofficer@usq.edu.au> USQ Ethics Clearance Document Number H12REA214

Source: Newsletter article uploaded to Online Horse College (www.onlinehorsecollege.com) on 19th February, 2013.

Appendix F: How to be a Better Coach

Equestrian Coaches Only!

How to be a Better Coach

Do you know what you are doing when you are coaching?

Take a moment to think about the last session that you coached. What happened? What did you learn from that experience? Do you take the time to reflect on how you teach your students in those lessons? Consider yourself a student as well. How do you learn from your coaching? And how can you be a better coach?

Reflective practice has long been recognised as an important stage of experiential learning. When John Dewey, philosopher of education, described the impact on learning from an experience, he claimed that the student's capacity to reflect after an event (such as coaching your lesson!) was most important. This is true, particularly if what happened was well remembered, not what was expected, or was uncomfortable in some way. When you are more open to actively exploring the value of those lived experiences by reflecting, there is more chance of real growth and learning.

Luckily, most people who spend time with horses are open to learning as they choose activities in a well-suited environment. Connecting your experiences with horses to previous knowledge and testing what you already know in the light of a new experience is all part of your learning process. As the education theorist Donald Schon asserts, those who are encouraged to think carefully about what they are doing, either when they are doing it or soon after, are those who learn in a more profound way.

As a reflective coach, you may reflect *in* action, *on* action, *for* action or *with* action. Reflection can be an ongoing process! Reflection *in* action suggests a coach who is aware and mindful, constantly analysing the situation, and who engages in reflection and action simultaneously. Do you think on your feet and improvise as you go? Then you are most likely reflecting *in* action.

Reflection *on* action is looking back on previous actions by taking time to review those past experiences, by taking time to think and write down your thoughts. Do you take the time afterwards to think about significant events or instances you remember?

Talking about reflection *on* action ...

Do you remember a few weeks ago that we sent an email on *Teaching Styles for Equestrian Coaches*? Did you take action and link through to the survey? Good for you! One of the benefits for completing the survey was that you took a moment to reflect on how you coach. If you did not complete the survey, go there now ([link to survey](#)). It may be helpful to you as a reflective exercise. You will also be contributing your voice to further research in coach education. As a further incentive, there is also a free gift!

In other forms, reflection *for* action suggests planning forward and selecting the most appropriate action for the future and reflection *with* action means actually taking those future actions. You may already use each of these forms of reflection in your coaching. Take a moment to think about that. All forms have the potential to enhance your ability for learning and teaching as a coach, to be a better coach for yourself and your students.

Reflective practice remains an important concept in sports coaching and that includes equestrian sports. Reflective practice is the key to learning from an experience; otherwise there may be little impact. There is value for you as a coach in knowing and understanding your own actions and the consequences of those actions.

Across all forms of reflective practice, your self-feedback can be focused on fixing problems or it can be more positive by reflecting on the successes and strengths of your experiences in coaching practice. One of the important aspects to consider when reflecting is to do what the education practitioner Tony Ghaye calls success-based or strength-based reflection. Reflecting on strengths or successes rather than what needs to be fixed may not only help you understand your own coaching but improve it

going forward in the future. You may find that reflective practice contributes to increasing your level, skill and quality of coaching. Try it!

Reflective practices can help with four kinds of learning that are all regarded as important: affective (emotion), cognitive (thinking), positive action (mindset) and social (interacting). Affective learning uses feelings and emotions to learn, cognitive learning uses thinking skills and creative skills to think about things differently, positive action learning turns feelings into positive and strong action whilst retaining ethical and moral standards, and social learning is learning with and from others. It seems that not only is reflective practice important for coaches, it is also important for the students. Do you encourage your students to reflect on their experience of each lesson?

After completing the survey on *Teaching Styles for Equestrian Coaches* ([link to survey](#)), consider asking yourself the following questions put together by Tony Ghaye. You can use these six questions as a guide to consider how you coach in your current coaching practice.

1. What are the strengths and limitations of your current practice?
2. What do you need to keep doing well?
3. What are the things you need to change?
4. What is the best way for you to move forward?
5. How can you learn from success, no matter how small?
6. What does the evidence of positive development look like, and how far is this evidence trustworthy?

It would be great to hear your feedback after you have taken the time to consider these questions in the Comment box below. If you have not done so, please complete the survey on *Teaching Styles for Equestrian Coaches* ([link to survey](#)). Your comments on the survey or the articles are welcome and your contribution to ongoing research in coach education is greatly appreciated!

References

Dewey, J. (1938). *Experience and education*. New York, NY: Kappa Delta Pi.

Schon, D. A. (1987). *Educating the reflective practitioner*. San Francisco, CA: Jossey-Bass.

Ghaye, T. (2011). *Teaching and Learning through reflective practice: A practical guide for positive action* (2nd edition). Routledge New York NY

The survey is part of a larger study exploring teaching styles in equestrian sports coaching. For more information on the study contact: Cristine Hall, University of Southern Queensland, Australia Telephone: +61 7 4631 1405 Email: Cristine.hall@usq.edu.au

For the link to the previous newsletter on *Teaching Styles for Equestrian Coaches*, go to ([link to newsletter webpage](#)).

For any issues with the conduct of the study contact: Ethics Co-ordinator, University of Southern Queensland, Australia Telephone: +61 7 4631 2690 Email: ethicsofficer@usq.edu.au. USQ Ethics Clearance Document Number H12REA214

Please complete the survey on *Teaching Styles for Equestrian Coaches* ([link to survey](#)).

Please add your comments below.

Source: Newsletter article uploaded to Online Horse College (www.onlinehorsecollege.com) on 14th June, 2013.

Appendix G: Teaching beliefs of Tennis Coaches

As part of the data analysis methods used in the research, the results of the equestrian survey were compared with those from tennis from Hewitt (2015). A similar set of survey questions used were based on the teaching styles from Mosston and Ashworth's (2008) Spectrum, and with a comparable cohort of respondents. However, the two datasets were not originally analysed in the same way, so a subset of data from *Teaching Styles of Australian Tennis Coaches: An exploration of practices and insights using Mosston and Ashworth's Spectrum of Teaching Styles* (Hewitt, 2015, Table 4.1, p. 142) was selected and re-analysed by the researcher. Consequently, the two datasets, one from equestrian sports and one from tennis, were analysed using the same statistical procedures.

A series of three frequency distribution tables were generated on the teaching beliefs of tennis coaches. These three tables, presented in this section as Tables G.1, G.2, and G.3, are directly comparable with those presented for equestrian coaches in Chapter 4 (Results) as Tables 4.5, 4.7, and 4.8, respectively.

The frequency distribution of the survey responses from tennis coaches regarding the use of Spectrum teaching styles is presented in Table G.1. This table shows how the rankings from high (rank=1) to low (rank=5) of five response categories: Not at all, Minimally, Here and there, Often, and Most of the time, have been assigned to each of the 11 teaching styles: Styles A to K.

Table G.1. The frequency distribution in rankings from high (rank=1) to low (rank=5) of five response categories: Not at all, Minimally, Here and there, Often, and Most of the time for each of the 11 teaching styles, Style A to Style K, for tennis coaches.

Tennis Coaches Teaching Style	Response Category				
	Not at all	Minimally	Here and there	Often	Most of the time
A Command	5	3	2	1	4
B Practice	5	3	2	1	4
C Reciprocal	3	1	2	4	5
D Self-check	4	1	1	3	5
E Inclusion	3	1	4	2	5
F Guided Discovery	5	3	2	1	4
G Convergent Discovery	4	2	1	3	5
H Divergent Discovery.	4	3	1	2	4
I Learner-Designed IP*	2	1	3	4	5
J Learner Initiated	2	1	3	4	5
K Self-teaching	1	2	3	4	5

*Individual Program

In Table G.1, the patterning of the rankings in the response categories was not as clear as occurred in the equestrian results (Table 4.6). When the responses from Most of the time are discarded, the remaining four categories are grouped as two: Not at all and Minimally, and Here and there and Often. The percentages of these four categories were re-calculated to produce a new frequency distribution table (%) (Table G.2).

Table G.2. Frequency distribution (%) of the 11 teaching styles in the grouping of the response categories: Not at all and Minimally and Here and there and Often for tennis coaches.

Tennis Coaches Teaching Style	Response Category	
	Not at all and Minimally	Here and there and Often
A Command	20.5	79.5
B Practice	15.0	85.0
C Reciprocal	56.9	43.1
D Self-check	49.5	50.5
E Inclusion	51.5	48.5
F Guided Discovery	28.9	71.1
G Convergent Discovery	38.8	61.2
H Divergent Discovery	24.1	75.9
I Learner-Designed IP*	64.2	35.8
J Learner Initiated	71.6	28.4
K Self-teaching	68.6	31.4

*Individual Program

In Table G.2, the six teaching styles that tennis coaches believe they use are clearly shown in bold font as Style B (Practice) (85%), Style A (Command) (79.5%), Style H (Divergent Discovery) (75.9%), Style F (Guided Discovery) (71.1%), Style G (Convergent Discovery) (61.2%), and Style D (Self-check) (50.5%).

In addition to the two frequency distribution tables presented above, a frequency distribution of rankings based on the 11 teaching styles in five response categories is presented in Table G.3. Thirteen individual rankings were issued because sometimes the percentages were the same for more than one teaching style, so the same rank was applied to each. For example, rank=3.5 was used instead of rank=3 and rank=4. Of the six teaching styles nominated above: Styles A, B, D, F, G, and H, only the first four were evident as those that tennis coaches believe they use: Styles A, B, F, and H. These four teaching styles are highlighted in bold font in Table G.3.

Table G.3. Rank from high (rank=1) to low (rank=11) of percentage distribution (%) in each of five response categories: Not at all, Minimally, Here and there, Often, and Most of the time. for 11 Spectrum teaching styles, Style A to Style K.

Tennis Coaches Teaching Style	Response Category				
	Not at all	Minimally	Here and there	Often	Most of the time
A Command	10	9	3.5	2	3
B Practice	11	11	5	1	1
C Reciprocal	5	3	7	8	6.5
D Self-check	6	5	3.5	6.5	8
E Inclusion	4	6	11	5	6.5
F Guided Discovery	8	8	6	3	2
G Convergent Discovery	7	7	2	6.5	5
H Divergent Discovery	9	9	1	4	4
I Learner Designed IP*	3	2	8	9	10
J Learner Initiated	2	1	10	11	10
K Self-teaching	1	4	9	10	10

*Individual Program

From Table G.3, when the three rankings from Here and there, Often, and Most of the time, are averaged, the results indicate an order of Style B (rank=2.3), Style A (rank=2.8), Style H (rank=3), and Style F (rank=3.6).

When the first seven rankings, from rank=1 to rank=6 were highlighted, a pattern (or trend) emerged (not shown) to identify the three response groupings of teaching styles as High use, Low use, or Not Clear use. For example, Style A was clearly identifiable in the High use category after the first four rankings of 1, 2, 3, and 3.5 were assigned. This result means that a high percentage of tennis coaches believe they use Style A in their teaching of tennis. By contrast, no pattern was evident in Style C when all of the rankings were assigned, so Style C was placed in the Low use group.

Hewitt's (2015) High use response group contained four Spectrum teaching styles: Styles A, B, F, and H, indicating that these were the four predominant teaching styles that tennis coaches believed they used. These results further indicated that there were four teaching styles: Styles C, I, J, and K that were not widely self-identified as being

used by tennis coaches and placed in the Low usage group. The responses to the remaining three teaching styles: Styles D, E, and G, were not clear, and so were assigned to the Not Clear use group.

Results of coaches' teaching beliefs from this equestrian research and results from tennis that were presented in Table G.4 were compared in Table G.5. Four teaching styles were commonly believed to be predominantly used in teaching both equestrian sports and tennis, and are highlighted in bold font: Styles A, B, F, and H.

Table G.5. Comparison of results between equestrian coaches and tennis coaches of teaching beliefs based upon 11 Spectrum teaching styles, Style A to Style K.

Spectrum teaching style	Spectrum teaching styles		Comparison of teaching styles
	Equestrian coaches	Tennis coaches	
A Command	High use	High use	Yes
B Practice	High use	High use	Yes
C Reciprocal	Low use	Low use	Yes
D Self-check	High use	Not Clear use	No
E Inclusion	Not Clear use	Not Clear use	Yes
F Guided Discovery	High use	High use	Yes
G Convergent Discovery	Low use	Not Clear use	No
H Divergent Discovery	High use	High use	Yes
I Learner-Designed IP*	Not Clear use	Low use	No
J Learner Initiated	Low use	Low use	Yes
K Self-teaching	Low use	Low use	Yes

*Individual Program

There was some correlation of participant responses, where eight teaching styles were common to the teaching beliefs held by coaches in equestrian sports and tennis: Styles A, B, C, E, F, H, J, and K. Only four styles were those that coaches strongly believed were used, and categorised as High usage: Styles A, B, F, and H. Equestrian coaches perceived they also used Style D, categorised as High use, whereas it was not clear if tennis coaches perceived they used Style D, categorised as Not Clear use.

Based on this comparison of findings, it could be construed that both equestrian coaches and tennis coaches commonly believed that they predominantly use two teaching styles, Style A and Style B, from the reproduction of known knowledge

cluster of the Spectrum and two of the three discovery teaching styles, Style F and Style H, from the production of new knowledge cluster (Mosston & Ashworth, 2008).

Appendix H: Constructing the DSTS Matrix

The DSTS Matrix, as Table H.1, was constructed in response to the Spectrum issues regarding how the DS, Decision sets, or DS, that were sometimes labelled Decision categories, determine the Teaching styles, or TS. After the shift from Style B to Style C, and through to Style K, all of the decisions that shift from teacher to student were not all clearly defined in any readings of the Spectrum (STS, 2015). For this reason, the connections between the Decision sets and the 11 teaching styles were identified from the text of *Teaching Physical Education* (Mosston & Ashworth, 2008). This was done with the aim of identifying which key decisions are made by the coach and the student in shifting from one teaching style to the next. This was deemed as imperative by the researcher for being able to observe and interpret the teaching styles of equestrian coaches in Observations A of the research. One could argue that knowing the details of how decision-making and teaching styles are connected is a pre-requisite for taking a theoretical concept, such as the Spectrum, and expertly applying it in the field, in practice, as an analytical instrument. However, the information was lacking, and in response, the DSTS Matrix was constructed.

In brief, 58 key decisions were identified, with four decisions incompletely described, leaving a total of 54 key decisions to be used in the matrix. The nine key decisions that shift from teacher to student, when the teaching style shifts from Style A (Command) to Style B (Practice), are relatively well-documented (STS, 2015). However, no more of the remaining key decisions shift from Style B (Practice) to Style E (Inclusion), meaning that the same nine decisions shift from Style A to Style E. Furthermore, only one new decision shifts when transitioning from Style E in the reproduction of known knowledge cluster to Style F (Guided Discovery) in the production of new knowledge cluster across the discovery threshold. No key decisions shift from Style F to Style H (Divergent Discovery), nine key decisions shift from Style H to Style I, 31 from Style I to Style J, and four key decisions shift from Style J to Style K. At this point, it would be fair to say that the researcher's deductions in regard to the decision shifts for each landmark style may not be totally "correct". However, they were carried out to the best of the researcher's analytical capability, given the limited information provided by the textbook.

Decision sets

The first column in the DSTS Matrix (Table H.1) is a composite of information on Decision sets ($N=3$) and Decision categories ($N=27$) from Figure 3.2 in *Teaching Physical Education* (Mosston & Ashworth, 2008). Descriptions of each decision in the text are used, along with some modifications where necessary as categories or sub-categories added or extended, which were based on logical assumptions or conclusions from the reading. In total, there are 58 key decisions listed in the three Decision sets: Pre-impact, Impact, and Post-impact, as explained in this excerpt from Mosston and Ashworth (2008):

After considerable study, Mosston organised the randomly identified decisions that are always being made in all teaching events into three sets. The identification of the unique characteristics of the three sets permitted the clustering of specific decisions according to their overall purpose. (p. 19)

For convenience, each description is in a shorter form than that of the original in the text. Note that the list of decisions would be longer if Post-impact Feedback was expanded to its possible 720 options ($N=5 \times 3 \times 48=720$). This number of different options of feedback to students comes from multiplying the form ($N=5$), topic ($N=3$) and other delivery options ($N=2 \times 2 \times 3 \times 2 \times 2=48$). However, for convenience, the shorter form was used.

In moving from the list of decisions or categories in Figure 3.2 of *Teaching Physical Education* (Mosston & Ashworth, 2008) to the description of each decision, there were some inconsistencies. For example, in the Pre-impact set of 1-14, details of 14 planning decisions are offered. Then, in the first decision category of Impact, the same 14 decisions are shifted from planning to action decisions, with no details provided to identify which decisions are the same, similar, or different. How to implement these planned decisions according to the Spectrum was not known. It was deduced that for each of the 14 decisions, the first, in the Pre-impact set, was a planning decision asking “What?” questions and the second, in the Impact set, was a doing decision asking “How?” questions.

Constructing the matrix was limited to the 54 key defined decisions that shift in the 11 landmark teaching styles of the Spectrum. None of the remaining four key

decisions that were not easily deciphered were included. The canopies and combinations of styles, as proposed in *Teaching Physical Education* (Mosston & Ashworth, 2008), add layers of complexity that were not considered in the DSTS Matrix. This matrix of decisions made and the teaching styles is perceived as being the solid structure that is required as a baseline for building upon when exploring that complexity of the additional styles in future Spectrum research.

For convenience, Table H.1 is divided into the three decision sets: H.1 (A) Pre-impact, H.1 (B) Impact, and H.1 (C) Post-impact. Each decision set commences on a new page. The capital letter, T represents the teacher making the key decision, and the capital letter, S, represents the student making the key decisions. Each key decision that is discussed later is highlighted as bold in the table.

Table H.1. The DSTS Matrix of DS, Decision sets [A] Pre-impact, [B] Impact, and [C] Post-impact and TS, Teaching styles from Style A to Style K.

(A) Pre-impact Decision sets and Teaching styles.

Decision Categories			Teaching Styles										
			Reproduction Cluster					Production Cluster					
			A	B	C	D	E	F	G	H	I	J	K
Pre-impact	1	Objective	T	T	T	T	T	T	T	T	T	S	S
	2	Teaching style	T	T	T	T	T	T	T	T	T	S	S
	3	Learning style	T	T	T	T	T	T	T	T	T	S	S
	4	Whom	T	T	T	T	T	T	T	T	T	S	S
	5a	Subject matter: topic	T	T	T	T	T	T	T	T	T	S	S
	5b	SM: quantity	T	T	T	T	T	T	T	T	T	S	S
	5c	SM: quality	T	T	T	T	T	T	T	T	T	S	S
	5d	SM: order	T	T	T	T	T	T	T	T	T	S	S
	6a	Time: start	T	T	T	T	T	T	T	T	T	S	S
	6b	T:Pace	T	T	T	T	T	T	T	T	T	S	S
	6c	T: Duration	T	T	T	T	T	T	T	T	T	S	S
	6d	T: Stop	T	T	T	T	T	T	T	T	T	S	S
	6e	T: Interval	T	T	T	T	T	T	T	T	T	S	S
	6f	T: Terminate	T	T	T	T	T	T	T	T	T	S	S
	7	Comm.	T	T	T	T	T	T	T	T	T	S	S
8	Questions	T	T	T	T	T	T	T	T	T	S	S	
9	Org. arr.	T	T	T	T	T	T	T	T	T	S	S	
10	Location	T	T	T	T	T	T	T	T	T	S	S	
11	Posture	T	T	T	T	T	T	T	T	T	S	S	
12	Attire	T	T	T	T	T	T	T	T	T	S	S	
13	Parameters	T	T	T	T	T	T	T	T	T	S	S	
14	Class climate	T	T	T	T	T	T	T	T	T	S	S	
15	Evaluation proc.	T	T	T	T	T	T	T	T	T	S	S	

Table H.1. The DSTS Matrix of DS, Decision sets [A] Pre-impact, [B] Impact, and [C] Post-impact and TS, Teaching styles from Style A to Style K.

(B) Impact Decision sets and Teaching styles

			Teaching Styles										
			Reproduction Cluster					Production Cluster					
Decision Categories			A	B	C	D	E	F	G	H	I	J	K
Impact	1-1	Objective	T	T	T	T	T	T	T	T	T	S	S
	1-2	Teaching style	T	T	T	T	T	T	T	T	T	S	S
	1-3	Learning style	T	T	T	T	T	T	T	T	T	S	S
	1-4	Whom	T	T	T	T	T	T	T	T	T	S	S
	1-5	Subject matter: general area	T	T	T	T	T	T	T	T	T	S	S
	1-5a	SM: topic	T	T	T	T	T	T	T	T	S	S	S
	1-5a(i)	Subject matter: topic segments	t	t	t	t	t	S (A)	S (Q&A)	S	S	S	S
	1-5b	SM: quantity	T								S	S	S
	1-5c	SM: quality	T								S	S	S
	1-5d	SM: order	T	S	S	S	S	S	S	S	S	S	S
	1-5e	SM: entry point	T	t	t	t	S	S	S	S	S	S	S
	1-6a	Time: start	T	S	S	S	S	S	S	S	S	S	S
	1-6b	T: Pace	T	S	S	S	S	S	S	S	S	S	S
	1-6c	T: Duration	T	t	t	t	t	t	t	t	t	s	s
	1-6d	T: Stop time	T	S	S	S	S	S	S	S	S	S	S
	1-6e	T: Interval	T	S	S	S	S	S	S	S	S	S	S
	1-6f	T: Terminate	T	t	t	t	t	t	t	t	t	s	s
	1-7	Modes	T	t	t	t	t	t	t	t	t	s	s
	1-8	Questions (clarification)	T	S	S	S	S	S	S	S	S	S	S
	1-9	Org. arr.	T	t	t	t	t	t	t	t	t	t	s
	1-10	Location	T	S	S	S	S	S	S	S	S	S	S
	1-11	Posture	T	S	S	S	S	S	S	S	S	S	S
	1-12	Attire	T	S	S	S	S	S	S	S	S	S	S
	1-13	Parameters	T	T	T	T	T	T	T	T	T	T	S
	1-14	Class climate	T	t	t	t	t	t	t	t	t	t	S
	2	Adjust	T	t	t	t	t	t	t	t	t	t	S

Table H.1. The DSTS Matrix of DS, Decision sets [A] Pre-impact, [B] Impact, and [C] Post-impact and TS, Teaching styles from Style A to Style K.

(C) Post-impact Decision sets and Teaching styles

Decision Categories			Teaching Styles											
			Reproduction Cluster					Production Cluster						
			A	B	C	D	E	F	G	H	I	J	K	
Post-impact	1	Gather info	T	t	t	t	t	t	t	t	S	S	S	
	2	Assess info	T	t	t	t	t	t	t	t	S	S	S	
	3	Feedback (x720)	T											
	3a	Feedback – immediate, specified criteria	T	T	S (O&D)	S (S)	S (S)	S (T)						
	3b	Feedback – including questions							S (T)	S (T&S)	S (T&S)	S (S)	S (S)	
	4	Questions	T	t	t	t	t	t	t	t	t	t	s	s
	5	Assess TS	T	t	t	t	t	t	t	t	t	S	S	S
6	Assess LS	T	t	t	t	t	t	t	t	t	S	S	S	
7	Adjust	T	t	t	t	t	t	t	t	t	S	S	S	

In constructing the matrix, the level of researcher confidence in correctly assigning who made the decisions is represented by letters in upper case when confident, for example, T, in lower case when slightly confident, for example, t, and with no letter assigned when not confident, a blank space is used. From a total of 58 decisions listed in Mosston and Ashworth’s (2008) Decision categories, only 39 could be confidently determined as to when they shift from one teaching style to the next, with a T or S marked in Table H.1. In the set of 39, the well-reported nine decisions shift from Style A to Style B, and then there were no changes identified until the 29 decisions that shift from Style I to Style J. From Style J to Style K, there was one decision shift. The apparent point that no decisions appear to change from Style B to Style I, despite crossing the discovery threshold, is identified as an important issue to be addressed in future Spectrum research.

When the slightly confident assignments were included with the confident assignments, the number of decisions increased from 39 to 54. Again, the nine decisions from Style A to Style B are shown, and remain the same in Styles C and D. From Style D to Style E, the Subject matter: entry point is the key decision that changes, and from Style E to Style F across the discovery threshold, it is the key decision of Subject matter: topic segments that shifts. There is no shift in the decisions from Style F to Style H, and then eight decisions shift to Style I, 31 to Style J, and four to Style K. Identifying the decisions that shift, and how they are represented in the two clusters, is another topic identified for future Spectrum research. The shift in decisions from one teaching style to the next that were identified here is detailed in the following sections.

Style A (Command) to Style B (Practice).

In shifting to Style B, some of the sub-categories of number six of the Impact set are included in the nine decisions. As such, each of the sub-categories is treated as individual decisions and, thus, has its own row in the DSTS Matrix. Because of the nine decisions that shift from Style A to Style B in the Spectrum, probability informs us that there are more than 360,000 possible combinations ($N=9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 = 362,880$) of shifting. In the Spectrum, each of these possible combinations is regarded as a canopy design, located in-between the landmark teaching styles of Style A and Style B. Nonetheless important, the canopies of any styles were not extensively considered in constructing the DSTS Matrix.

Style B (Practice) to Style C (Reciprocal).

The decisions in the Shift from Style B to Style C are limited to part of the Feedback decision in the Post-impact set. Only the Observers, not the Doers, could provide feedback that was immediate, and from the criteria listed on the criteria sheet. In the matrix, Feedback in Post-impact is separated to conveniently distinguish the separate parts of this decision. An extra category, 3a Feedback: Immediate feedback and specified criteria was added. For the Observer and the Doer, the student descriptor of S (O&D) is used in Feedback for this Style C.

Style C (Reciprocal) to Style D (Self-check).

Similar to Style C, the change in Style D is in the Post-impact Feedback. However, in Style C, the Feedback is from the Observer to the Doer, whereas in Style D the feedback is from the Student to the Student self. So, in the matrix, the S (O&D) changes to S (S) for student and the student self.

Style D (Self-check) to Style E (Inclusion).

In Style E, “The learners make the decisions in the impact set, including the decision about the subject matter entry point, where they select the level of task performance” (Mosston & Ashworth, 2008, p. 159). The decision of the Entry point within the subject matter was not listed or detailed. Consequently, Subject matter: entry point (1-5d) was added as an extra decision in the matrix. It was assumed that prior to Style E, the teacher technically makes the entry point decision, though it was questionable if such a decision exists in the earlier styles. The previous styles are marked with a slightly confident lower-case (t) on this decision to denote the lack of a decision made, or that it was perhaps made by the teacher, and therefore is not clear.

Style E Inclusion to Style F Guided Discovery.

Transitioning from Style E to Style F crosses the discovery threshold, from the reproduction of knowledge to the production of knowledge cluster of the Spectrum. In Style F Guided Discovery, “the role of the learner is to discover the answers. This implies that the learner makes decisions about segments of the subject matter within the topic selected by the teacher” (Mosston & Ashworth, 2008, p. 212)

Therefore, from that statement another decision, numbered as 1-5a (i) and labelled as Subject matter: topic segments (limited to answers [A]) is added to the matrix. In Style F (Guided Discovery), “More decisions than in previous styles are shifted to the learner in the impact set, [...] the impact set is a sequence of corresponding decisions made by the teacher and the learner” (Mosston & Ashworth, 2008, p. 213). Also stated is, “the role of continuous, corresponding, decisions in the impact and post-impact sets are unique to this style” (p. 213). Apart from the additional Subject matter: topic segments already added for Style E, it is not clear what existing

decisions, in either the Impact or Post-impact sets, shift from teacher to student in this teaching style.

Style F Guided Discovery to Style G Convergent Discovery.

In transitioning from Style F to Style G, both the structure of the questions asked, and by whom change. In Style F, the teacher asks a series of questions in a logical and sequential manner to guide the student to the one pre-determined answer. The teacher asks a question, the student answers, the teacher confirms and then asks another question, and so on, until the student discovers the correct answer. By contrast, in Style G, the teacher asks one question, the student answers, the teacher confirms (and does not ask another question), the student asks a question and the teacher confirms until the student discovers the (one) correct answer. Now it is the student who asks the questions rather than the teacher.

In Style G, the student makes the decisions about the steps to discover the one correct answer to the question or the one solution to the problem, the questions to ask in sequence, and the cognitive operations to discover the answer or solution. For these three decisions (or decision categories), two logical changes were made in the matrix. First, in the Impact set, 1-5a (i) Subject matter: topic segments, is extended from S (answers [A]) to S (answers and questions [A&Q]). Second, for convenience, in the Post-impact set 3b Feedback –another line for questions, Q, is added rather than modifying 3a. It is unclear if these two changes accurately represent the shift in decision-making from Style F to Style G, as the descriptions from the text do not match well to the existing categories in the matrix.

Style G Convergent Discovery to Style H Divergent Discovery.

Style H “immerses learners in the subject matter more than any previous teaching-learning behavior has done [...] for the first time the learners are engaged in discovering and producing options within the subject matter” (Mosston & Ashworth, 2008, p. 248) where “this behavior involves learners in the production of subject matter” (p. 248) and “the shift in this behavior occurs in the impact and post-impact sets” (p. 249). From these descriptions, perhaps more decisions in Impact: Subject matter shift to the student. However, it is not clear if these shifts happen. From the original Subject matter descriptions used in the matrix, another decision category of

Subject matter: topic segments has already been added in the shift from Style F to Style G.

Similar to Style G in the Spectrum, in Style H the teacher asks one specific question. Then, in both styles, the student answers and could ask questions of the teacher in their quest to discover the answer. The difference is that in Style G, there is one correct answer to discover, whereas in Style H, there are multiple answers to the question from the teacher. Therefore, the student is not looking to discover the one “correct” answer to the question. It is not clear which decisions actually shift when transitioning from Style G to Style H. In both Styles G and H, the Post-impact set 3b Feedback includes both answers and questions (A&Q). In Style H, this feedback is extended to include Feedback to Self (S). Thus, the content in the matrix was changed from S (T) for student answering and asking questions of the teacher to include the self S (T&S).

Note also that the symbolised figure in the text under the heading for each anatomy of any style is, at times, clearly linked to the text and, at other times, the connection is not clearly identified. Note that in this analysis, for convenience, S for student has been used instead of L for learner. In the Anatomy of any style, (T) is for Teacher and (L) is for Learner. That connection could be easily deduced without explanation. Some of the other symbols are clear, for example (Lo) is the Observer learner and (Ld) is the Doer learner. However, some symbols used in the anatomy are not clear in what they represent. This includes (L) to (T_L) to (L_T) and how that shows a shift in decision-making from teacher to student. In this example, it is perceived that the primary shift goes from L to T to L which is not consistent with Spectrum theory where the shifts are consolidated across the Spectrum, with no backward movement from T to L.

Style H Divergent Discovery to Style I Learner-Designed Individual Program.

As Mosston and Ashworth (2008) advise in their text:

The learners’ new role in the impact set is to make all the behavior and logistical decisions relative to their subject matter choices: selecting the topic focus, the questions and procedures for investigating and designing their individual

program, deciding the evaluation criteria, and the process for keeping the teacher informed. The learners' role in the post-impact set is to verify their solutions according to the criteria they designated, to make adjustments, to interact and communicate results to the teacher, and to assess the final experience. (p. 276)

There are shifts here in both the Impact and Post-impact sets that could change. It is not clearly identified if this is where 1-5a (i) Subject matter: topic and topic segments expands to become 1-5a (ii) Subject matter: question design or problem, and solutions (to cover all aspects of subject matter). How the subject matter changes to accommodate the shift in decision-making from teacher to student is not clearly determined, nor how many decisions are made in this shift in the impact set. In the matrix, all of the Subject matter subcategories are shifted from the teacher (T) to the student (S). In the Post-impact set, 1, 2, 5, 6, and 7 are shifted from teacher (T) to student (S), as a logical assumption deduced from the information provided above.

Style I Learner-designed individual program to Style J Learner-Initiated.

All decisions in the Pre-impact set are shifted from the teacher (T) to the student (S). It is unclear if this shift from Style I to Style J means that the previous shift of all subject matter from teacher to student should have a small category added (such as Subject matter: general area of investigation) to be decided by the teacher. If so, then that category (Subject matter: general area of investigation) in this shift from Style I to Style J could transition from teacher to student. Building the matrix from the text became progressively less-defined once one interpretation of the decisions was not confidently assigned as correct, because then the remainder of the decisions retain the change. In this instance, the matrix was modified, disregarding the uncertainty. In the Impact set, 1-5 Subject matter: general area (of investigation) is added as a new row. The shift from teacher to student happens in Style J.

There is more information in the text that is not interpreted to add to the DSTS Matrix. For example, in the Post-impact set, as in the Impact set, it is not clearly defined if the teacher makes a decision of whether or not "To receive and accept the decisions made by the learner" (Mosston & Ashworth, 2008, p. 286). It is also not clearly explained whether the teacher's decision to do so needs to be recognised and

countered with the student's response decision. It is possible that another row or two could be added, although this was not included in the matrix.

Style J Learner-initiated to Style K Self-Teaching.

At this stage of interpreting the text, the decisions that are not shifted from the teacher to the student are those that should have transitioned. At the point of transitioning from Style J to Style K, all the decisions are made by the student (S). What should shift from Style J to Style K are those extra rows discussed within the shift to Style J that were not added to the matrix at that time.

Summary of DSTS Matrix

The DSTS Matrix was constructed from thoroughly examining *Teaching Physical Education* (Mosston & Ashworth, 2008) to detail which decisions shift from teacher to student to identify each of the 11 landmark teaching styles. Making these connections from the book content was done to clarify the intentions of the authors in addressing answers to questions raised while applying the Spectrum in the research (Sara Ashworth, personal communication, May, 2012). The Spectrum was examined in-depth and different perspectives of its application were considered. The information was critically examined and evaluated to produce the evidence that confirmed the decision-maker in each of the 11 teaching styles. These conclusions were made with thoughtful consideration of the history of the Spectrum in identifying the assumptions, determining the evidence to support claims, analysing the facts presented, and noting the deficiencies. The contributions of the Spectrum in the research have been acknowledged. Nonetheless, its associated issues identified here offer some suggestions for directing Spectrum research in the future.